International Journal of Public Policy and Administration Research 2020 Vol. 7, No. 2, pp. 58-68 ISSN(e): 2312-6515

ISSN(e): 2312-6515 ISSN(p): 2313-0423 DOI: 10.18488/journal.74.2020.72.58.68 © 2020 Conscientia Beam. All Rights Reserved.



FISCAL DECENTRALIZATION AND ECONOMIC GROWTH: ASSESSING PUBLIC POLICY IN UKRAINE

Kovalchuk Anna¹⁺ Zhang Donghui² ¹Ph.D. Student, School of Economics, Shandong University, PR China. Email: <u>kgb_a@ukr.net</u> Tel: +8613153136013 ²Ph.D. of Economics, Professor Shandong University, PR China. Email: <u>zdh@sdu.edu.cn</u> Tel: +8613708926062



ABSTRACT

Article History

Received: 9 July 2020 Revised: 12 August 2020 Accepted: 14 September 2020 Published: 28 September 2020

Keywords Fiscal decentralization Countries in transition Revenue Non-linear regression Fixed-effects Local governments.

JEL: H20 H30 H41 H50 G28 R11. The purpose of the study is to attempt to ascertain the primary influences affecting the regional economic growth in developing countries. The research took place on the data panel of 24 provinces in Ukraine over four years under a non-linear fixed effect framework. The paper shows that population growth fosters economic efficiency. Revenue decentralization is negatively related to per capita gross regional product (per cap GRP). By so, produces a relatively high, positive, but not-significant effect under non-linear specifications; on the contrary, per capita GRP growth declines as local revenue increases under fixed-effects. As such, the research proves that findings directly rely on the model selected; however, institutional conditions matter. The business environment reforms, surprisingly, detrimentally influence regional economic growth. The economic conditions in Ukraine are hard to specify as a direct result of fiscal decentralization (FD). Hence, various impacts of non-economic considerations can contribute to regional economic growth degrees, as well. Finally, the results are by no means as satisfactory as would be expected, and additional work is clearly desirable.

Contribution/Originality: This study contributes to the existing literature on fiscal decentralization (FD) based on its relations with regional economic growth in developing countries. The paper contributes the first logical analysis on the data-set that covers the period from the launching FD up to now considering economic and social crisis. The paper's primary contribution is empirical confirmation revenue decentralization detrimentally impacts per capita GRP in Ukraine.

1. INTRODUCTION

Eastern Europe's post-communist transformation tends towards lower centralization of fiscal (budget) powers, moreover, the European Union supports and promotes such a vogue. Fiscal decentralization (FD), as a rule, means a reduction of the central government powers, and therefore, fewer opportunities to control the local economy, revenue, and expenditure assignments.

The most developed countries are decentralized states so that FD is commonly associated with the development and economic advancement. Consequently, more countries go with elaborating the model of a decentralized financial system in such a way that its optimal limits contribute to efficiency improvements of the national economy as a whole. FD requires adequate quantitative methods to account for the specifics of its implementation and ample opportunities for subsequent descriptive analysis of its progress. In this regard, this study suggests using revenue assignments as a decentralization indicator.

The central gap of the papers analyzing the impact of FD on key macroeconomic patterns is processing the panel data for a large sample of countries. As a matter of fact, this approach does not take into account the whole bunch of countries differs significantly both in terms of development and structural characteristics of the economy. For instance, several studies conclude that decentralization has a positive effect on reducing regional inequality in more developed countries, and a negative one in the middle- and low-income countries (Davoodi & Fu, 1998; Rodriguez-Pose & Kroijer, 2009).

Despite the vital interest of this study, we acknowledge that FD is one dimension of the multi-faced administrative reform in Ukraine. By so, economic growth is subject to various influences accept FD, which all may potentially affect the accuracy of the estimates. Account for those external influences, we add a set of control variables to pull the robustness of the estimation results. Within the framework of fixed-effects analysis, it is impossible to include a time-invariant log of initial gross regional product (GRP) per capita variable.

Once we've done this, a focus on the computational multi-componential of decentralization indicators, however, overlooks its qualitative characteristics associated with the possibility of independent decision-making in the area of establishing the public goods produced and the sources on their financing. This paper adds to the empirical literature on FD and GRP relations by exploring the budgetary policy of regions in Ukraine. By considering the period following the decentralization of fiscal powers down to localities, the Ukrainian case provides ideal conditions to assess the contribution of fiscal reform initiated in 2014 to regional economic growth in a developing country under the conditions of social and economic crisis.

From the above perspective, we explore the current situation in economic and social development and define that fiscal policy stresses the necessity of further authority distribution. Thus, it is impossible to ensure the cooperation between the state and local institutions without accounting for the economic and social demands of the citizens. In conditions of a market economy, the significant authority is to adjust the revenue distribution per public expectations.

In this way, the paper contributes to the empirical literature on fiscal policies in purposes as listed. The trends in recent years suggest that the fiscal policy effectiveness depends not only on the number of revenues of the budget system, but is also primarily determined by the principles and directions of budget funding, expenditure redistribution, and the policy on inter-budgetary transfers. However, as the first results show, despite some positive effect of the delegated powers on addressing regional development and increasing local economic management efficiency, local expenditure responsibilities are not fully supported by sufficient revenue resources to cover them.

Firstly, the study attempts to properly evaluate the FD implementation, as well as its influence on regional socio-economic development. By so, the paper analyses the factors that may impact revenue decentralization in terms of non-linear specifications. Once we've done this, the thorough, in-depth empirical research on the issues stated above may contribute to policy recommendations on compliance between local expenditures and local revenues, as well as to elaborate the FD's perspectives in the developing country like Ukraine.

Secondly, the paper justifies the suitability of FD, basically focusing on empirical analyses of its peculiarities in a developing country. It is so to give due consideration to the conditions for the active social and economic development of both single regions and the state in general. Overall, FD is synonymous with the economic development of the territory.

Finally, the paper investigates the issue on revenue decentralization at the local level, a well as the leading indicators of tax decentralization as a degree of independence of local budgets. No doubt, excessive FD and inordinate desire of local authorities to maximize budget revenues also may lead to adverse effects. Among them is the growth in the tax burden and the destruction of a single economic space of the country. At the same time, it seems to us that balanced FD has a positive effect on many macroeconomic patterns.

Section 1 draws theoretical analysis and predictions based on recent fiscal incentives in Ukraine. Subsequently, the second section describes the empirical techniques and hypotheses of the study. Section 3 estimates the models and discusses the data set. Sections 4 and 5 present the results, conclusions, and limitations of this research.

2. THEORY AND TECHNIQUE

In the course of assigning expenditure and revenue powers, it is necessary, first of all, to clearly define and distinguish between the functions of the state and local authorities and to control for the real needs of localities. Secondly, it is crucial to use management technologies based on the 'new public management' concept, to prioritize the interests of citizens, and to make managerial decisions relevant precisely to the local level.

Finally, the various experience of developed countries in European Union, on the one hand, still has not accumulated any sufficient empirical evidence to highlight patterns in reforming the budget process, the dynamics of socio-economic development, and, on the other hand, the world experience already reveals the successful implementation of FD reforms in one set of countries, mostly industrial ones, and failures in others counties, mostly transitional economies. All these result in significant differences on estimates of gains from the reform on the budget process.

The research in context of FD and GRP liaisons is numerous. Studies of Rodden, Eskeland, and Litvack (2003) object the FD, subnational expenditure, transfers, and economic growth relations. They use a cross-sectional and time-series framework in 43 cases to examine the relationship between grants and financial performance. Rodden estimates that an increase in donations does not guarantee an increase in mandated subnational responsibilities, which are the core value of FD.

Thiessen (2003); Rodríguez-Pose and Bwire (2004) define a negative correlation between FD and economic performance. As well as Davoodi and Fu (1998) used panel data for 46 developed and developing countries, and found that developed countries are more decentralized than developing ones. Developed countries also have a higher per capita GDP growth; it is found a negative relationship between FD and GDP in developed countries, and no such involvement in developing countries. Zhang and Zou (1998) apply panel data for 28 provinces in China for the reforms in the 1970s. They confirmed that FD reduces growth in regions.

Recently, the aspect of ongoing reform causes a significant number of disputes, attracting the special attention of scholars in Eastern Europe as well. The scholars examine expenditure decentralization, revenue decentralization, and institutional decentralization (Yushkov, 2016). Bodrov considers decentralization as a tool for strengthening the financial founds of local self-government (Bodrov & Diachenko, 2015).

Researchers analyzed the features of FD in different countries (Malinovskaya & Brovkina, 2012) assessment of the trends upon the advancement of decentralization (Agayan, Muradova, & Bahdasaryan, 2015). Scholars also define the role of inter-governmental relations in the budgetary system (Lunina, 2006; Lunina & Serebranska, 2017; Vladimirov, 2016) and financial support of localities (Cheberyako & Ryabokon, 2017; Chubar & Mashiko, 2016). Some investigate the economics of measuring FD (Vo, 2008) the influence of decentralization on the dynamics of income of local budgets (Marchuk, 2018; Ostrovetskyy, 2017) revenue decentralization, and income distribution (Neyapti, 2006; Ter-Minassian, Brosio, & Martínez-Vázquez, 2020).

Besides, as a flow of our investigation, empirical studies on the correlation between FD and GDP as to crosscountries analyses or to a single country are so many, and, some of them show a positive relation, others -anegative one. To simplify the comprehension of empirical results on the linkage between FD and economic growth, we underscored the most recent research on FD contribution to GRP, and lay out the findings in Table 1.

	· · ·	Research on Fiscal Decentralization an		
N⁰	Study	Case, Methodology	Main Results and Impact (+/-)	
1	Zhang and Zou (1998) single country study for 1987-1993	28 Chinese Provinces Fixed-Effects Models	Expenditure decentralization reduces the growth of GDP per capita (–).	
2.	Buletsa (2015) single country study for 2011-2015	24 Ukrainian Oblasts Panel data	Decentralization has a positive effect on GRP growth (+).	
3.	Baskaran and Feld (2013) cross- country for 1975-2008	23 OECD Countries OLS and Fixed Effects regressions	Confirm a negative relationship between revenue decentralization and economic growth (-).	
4.	Thiessen (2003) Cross-section for 1973-1998	High-income 21 Developed Countries OLS	The relationship is positive when FD increases from low levels, but then reaches a peak it turns negative $(+/-)$.	
5.	Yushkov (2014) single-country for 2005-2012	78 Russian regions on the model of Davoodi and Fu (1998).	Expenditure decentralization is negatively related to GRP (–).	
6.	Ganaie, Bhat, Kamaiah, and Khan (2018) panel data for 1981–2014	14 Indian nonspecialized states DOLS	Expenditure decentralization has a positive impact on the state domestic product; revenue decentralization harms state domestic product. FD has a positive linkage to state income $(+/-)$.	
7.	Gocen, Bayhanay, and Nilufer (2017) from 1995 to 2012	25 OECD countries fixed-effects and random-effects with dummies	FD linkage varies as to method applied, random and fixed effects have a negative impact (-).	
8.	Samimi, Karimi Petanlar, Keshavarz Haddad, and Alizadeh (2010) single country cross- province for 2001- 2007	30 Iranian provinces fixed-effects panel data	A robust positive relationship between FD and GRP (+).	
9.	Rodriguez-PoseandEzcurra(2010) panel data for 1990-2005	21 OECD countries OLS	The negative relation between FD on economic growth $(-)$.	
10.	Savinskaite (2017) for 2005-2014	21 European countries Fixed-effects, OLS	The positive impact of FD on economic growth in developing countries and no relationship in developed countries (+).	
11.	Chu and Zheng (2013) single country for 1996–2005	31 Chinese provinces Two-stage least squares	FD positively impacts economic growth.	
12.	Yang (2016) for 1990–2012	29 Chinese provinces fixed-effects	FD positively affects economic growth (+).	
13.	Gemmell, Kneller, and Sanz (2013) panel dataset for 1972–2005	23 OECD countries pooled-mean group techniques	Spending decentralization tends to associate with lower economic growth; revenue decentralization tends to be associated with higher growth $(+/-)$.	
14.	Rodriguez-Pose and Ezcurra (2010) for the period 1990-2006	26 countries—19 developed and seven developing OLS	Decentralization in high-income countries links with a reduction of regional inequality; in low and medium-income countries, FD links with a rise in regional disparities (-).	
15.	Jia, Guo, and Zhang (2014) single country for 1997-2006	29 Chinese provinces OLS	Expenditure decentralization increases government spending; revenue decentralization has little influence on local government expenditures (+/-).	
16.	Kwon(2011)cross-countrybetween 1975 and 1995	Granger-causality test to panel data from 21 countries	FD does not cause economic growth; economic growth causes FD (+).	
17.	Park, Park, and Nam (2019) single country for 17 years	Panel data, time series	Pro-growth effects are significant at the provincial level, but only from a revenue perspective (+).	
18.	Kvasha (2015) for 2 periods 1999- 2003; 2004-2010	Single country for 24 (27) regions OLS	The paper suspects the ambiguous results of the FD and economic growth relation, slightly significant (+/-).	
19.	Sajad, Bhat, Kamaiah, and Khan (2018) single country for the period 1981–2014	14 Indian non-specialized states panel co-integration, and dynamic ordinary least squares (DOLS)	Spending decentralization has a positive and significant impact on the state's domestic product (+).	

Table-1. Empirical Research on Fiscal Decentralization and Economic grow

Thus, following Lin and Liu (2000); Akai and Sakata (2002); Yushkov (2016) GRP growth rate, year dummies are added into the fixed-effects regression model to control for potential endogeneity problem. Most of the independent explanatory variables we use, are similar to those used in the regression models of Xie, Zou, and Davoodi (1999); Akai and Sakata (2002), and Yushkov (2014). However, we enlarge our regression model by adding

some more variables following to regional growth theory. Indeed, these variables are included to attribute regional differences. We also use a proxy variable for human capital as we cannot directly capture the whole aspects of human capital per each region, but add a proxy variable for one of its characteristics. A list of the variables used is following:

- Population annual growth rate over the 2014–2017 (POP), %; data obtained from the National Bureau of Statistics of Ukraine.
- The average annual growth rate of per capita GRP over the 2014–2017, %, data also capture the fiscal capacity of the region and attribute the financial strength of the area. According to this measure, we group regions as to 'more developed' and 'less developed' by per capita GRP shares. The data for GRP are obtained from the National Bureau of Statistics of Ukraine, and supported by authors' calculations on the annual per capita GRP growth rates.
- BUSINESS as a proxy variable to control for the extent to which the economic and legal conditions in the region are favorable for economic development. The variable attributes to the number of big, medium, and small enterprises in the total population, which, basically, is the number of enterprises per 1000 residents. The 2014–2017 data are available at the yearbook "Regions of Ukraine."

Besides, the BUSINESS variable represents the potential impact of the vital reforms for small businesses that are being implemented alongside FD in 2014–2017. It may potentially correlate GRP, and it is sufficient to control for such a possibility by checking the direct effect of FD on economic growth.

The research hypotheses are denoted by H1-H4, as follows:

- Hypothesis 1 (H1): Oates's economic theory predicts that FD positively contributes to economic growth, so that we assume that per capita GRP rate is alike, $\alpha 1 > 0$.
- Hypothesis 2 (H2): the productivity enhancement hypothesis (Martínez-Vázquez & McNab, 2006) BUSINESS variable has a positive effect on per capita GRP, so the bigger number of big, medium, and small enterprises in total population support the transparency, competitiveness, regional integration and economy openness, thus, institutional factors contribute to regional economic growth.
- Hypothesis 3(H3): population as the measure of human capital quality fosters per capita GRP, we expect POP to influence per capita GRP positively.
- Hypothesis 4 (H4): the ability-to-pay approach (Musgrave, 1983), FD differently conducts to economic growth in regions depending on the level of economic development.

Dummy variables are established as follows:

H0 'poor regions'.

H1 'wealthy regions'.

Data Sources: data for the per capita GRP variable are manually collected from the significant primary sources of financial and economic statistics on Ukrainian regions (various issues), namely: the National Bureau of Statistics of Ukraine, Ministry of Finance of Ukraine, the annual Budget reports of the State Treasury Service of Ukraine, Ministry of Regional Development, Construction and Housing and Communal Services in Ukraine, and some additional statistics were obtained from Word Bank annual reports.

3. MODEL ESTIMATION STRATEGY

Until now, there is no commonly accepted method for measuring revenue decentralization in Ukraine. Different approaches lead to different results, especially regarding countries with a transition economy. For instance, in Ukraine the analysis of the revenue share in local budgets indicates the significant differences in tax structure. The most common revenue sources for shaping tax decentralization are shown below in Table 2. Hence, to financially ensure the social infrastructure in the localities, it is necessary to legally fix the revenue assignments that are

collected to local budgets. Hence, inter-governmental transfers, subventions, grants, and other fiscal transfers may address the regional imbalances.

Local budgets	State budget
Personal Income Tax, Environmental Tax, Excise Tax	x, Rent Payment, Savings Tax, Transportation Tax
Local taxes: property tax (consisting of land payment, real estate tax, non-land tax, and transport tax); single tax. Local fees : parking fees for vehicles, tourist tax.	

Table-2. Revenue assignments to levels of government.

Moreover, in conditions of improving and shaping the public and political institutions, local authorities possessing a significant amount of fiscal powers, may conduct an irresponsible debt policy that causes the imbalances and slows down the restructuring processes in the local economy. The problem of distribution of powers between the state government and local government, however, remains unresolved (Onischenko, 2016; Prud'homme, 1995).

The basic model checking the impact of FD on GRP is the Cobb-Douglas production function in its various interpretations. To control for the possible non-linear relationship between the degree of FD and per capita GRP growth rate, we apply the fixed-effects regression in two forms: logarithm transformation and logistic transformation for per capita GRP variable.

$$\begin{split} GSPit &= \alpha 0 + \alpha 1 Decentralizationit + Xit\beta + \delta 1Si + \varepsilon it, i = 1, \dots, 24, t = 1, 2, 3, 4 \\ logGSPit &= \alpha 0 + \alpha 1 Decentralizationit + Xit\beta + \delta 1Si + \varepsilon it, i = 1, \dots, 24, t = 1, 2, 3, 4 \\ logitGSPit &= \alpha 0 + \alpha 1 Decentralizationit + Xit\beta + \delta 1Si + \varepsilon it, i = 1, \dots, 24, t = 1, 2, 3, 4 \end{split}$$

Our panel data with fixed-effects model cover the 2014–2017 in Ukrainian regions, where i refers to region i; t refers to time; GSPi represents the average annual growth rate of per capita GRP for 2014–2017, which is split up into two groups of regions according to per capita GRP mean, that is so-called 'more' and 'less' developed regions. Si is a vector of I – 1 (= 24) regions in fixed-effects (i.e., region dummies), the parameters $\alpha 0$ and $\alpha 1$ are scalars, β represents a parameter vector, and ϵ_i is an error term, which is normally distributed, homoscedastic, and independent across observations.

The dependent variable is the per capita real GRP growth rate, %, which stands for the economic strength of a region *i*. Decentralizationit represents indicator of FD in region *i* (revenue decentralization as the share of regional revenues in total state and local revenues, %); Xit is a set of control variables that are important as to some research on the similar patterns (Akai & Sakata, 2002; Kvasha, 2015; Yushkov, 2016), and comprise region characteristics – are the population growth rate over the 2014–2017, %; and IBUSINESS that attributes to the number of big, medium, and small enterprises in total population, units.

Our analysis carries out the sample of 24 regions, so that we exclude Kyiv city due to the crucial differences in its characteristics, and the study is performed during the first four years since the FD reform has been launched. In our case N>T: 24>4 so that four independent variables were included in the regression equation, since the number of observations (24) should 5-6 times exceed the number of factors (Kvasha, 2015).

To test the overall fit of the model or the slope coefficients in the regression model, we apply (Pesaran, 2004) CD test in Stata software that rejects the null on cross-sectional dependence; Frees (1995) and Friedman (1937) tests confirm the null of cross-sectional independence and multicollinearity in the fixed-effects model; Wald test for group-wise heteroscedasticity in fixed-effects regressions also rejects the null.

4. ESTIMATION RESULTS AND DISCUSSION

The findings are shown in Table 3. To note, in the estimates from the logistic transformation of per capita GRP binary variable, 1 stands for more developed regions, 0 stands for less developed regions (model 3 in Table 3).

Indeed, the correlation between coefficients is statistically insignificant; BUSINESS variable is harmful and insignificant, POP and DEC_rev variables are positive and insignificant (both 2-3 models in Table 3). The logarithm transformation is specified in the fixed-effect framework, as the Hausman test rejects the validity of the random-effects model.

	(1)	(2)	(3) logistic
	FE	logit	
IBUSINESS	-1.502**		
	(.601)		
lPOP	24.807***		
	(8.19)		
lDEC_rev	316***		
	(.083)		
m1	341***	-4.014***	-4.014***
	(.07)	(.933)	(.933)
m2	- .251***	101	101
	(.051)	(.901)	(.901)
m3	- .152***	-3.077***	-3.077***
	(.034)	(.815)	(.815)
m4			
DEC_rev		.712	.712
		(.541)	(.541)
BUSINESS		-47.365	-47.365
		(65.542)	(65.542)
POP		100.306	100.306
		(78.958)	(78.958)
_cons	798	-97.325	-97.325
	(2.268)	(78.414)	(78.414)
Observations	96	96	96
r2_p	.647	.367	.367

Note: Standard errors are in parentheses.

*** p<.01, ** p<.05, * p<.1

The primary finding is that the estimated coefficients are as follows: FD – negative and statistically significant (model 1): shows that a one standard deviation increase in the real change from centralized to the decentralized fiscal system will decrease the per capita GRP for 0.316 standard deviation; population variable is positive, significant and represents that a one standard deviation increase in a growth of region's population size results in almost a 24.80 standard deviation increase in the degree of per cap GRP; a one standard deviation increase of enterprises in total population degree cause (-1.502) standard deviation decrease in per capita GRP, the variables are negative and statistically significant at all confidence levels Prob > F= 0.00000; R-sq: 0.647 coefficient of determination, here we use that to say the model explains about 64,7% of the variation in real per capita GRP as to control variables in models 2 and 3. To note, under non-linear specifications, more prosperous regions launch revenue decentralization faster, and its impact on regional economic growth is positive (0.712) (models 2, 3), but not significant.

The population growth fosters per capita GRP growth, and the business environment harms the financial situation (model 1 in Table 3). Hence, upon the GRPdummy specifications (models 2-3 in Table 3) our regression models do not capture any differences on business environment in donors or subsidy-receiving areas. In this way, the theoretical concerns and empirical findings primarily depend on the regression model being selected.

Besides, the access of local governments to tax revenues depends on the ability to administer a particular tax, and, no doubt, the fiscal autonomy of local authorities is vital in shaping the revenue assignments of local budgets. First of all, the unbalanced distribution of powers between state and local authorities contributes to the aggravation of this problem. Local governments perform mostly delegated powers, namely, financing public institutions and educational activities (31% of the total expenditures of local budgets), social protection and security measures (26% of total spending), and health care (22%) (Pogorelov, 2018).

Secondly, there is a deficiency of incentives to increase local revenues, and low interest on the local authorities in setting up the financial capacity of regions. Keep it clear, in localities recently the obligatory priority is stressed not on financing developmental needs but on the current ones. Thus, governmental decisions on current expenditures are forcibly funded by local authority, while development and potential growth projects may be reduced due to a failure to find the financial resources.

Finally, there is a significant dispersion between the regions in ensuring the necessary amounts of budget revenues, intergovernmental transfers, tax autonomy, etc. Surprisingly, the log specifications do not capture the presence of disparities that was hypothesized to lead to essential scattering in the per capita GRP rates in the regions.

5. SUMMARY AND CONCLUSIONS

Briefly summarized, we employed a regional-level data to evaluate the contribution of FD launched in 2014 to economic growth in a developing country – Ukraine. The estimation shows that the population growth positively affects the per capita GRP growth rate. It might be tempting so despite the tendency of negative population growth rate within regions in Ukraine. Therefore, this indicator positively impacts economic growth.

Thus, in Ukraine, like in some developing countries, decentralization harms economic growth (Baskaran & Feld, 2013; Ganaie et al., 2018; Gocen et al., 2017; Rodriguez-Pose & Ezcurra, 2010; Yushkov, 2014). We have to highlight that institutional arrangements matter, and according to the research results, we may assume the revenue decentralization to decrease the growth rate in Ukraine, mainly by inefficient resource allocation, revenue assignments, transfer policy, and ineffective policy on supporting small business.

The current analysis concludes that the majority of regions do not have sufficient revenue resources to finance expenditures. That is, the system of inter-budget transfers, which is being shaped like a 'counter-balance' to territorial imbalances, has a negative impact on per capita real GRP, as growing transfers generate dependence of the local budget policy and, in fact, are compensation for ineffective actions of local administrations. Most of the expenditures are financed from the State Budget, and local authorities lack incentives to find resources to support their expenses.

Want to draw attention to so-called 'independence of local budgets' diminish the impact on regional economic development in Ukraine over 2014–2017, which trend is explained by the various amendments to legislative norms on tax redistribution between local and state budgets and other institutional factors. Revenue decentralization, namely the share of taxes that remain on a regional level or the independence of local budgets, is negatively and significantly (at all significant levels) linked to per capita GRP growth rate (model 1 Table 3).

Nevertheless, FD is referred to as a more effective innovation policy, investment policy, transparency, and local governments' proficiency to meet local needs, adopt fiscal policies, all these rule out the factors to connect to economic performance especially in countries lacking the institutional development, and legal systems. Thus, regional economic growth degrees in Ukraine are hard to specify as a direct result of FD. Indeed, according to current research, the opposite case to occur, so revenue decentralization detrimentally conducts regional economic growth in Ukraine.

The main limitations of the investigation that potentially may dent the tentative results of this study are as listed: the data availability issues and the problem of local governments' consolidation and shaping. To explain, statistics in some areas are still restricted due to the political situation in Ukraine. Besides, the local governments are still in the process of merger, and there are no fully-organized local governments in any region in Ukraine yet.

It can be noted that the relationship between FD and regional economic growth in Ukraine since the past seven years is pretty much intricate. Furthermore, the regression outcomes depend on the decentralization variable

specification, time horizon, model estimation strategy, the set of dependent, independent, and control variables, regression techniques, as well as the comparative approach (referring to between countries comparisons or to comparisons on regions of a single country), so that further research is most desirable.

Funding: This study received no specific financial support. **Competing Interests:** The authors declare that they have no competing interests. **Acknowledgement:** Both authors contributed equally to the conception and design of the study.

REFERENCES

- Agayan, S., Muradova, S., & Bahdasaryan, L. (2015). Assessment of trends in the development of fiscal decentralization in the budget system of the Russian Federation. *Management of Economic Systems: An Electronic Scientific Journal*, 3(75), 1-3.
- Akai, N., & Sakata, M. (2002). Fiscal decentralization contributes to economic growth: Evidence from state-level cross-section data for the United States. *Journal of Urban Economics*, 52(1), 93-108. Available at: https://doi.org/10.1016/s0094-1190(02)00018-9.
- Baskaran, T., & Feld, L. P. (2013). Fiscal decentralization and economic growth in OECD countries: Is there a relationship? *Public Finance Review*, 41(4), 421-445.
- Bodrov, V., & Diachenko, S. (2015). Budgetary and financial decentralization as an instrument for strengthening the financial and financial basis of local self-government. Kyiv: NAPA.
- Buletsa, N. (2015). Fiscal decentralization and socio-economic development of regions effective economy 12. Retrieved from http://www.economy.nayka.com.ua/?n=12&y=2015.
- Cheberyako, O., & Ryabokon, O. (2017). The impact of fiscal decentralization on the formation of local budgets. University Economic Bulletin, 32(1), 316-326.
- Chu, J., & Zheng, X.-P. (2013). China's fiscal decentralization and regional economic growth. *The Japanese Economic Review*, 64(4), 537-549.
- Chubar, O. H., & Mashiko, K. S. (2016). Decentralization and financial support of the territorial community. Uzhgorod University Scientific Bulletin, 1(47), 419-426.
- Davoodi, H., & Fu, Z. H. (1998). Fiscal decentralization and economic growth: A cross-country study. Journal of Urban Economics, 43(2), 244-257.
- Frees, E. (1995). Assessing cross-sectional correlation in panel data. Journal of Econometrics, 69(2), 393-414.
- Friedman, M. (1937). The use of ranks to avoid the assumption of normality implicit in the analysis of variance. Journal of the American Statistical Association, 32(200), 675-701.
- Ganaie, A. A., Bhat, S. A., Kamaiah, B., & Khan, N. (2018). Fiscal decentralization and economic growth: Evidence from Indian States. *South Asian Journal of Macroeconomics and Public Finance*, 7(1), 83-108.
- Gemmell, N., Kneller, R., & Sanz, I. (2013). Fiscal decentralization and economic growth: Spending versus revenue decentralization. *Economic Inquiry*, 51(4), 1915-1931. Available at: https://doi.org/10.1111/j.1465-7295.2012.00508.x.
- Gocen, S., Bayhanay, A., & Nilufer, G. (2017). Fiscal decentralization and economic growth: Theory and application. MPRA Paper No. 84523.
- Jia, J., Guo, Q., & Zhang, J. (2014). Fiscal decentralization and local expenditure policy in China. China Economic Review, 28, 107-122. Available at: https://doi.org/10.1016/j.chieco.2014.01.002.
- Kvasha, T. (2015). Fiscal decentralization: Models of its influence on economic development. Technology Audit and Production Reserves, 5/5(25), 70-74.
- Kwon, I. (2011). Fiscal decentralization and economic growth: A test for Granger causality. The Korean Journal of Policy Studies, 26(3), 161-177.
- Lin, J. Y., & Liu, Z. (2000). Fiscal decentralization and economic growth in China. *Economic Development and Cultural Change*, 49(1), 1-21.

- Lunina, I. (2006). Formation of local budgets in the context of tasks of administrative-territorial reform. Ukraine Economy, 2006(1), 23-31.
- Lunina, I., & Serebranska, D. (2017). Consolidation of public finance. /Ch. 4: Fiscal decentralization as a factor for strengthening Ukraine's public finances National Academy of Sciences of Ukraine. Retrieved from: <u>http://ief.org.ua/docs/mg/288.pdf</u>.
- Malinovskaya, O., & Brovkina, A. (2012). Budgetary decentralization: The state and features of development in the Russian Federation at the present stage. *Finance and Credit*, 15(495), 20-29.
- Marchuk, A. (2018). Influence of decentralization on the structure and dynamics of income and expenditures of local budgets. *Finance World*, 2(55), 20-31.
- Martínez-Vázquez, J., & McNab, R. M. (2006). Fiscal decentralization and economic growth. World Development, 31(9), 1597-1616.
- Musgrave, R. (1983). Who should tax, where and what? Tax assignment in federal countries. Canberra: Australian National University Press.
- Neyapti, B. (2006). Revenue decentralization and income distribution. Economics Letters, 92(3), 409-416.
- Onischenko, S. (2016). Budget decentralization: Features of implementation, problems and prosprcts. *Finance, Accounting, Banks,* 21(1), 145 153.
- Ostrovetskyy, V. (2017). Fiscal policy of Ukraine in the conditions of decentralization: Revenue of local budgets. Donbass Economic Bulletin, 4(50), 82-88.
- Park, S., Park, M.-G., & Nam, K.-M. (2019). Growth effects of fiscal decentralization with weak economic motivation: The case of South Korea. *The Annals of Regional Science*, 63(3), 399–436. Available at: https://doi.org/10.1007/s00168-019-00936-9.
- Pesaran, M. (2004). General diagnostic tests for cross section dependence in panels. University of Cambridge, Faculty of Economics: Cambridge Working Papers in Economics No. 0435.
- Pogorelov, V. (2018). Formation of the local self-government budgets in conditions of fiscal decentralization. Kyiv, PhD Dissertation.
- Prud'homme, R. (1995). The dangers of decentralization. The World Bank Research Observer, 10(2), 201-220.
- Rodden, J., Eskeland, G., & Litvack, J. (2003). Fiscal decentralization and the challenge of hard budget constraints. Cambridge, Mass: MIT Press.
- Rodríguez-Pose, A., & Bwire, A. (2004). The economic (in) efficiency of devolution. *Environment and Planning A*, 36(11), 1907-1928.
- Rodriguez-Pose, A., & Ezcurra, R. (2010). Does decentralization matter for regional disparities? A cross-country analysis. Journal of Economic Geography, 10(5), 619-644. Available at: https://doi.org/10.1093/jeg/lbp049.
- Rodriguez-Pose, A., & Kroijer, A. (2009). Fiscal decentralization and economic growth in central and Eastern Europe. *Growth* and Change, 40(3), 387-417.
- Sajad, A., Bhat, A., Kamaiah, B., & Khan, N. A. (2018). Fiscal decentralization and economic growth: Evidence from Indian States. *South Asian Journal of Macroeconomics and Public Finance*, 7(1), 83-108.
- Samimi, J. A., Karimi Petanlar, S., Keshavarz Haddad, G., & Alizadeh, M. (2010). Fiscal decentralization and economic growth: A Non-linear model for Provinces of Iran. *Iranian Economic Review*, *15*(26), 125-133.
- Savinskaite, N. (2017). Fiscal decentralization and economic growth in selected European countries. Journal of Business Economics and Management, 18(4), 745-757.
- Ter-Minassian, T., Brosio, G., & Martínez-Vázquez, J. (2020). Decentralizing revenue in Latin America: Why and how (Executive Summary). IDB Publications (Books), Inter-American Development Bank, №6829. Retrieved from: https://ideas.repec.org/b/idb/idbbks/6829.html.
- Thiessen, U. (2003). Fiscal decentralisation and economic growth in high-income OECD Countries. *Fiscal Studies*, 24(3), 237-274. Available at: https://doi.org/10.1111/j.1475-5890.2003.tb00084.x.

- Vladimirov, V. (2016). Influence of budget policy on inter-budget relations. *Baikal Research Journal*, 7(4), 6. Available at: 10.17150/2411-6262.2016.7(4).9.
- Vo, D. (2008). The economics of measuring fiscal decentralization Part 1: An overview of recent insights into fiscal decentralization. Economics Discussion / Working Papers 08-13. The University of Western Australia, Department of Economics.
- Xie, D., Zou, H. F., & Davoodi, H. (1999). Fiscal decentralization and economic growth in the United States. Journal of Urban Economics, 45(2), 228-239. Available at: https://doi.org/10.1006/juec.1998.2095.
- Yang, Z. (2016). Tax reform, fiscal decentralization, and regional economic growth: New evidence from China. *Economic Modelling*, 59, 520-528.
- Yushkov, A. (2014). Fiscal decentralization and regional economic growth: The case of the Russian federation. Master Thesis. Department of Economics at the Rheinische Friedrich-Wilhelms-Universität Bonn.
- Yushkov, A. (2016). Fiscal decentralization and regional economic growth: Theory, empirics, and Russian experience. *Russian Journal of Economics*, 1(4), 404-441. Available at: https://doi.org/10.1016/j.ruje.2016.02.004.
- Zhang, T., & Zou, H. (1998). Fiscal decentralization, public spending, and economic growth in China. *Journal of Public Economics*, 67(2), 221–240.

Views and opinions expressed in this article are the views and opinions of the author(s), International Journal of Public Policy and Administration Research shall not be responsible or answerable for any loss, damage or liability etc. caused in relation to/arising out of the use of the content.