

DOI: [10.55643/fcaptop.5.52.2023.4193](https://doi.org/10.55643/fcaptop.5.52.2023.4193)
Tetiana Kaneva

D.Sc. in Economics, Associate Professor of the Department of Finance, State University of Trade and Economics, Kyiv, Ukraine;
 ORCID: [0000-0001-9847-0948](https://orcid.org/0000-0001-9847-0948)

Maksym Karpenko

PhD Student, State University of Trade and Economics, Kyiv, Ukraine;
 e-mail: maks.karpenko.u@gmail.com
 ORCID: [0000-0002-8590-7829](https://orcid.org/0000-0002-8590-7829)
 (Corresponding author)

Olha Nasibova

D.Sc. in Economics, Associate Professor of the Department of Economics and Management, Ukrainian Engineering Pedagogics Academy, Kharkiv, Ukraine;
 ORCID: [0000-0003-2590-2513](https://orcid.org/0000-0003-2590-2513)

Julia Tabenska

PhD in Economics, Associate Professor of the Department of Finance, Accounting and Taxation, Chernivtsi Institute of Trade and Economics of State University of Trade and Economics, Chernivtsi, Ukraine;
 ORCID: [0000-0002-8590-7829](https://orcid.org/0000-0002-8590-7829)

Tetiana Tomniuk

PhD in Economics, Associate Professor of the Department of Finance, Accounting and Taxation, Chernivtsi Institute of Trade and Economics of State University of Trade and Economics, Chernivtsi, Ukraine;
 ORCID: [0000-0002-7654-0770](https://orcid.org/0000-0002-7654-0770)

Received: 28/09/2023

Accepted: 22/10/2023

Published: 31/10/2023

© Copyright
 2023 by the author(s)



This is an Open Access article distributed under the terms of the [Creative Commons CC-BY 4.0](https://creativecommons.org/licenses/by/4.0/)

FISCAL DECENTRALIZATION INFLUENCE ON PUBLIC SERVICES EFFICIENCY AND ECONOMIC GROWTH

ABSTRACT

Theoretically, fiscal decentralization is associated with growing up in the public administration's efficiency and fostering economic growth. But the mentioned things depend on numerous factors and strongly differ from country to country. This article aims to assess the efficiency of public services, provided by local governments, determine the role of fiscal decentralization in this process, and evaluate the fiscal decentralization impact on economic growth. We found that the highest level of public service quality was demonstrated in Estonia and Slovenia among the 15 counties of Central and Eastern Europe. There was no evidence that fiscal decentralization had strong interconnections with the efficiency of public services. The results showed that revenue decentralization harms the GDP per capita growth and expenditure decentralization has only a tiny positive impact on economic growth in Central and Eastern Europe over the 2010-2022 period. The authors concluded that the efficiency of the local budget's expenditures should be increased, cause the enhancement of the public expenditures-to-GDP ratio would have adverse effects without institutional improvement.

Keywords: fiscal decentralization, local governments, budget expenditures, public services, efficiency of public services, economic growth

JEL Classification: H75, H77, O23

INTRODUCTION

Regarding the structure of powers' redistribution, both social relations' development and the essential transformations in public administration determined the need to refine fiscal policy principles, primarily, its budget component. The above policy's adaptability to the actual challenges and the territorial communities' population needs for excellent public services encourage the improvement of the inter-government relations vectors. Meanwhile, over the last decades, the local budgets' role as the territories' social and economic regulator has increased significantly. Moreover, the economic agents' performance efficiency depends on both the public funding peculiarities and the range of the powers' redistribution between the governmental bodies in order to operate the respective resources. In the last decades of the XXth, a crucial increase in the local authorities' financial autonomy has become the fiscal system's main evolution trend. Meantime, in terms of economic growth rates and achieved public welfare level, the particular economies with rather equal local budgets' revenues- and expenditures-to-GDP ratios could differ significantly. Both local authorities' fiscal powers and the resource distribution processes' institutional support affect public production.

Advanced democracies are characterized by the high quality of institutions. The power bodies' increased accountability for the fiscal policy's preparation and implementation is associated with the society's induced responsibility for its electoral preferences. In high-income economies, the institutional matrix – belt upon the combination of respective domestic and global empirical experience – allowed to form the budget system's sustainable configuration and to distribute functional powers between different administrative levels effectively. Meanwhile, emerging markets generally suffer from uncontrolled inflation, the fiscal policy's significant volatility, permanent changes in the tax bases and rates, inconsistent proportions of the respective revenues' split between the budget

system's hierarchical levels, uncertain tax administration mechanisms, and the local self-government bodies' unproductively enhanced spectrum of financial tasks and obligations.

Fiscal decentralization generally increased the territorial communities' budgets in order to fulfil their inhabitants' requests. Nevertheless, there is no empirical evidence that the above fact automatically provided the population with high-quality public services – education, health, etc. The administrative centers' consolidation helps to reduce the public administration system's transaction costs as well as to increase the allocations for the priority areas of the territorial community's economic and social development. A key task for the fiscal policy's further development is to induce the local budget funds' usage efficiency. The abovementioned transaction costs should be optimized to provide the population with high-quality public services in terms of limited resources.

LITERATURE REVIEW

Fiscal decentralization – regarded as a multidimensional phenomenon – involves political, administrative, and financial aspects of different power bodies' cooperation. According to Oates (2005), the greatest advantage of fiscal decentralization is represented by an increase in the public administration's efficiency and accelerated economic growth. Additionally, the shortcomings and omissions of centralized directive planning in post-socialist economies determined the urgency of the transition to a decentralized management model, primarily, in the field of fiscal policy. Geographic location, the population structure, the economic development level, the public requests' heterogeneity across different regions, and some institutional factors should be named among the main decentralization determinants. To ensure the highest public funds' usage efficiency it is rational to examine and determine the population requests at the lowest level of the budget system. Regarding the local institutions' direct cooperation with the territorial community's residents aimed to assess their fundamental needs, Tiebout (1961) economically justified the provision of public services at the expense of local budgets.

Bird & Slack (2014) investigated fiscal decentralization considering the government's strategic task to boost the public financial management efficiency, primarily focusing on health and education. They proved that the application of an efficient fiscal decentralization model refined the mentioned services' quality. Buryachenko & Filimoshkina (2018) concluded that the financial capacity of the local self-governments presupposes the sufficiency of financial resources to ensure the appropriate level of public services provision to its residents and the support and development of housing and communal services. Oparin & Sarnetska (2020) figured out that fiscal decentralization in the case of increased accountability of local self-governments could contribute to increasing the efficiency of taxpayers' money usage to finance public services.

Canavire-Bacarreza et al. (2020) pointed out that fiscal decentralization, both in terms of revenues and expenditures, was positively and statistically significantly interconnected with economic growth for a sample of advanced countries. The authors emphasized that decentralization reform could have a positive impact on the social and economic development of emerging markets. Jin & Rider (2020) found that expenditure decentralization had a negative and statistically significant effect at conventional levels on the short-run economic growth for both China and India. In addition, they concluded that expenditure decentralization had a positive effect on the long-run economic development in the case of India. Caniti et al (2019) figured out that decentralization did not always contribute to economic growth. Moreover, a certain tipping point, beyond which any further steps towards decentralization could have the opposite effect, was highlighted. Thus, fiscal decentralization reform should be prepared prudently and carefully.

Arends (2020) stated that a plethora of countries faced difficulties in carrying out fiscal decentralization. Even advanced economies (e.g., Norway and Ireland) experienced the decentralization's negative effect in the field of health care. Considering the facts, the author questioned the decentralization's potential positive effect on countries with insufficient institutional framework, where local authorities could not ensure transparent and efficient public funds usage.

Liberati & Sacchi (2013) investigated the interdependence between the fiscal decentralization level and the local self-government bodies' scale of participation in regional economic development fostering. Regarding the local tax system's transparency generally positive impact on the endogenous regional growth hypothesis, the authors emphasized the existence of several alternative scenarios for decentralization (significantly different in terms of efficiency). Meantime, it was emphasized that the tax division due to their assignment to the different budget system's levels (regarding the base) led to the local budget spending's rationalization. The tax revenues' proportional distribution mechanism between the budgets had mostly neutral effect on the local government's participation scope in the regional economy.

Davoodi & Zou (1998) analyzed the statistics for 46 countries with different development levels and highlighted that for emerging markets decentralization had an almost entirely negative effect, while for advanced economies the observed effect was statistically insignificant. Pasichnyi et al. (2019) disclosed the fact that the impact of both expenditure and

revenue decentralization on the economic growth of 27 European countries for the period of 1992–2017 was not statistically significant. Regarding the above, it should be stated that fiscal decentralization's impact on economic development remains uncertain.

AIMS AND OBJECTIVES

The article aims to assess the efficiency of public services, provided by local governments, determine the role of fiscal decentralization in this process, and evaluate the fiscal decentralization impact on economic growth.

The main objectives of the study are:

- to evaluate the efficiency of budget expenditures, using the Musgrave criteria;
- to assess the quality of public services, that central and local governments finance, using the international database;
- to explore the fiscal decentralization (both revenue and expenditure) impact on economic growth for the sample of Central and Eastern Europe over the 2010-2022 period.

METHODS

In this study, we try to determine the budget efficiency regarding decentralization (as an important sustainable development criterion) and to evaluate its impact on economic growth. There is a set of assessment criteria and approaches to study public expenditure efficiency.

Musgrave (1956) proposed 3 main objects for evaluating the budget expenditures' efficiency: a) income inequality within a society (the Gini index); b) macroeconomic stability (the Consumer Price Index, economic growth, and exchange rate's volatility); c) socio-economic development (GDP per capita, economic growth rate, and unemployment rate). Our study of the above indicators covered a sample of 15 countries (mostly geographically or historically Central and Eastern European): Armenia, Belarus, Bulgaria, the Czech Republic, Estonia, Georgia, Hungary, Latvia, Lithuania, Moldova, Poland, Romania, Slovakia, Slovenia, and Ukraine. To perform the medium-term analysis, we used the indicators' arithmetic means from 2010 to 2022. The economic growth's volatility was calculated using the real GDP per capita growth rate's standard deviation. Therefore, the exchange rate's volatility was counted as the national currency unit's to the USD annual average over the analyzed period. For the Eurozone countries, the Euro to the US dollar exchange rate's volatility was considered over the analyzed period, regardless of the exact time when the particular country became a member of the Eurozone. The economic growth rate was figured up as the real GDP per capita growth rate.

The fiscal decentralization's impact on economic growth was assessed regarding both revenues and expenditures components. The revenue decentralization indicator (RDI) was calculated, using the formula:

$$RDI = \frac{LR - RIGG}{GR}, \quad (1)$$

where *LR* – the local government's revenues; *RIGG* – revenues inter-government grants. *GR* – the general government's revenues;

Based on the methodological approach in the research written by Akai and Sakata (2002), we considered that inter-government grants' impact on expenditures decentralization is insignificant. Hence, the expenditures decentralization indicator (EDI) was calculated, using the formula:

$$EDI = \frac{LE}{GE}, \quad (2)$$

where *LE* – the local governments' expenditures; *GE* – the general government's expenditures.

According to the Cobb–Douglas production function, the relationship between total production, capital input, and labor input could be represented by a function:

$$Y = A * K^\alpha * L^\beta, \quad (3)$$

where *Y* – the total production (the real GDP per capita); *A* – the total factor productivity; *K* – capital input (investment);

L – labor input; α, β – the output elasticities of capital and labor, respectively.

Barro & Sala-i-Martin (1992) substantiated the expediency of studying both public funding and private investment impact on the total production separately. According to the above, the economic controllers should be capital (investment) input (public expenditures-to-GDP-ratio; private investments-to-GDP-ratio) and labor input (annual increase in the labor force). The arguments' logarithms were computed, except for the annual labor force growth rates (that has been mostly negative for the sampled years). We applied the ordinary least squares (OLS) method for our investigation. The economic controllers and fiscal decentralization indicators' impact on economic growth was estimated according to the following formula:

$$Y = \beta_0 + \beta_1 \ln dec + \beta_2 \ln e_{contr} + \varepsilon \tag{4}$$

where dec – the decentralization indicator; e_{contr} – the economic controllers; ε – statistical error.

It should be noted that the total observations number (corresponding to the country/year data) was. The calculations were based on the financial statistics of the International Monetary Fund and the World Bank. The summary statistics for the economic controllers, fiscal decentralization indicators', and the annual economic growth per capita rates' logarithms for the sampled 15 countries over the 2010–2022 period are shown in Table 1.

Table 1. The summary statistics. (Source: calculated by the authors based on the data from the International Monetary Fund <https://data.imf.org/regular.aspx?key=62882757> and the World Bank)

Variables	Observations	Mean	Standard deviation	Max	Min
GDP per capita growth rate, %	195	2.60	3.95	13.94	-29.10
$\ln EDI$ (expenditures decentralization indicator)	195	3.10	0.32	3.75	1.77
$\ln RDI$ (revenues decentralization indicator)	195	2.32	0.58	3.57	0.93
\ln public spending (% to GDP)	195	2.34	1.03	3.87	0.26
\ln investment (% to GDP)	195	1.71	0.21	4.07	3.11
labor force (annual growth, %)	195	3.01	0.23	3.61	-4.15

RESULTS

The budget architectonics is designed taking a set of institutional, political, economic, and geographic factors into account. Thus, fiscal policy should not be focused only on urgent problems and task solutions. It should have a perspective view and form the prerequisites for sustainable development. Regarding the above, the local budgets' revenues should finance the most important measures, defined by the authorized institutions in the strategic documents focused on the territorial community's or the region's development.

The institutional improvement in the budget process and democracy are traditionally associated with the possibilities for the active territorial communities' inhabitants. By making expenditures from local budgets on infrastructure, primary on medical care, preschool, and secondary education, and programs of spiritual and physical development, the local self-government bodies affect the quality improvement in human capital, investing in the future. Therefore, the local budgets should be endowed with sufficient resources for the implementation of a wide range of territorial development goals and tasks, considering the respective public institutions.

For the countries with rather insufficient institutional environment development, the respective governments should focus on the international experience and criteria for assessing the public financial resources investment vectors. The program-planned indicators' fulfillment degree is currently noted as an example of quality measurement. Often, in the medium term, the obtained indicators (highly efficient for the budget program in some public production spheres) have almost no effect on the domestic economy competitiveness and the population's standard of living.

Considering the investigated sample, the highest public expenditure level (exceeding 45 % of GDP) has been recorded in Hungary, Slovenia, and Ukraine. Meanwhile, Georgia and Moldova have the lowest level of that indicator (roughly 30% of GDP). The average value of the mentioned indicator in the sample was 40.1% of GDP (Table 2).

Table 2. Public and local budget expenditures and the performance indicators in the 15 sampled countries (according to Musgrave's methodology). Note: vGDP1 – the volatility of real GDP per capita; Exr2 – the volatility of exchange rate. (Source: calculated by the authors based on the data from the World Bank and the International Monetary Fund)

Country	Expenditures-to-GDP ratio, %		Gini index	Macroeconomic stability			Social and economic development		
	public	local		CPI, %	vGDP ¹ , %	Exr ² , %	GDP per capita, USD	GDP, %	Unemployment, %
Armenia	38.3	7.8	30.6	4.0	4.6	14.9	4245.8	4.8	12.0
Belarus	39.4	13.7	26.1	17.6	3.5	NA	6752.5	1.4	5.3
Bulgaria	37.9	7.6	38.3	2.8	3.4	4.1	8943.9	3.3	8.1
Czechia	42.9	11.8	25.8	3.0	3.0	13.9	21793.1	1.9	4.5
Estonia	39.7	9.6	32.1	3.6	2.9	1.8	20882.2	3.2	7.9
Georgia	29.7	6.4	37.2	4.9	4.4	9.2	4522.9	5.0	15.6
Hungary	48.5	7,7	30.2	3.7	3.1	9.3	15035.5	3.0	6.6
Latvia	40.3	10.9	35.1	2.7	2.8	1.8	16163.0	3.3	10.6
Lithuania	36.9	8.8	35.8	3.4	2.2	1.8	17450.7	4.3	9.7
Moldova	30.8	6.8	27.8	7.5	5.9	11.2	3678.6	4.0	4.5
Poland	43.4	13,9	31.7	3.0	2.4	12.1	14548.3	3.7	6.4
Romania	37.0	9,1	35.7	3.8	3.6	5.5	11142.0	3.5	5.9
Slovakia	42.4	7,1	25.7	2.6	2.5	1.8	18608.7	2.5	10.0
Slovenia	48.8	9,0	25.0	1.8	3.5	1.8	24736.1	2.0	7.0
Ukraine	45.2	13.7	25.2	12.2	6.7	18.6	3454.0	-0.4	9.5

The Gini index for the sampled countries remained significantly low (the average indicator was 30.8 %), indicating the financial resources' redistribution efficiency. The analysis of the CPI, the economic growth, and the exchange rate's volatility shows that all countries, except Ukraine and Belarus, ensured macroeconomic stability from 2010 to 2022. The most essential challenges over this period were the COVID–19 pandemic and the full-scale invasion of Ukraine. Generally, the average CPI in the sample equalled 5.1 %, and double-digit inflation was recorded only in Belarus (17.6%) and Ukraine (12.2%). Additionally, consumer inflation of 7.5% in Moldova fully corresponded to the inflation target for countries with a transformation economy. For countries with a relatively high GDP redistribution through the public finances (apart from Ukraine), GDP per capita was higher than the sample's average. Meanwhile, economic growth for the above sub-sample was lower (except for Poland), and the unemployment rates were moderate and corresponded to normative values. In Poland and the Czech Republic, characterized by rather high general and local budget expenditures-to-GDP ratios, Musgrave's expenditure efficiency indicators were the highest for the given sample. Instead, the empirical analysis of those indicators for Ukraine indicated an urgent need to develop the institutional environment for fiscal policy and to improve budget architectonics.

The local budget expenditures' efficiency should be evaluated taking their structure peculiarities and financial goals into account. Traditionally, secondary education, public health care, infrastructure projects, and administrative services provided by the local self-government bodies are financed by the local budgets. In general, the above expenditures-to-GDP ratio varied in the sampled countries from 7.05 % in Armenia to 16.62 % in the Czech Republic. Thus, the share of local budget expenditures for those purposes in GDP was in the range of 0.90–8.23 %. The aforementioned spheres of socio-economic development funding at the expense of the local resources ranged from 12.5 % in Armenia to 80.7 % in Belarus. The average indicator for a sample equalled 39.6 %. The budget expenditures' efficiency should be evaluated by conducting a comparative analysis of the respective services quality (regarded 4 strategic fields) based on the global ratings and indicators. The public services' administration and provision indicators could be associated with the shadow economy level and the corruption perception index. The above indicators were complexly influenced by the local and central authorities. Meanwhile, the local institutions had a crucial impact on the public administration system's performance and the permit system as well. The quality and accessibility of secondary education could be assessed using the PISA rating and secondary education coverage (secondary school enrolment, percentage gross). The health care quality indicators are the mortality rate among newborns and life expectancy. The infrastructure quality could be assessed using the Road Roughness Index as a component of the Global Competitiveness Index.

Table 3 represents the average values of the aforementioned indexes over 2010–2022.

Table 3. Indicators of public services provision quality in selected countries. Note: corrupt PI1 – corruption perception index, max 100; PISA2 – international rating of the education quality, max>500; 3 – max 7. (Source: compiled by the author based on the data from the World Bank, the International Monetary Fund and Transparency International)

Country	Administration		Secondary education		Public health		Infrastructure
	Shadow economy, %	Corrupt PI ¹	Enrolment, %	PISA ²	Life expectancy, years	Number of new-born deaths per 1000 present population	Road Roughness Index
Armenia	34.7	39.0	89.8	NA	73.9	13.3	3.6
Belarus	31.4	38.5	100.0	472.3	72.8	3.2	3.5
Bulgaria	20.5	42.2	98.0	433.2	74.2	7.2	3.4
Czechia	12.5	54.1	100.0	493.0	78.4	2.5	3.9
Estonia	18.3	71.1	100.0	524.5	77.3	2.6	4.7
Georgia	51.1	54.5	100.0	396.1	72.9	10.0	3.8
Hungary	20.4	478	100.0	476.8	75.4	4.2	3.8
Latvia	16.5	56.1	100.0	486.8	74.3	4.6	3.4
Lithuania	18.2	58.1	100.0	477.3	74.6	4.2	4.7
Moldova	38.7	34.0	87.2	428.6	69.7	13.5	2.7
Poland	18.4	59.0	100.0	508.2	77.1	4.3	4.1
Romania	22.5	45.6	94.9	432.4	74.7	8.1	2.9
Slovakia	11.4	49.9	91.5	466.1	76.5	5.2	4.0
Slovenia	21.7	59.2	100.0	506.2	80.7	2.1	4.6
Ukraine	38.1	29.5	95.6	462.7	71.1	8.4	2.9

It should be noted that PISA ratings are not presented for Armenia, while for some of the sampled countries (e.g., Belarus and Ukraine) only the latest ratings are available. To assess the local budget expenditures' efficiency, we suggest determining the aggregate quality indicator of provided public services and comparing the weighted expenditures-to-GDP ratios (as a factor affecting public welfare) with the corresponding quality indicators.

The latter were calculated taking the normative values and limits for the advanced economies into account. The maximum level for each research area (governance and administration, secondary education, health care, and road infrastructure) equalled 1. The aggregate quality indicator was calculated by applying the formulae:

$$\begin{cases} PSQ_{ij} = f(I_t) \\ PSQ_i = \sum_{j=1}^n PSQ_{ij} \end{cases} \quad (5)$$

where PSQ_i – the quality of public services in the i country; $f(I_t)$ – the function of the studied socio-economic indicator I_t .

The budget expenditures' efficiency evaluation should be carried out by determining the expenditures-to-GDP ratio and the corresponding performance indicators of quality, both in general and in functional terms.

$$LGE_i = \sum_{j=1}^n \frac{PSQ_{ij}}{exp_{ij}} \quad (6)$$

where LGE_i – the local budget expenditures' efficiency; exp_{ij} – the budget expenditures of the i country in the relevant field j .

The analysis of the aggregate quality indicator of public services (Table 4) shows that high quality (the index was higher than 0.9) regarding the analyzed sample was observed in Slovenia and Estonia, while a moderate index (0.75–0.89) – in Belarus, Bulgaria, the Czech Republic, Hungary, Latvia, Lithuania, Poland, and Slovakia. A satisfactory quality (associated

with an index of 0.63–0.74) was recorded for Armenia, Georgia, Moldova, Romania, and Ukraine. In functional terms, the highest quality indicators have been disclosed for health care and education, while administrative services and management showed moderate quality. The lowest quality indicator was recorded for the infrastructure. It should be noted that 9 out of 15 sampled countries were generally characterized by an unsatisfactory level of the mentioned indicator. It is expedient to study the relationship between the public expenditures on general governance (deducting the expenditures on the public debt servicing, secondary education, health care, and road infrastructure) and the quality indicator of the provided public services in the mentioned spheres. An insignificant positive relationship between the expenditures-to-GDP ratio and the quality indicator was observed.

Over 2010–2022[±], an increase in expenditures in relation to GDP by 1 percentage point ensured the aggregate quality indicator growth by 0.03 percentage points. However, the above relationship was not sustainable and reliable, while the adjusted coefficient of approximation (R^2) equalled 0.45. For example, in Belarus, the analyzed social and economic development areas' public funding level was essentially lower, while the quality of public services and the road surface was higher than in Ukraine, Moldova, Bulgaria, and Romania. In Estonia, the aggregate quality indicator was higher than in the Czech Republic, Hungary, Slovenia, and Slovakia.

Table 4. The aggregate quality indicator of public services. (Source: calculated by the authors taking the normative values and limits for advanced economies into account and on the basis of formula 5)

Country	Administration	Secondary education	Public health care	Infrastructure	Aggregate quality indicator
Armenia	0.63	0.75	0.76	0.55	0.67
Belarus	0.65	0.90	0.95	0.54	0.76
Bulgaria	0.75	0.84	0.87	0.52	0.75
Czechia	0.88	1.00	0.99	0.60	0.87
Estonia	0.95	1.00	0.98	0.72	0.91
Georgia	0.66	0.80	0.85	0.58	0.72
Hungary	0.80	0.90	0.97	0.58	0.81
Latvia	0.86	0.95	0.96	0.52	0.82
Lithuania	0.87	0.90	0.96	0.72	0.86
Moldova	0.60	0.79	0.74	0.39	0.63
Poland	0.89	1.00	0.98	0.63	0.88
Romania	0.76	0.82	0.87	0.45	0.73
Slovakia	0.85	0.86	0.98	0.62	0.83
Slovenia	0.87	1.00	1.00	0.71	0.90
Ukraine	0.57	0.88	0.84	0.44	0.68

Applying formula 6, the relative efficiency ratio of public expenditures on the social and economic sphere's development was calculated. It was found that the highest efficiency was ensured in the Baltic countries, Poland; Armenia, and Georgia (due to the low expenditures-to-GDP ratio); and Belarus. Primarily, the conducted analysis proved the need for Ukraine to optimize public expenditures in favor of health care and infrastructure. Secondly, the reserve for increasing the budget funds' usage efficiency should be associated with the further development of performance-based budgeting, regarding the local budgets as well. Finally, it is necessary to strengthen the public management and administration system's efficiency.

A possible option to improve the public administration's quality derives from the further development of fiscal decentralization. Due to the empirical experience of Central and Eastern European countries (the EU member-states), fiscal decentralization had a positive effect on economic and social development dynamics. However, there is a wide range of factors (institutional, economic, social, and administrative) that limit the scope of fiscal decentralization, both in the sphere of public revenues and expenditures. Over 2010–2022, the average revenue decentralization for a sample of 15 countries equalled 12.49%. Meanwhile, the average expenditures decentralization for that sample was equal to 24.51%. Thus, the sampled countries have rather moderate fiscal decentralization levels, while the level of expenditure decentralization was significantly higher than the revenues one.

We assessed the revenues and the expenditures decentralization indicators separately. Regression analysis in both cases showed that the model was adequate; the indicators of public expenditures and investments were statistically significant. Moreover, the gross capital accumulation had a positive effect on the real GDP dynamics. That fact determines the need to intensify the process of attracting both domestic and foreign investments (Table 5).

Table 5. Regression analysis. Note: the numbers in parentheses are the standard errors of the estimated parameters; * – denotes a significance level of 5%. (Source: calculated by the authors based on the Regression function in Excel)

Indicators	OLS 1	OLS 2
ln public spending	-8.453* (1.754)	-8.126* (1.841)
ln investment	6.538* (1.321)	6.759* (1.422)
labor force	0.148 (0.162)	0.136 (0.162)
ln EDI	0.037 (0.841)	–
ln RDI	–	-0.258 (0.046)
Number of observations	195	195
R ²	0.298	0.292

Moreover, an increase in the public expenditures-to-GDP ratio had a destructive effect on economic growth. So, two hypotheses could be expressed: 1) the sampled countries have reached the maximum level of public expenditures productivity; 2) the public sector funds' usage efficiency should be increased, while the mechanical enhancement of the public expenditures-to-GDP ratio would only deepen the economic imbalance. The labor force growth indicator has a positive impact as well. Under the condition of human potential expansion as a subject to the prevalence of birth rate over death rate, and a positive balance of international migration, real output increases. The government should pay special attention to the demographic policy, ensuring demographic sustainability in the long run as an essential determinant of sustainable economic development. However, we note that this indicator was not statistically significant in our model.

Both revenues and expenditures decentralization indicators appeared to be statistically insignificant, regarding our model. Additionally, expenditure decentralization had a slight positive effect on macroeconomic dynamics. That fact indicates a certain potential for its expansion – without an increase in the total public expenditures – for the sampled countries. Vice versa, revenue decentralization had rather a destructive effect on real GDP per capita. That fact confirms the limits for deepening the local self-government bodies' revenue autonomy, regarding the region under study. The relationships between the analyzed economic controllers, decentralization, and economic growth reliability check (R² coefficient) disclosed its insufficient density and determined the need for further investigation of the decentralization's impact on the territories' social and economic development. Authors supposed that there are other factors, that have an impact on economic growth – for instance: the quality of the institutional environment, the quality of public management, proper and stable tax climate, and investment attractiveness.

DISCUSSION

The decentralization reform is one of the most successful both in Ukraine and other countries of Central and Eastern Europe. Even under the COVID-19 pandemic and full-scale war in Ukraine, local self-governments demonstrated the ability to counter extraordinary challenges. Citizens receive basic public services through local budget financing. It is vital to ensure their availability and quality. A key element for ensuring public service availability is guaranteeing the principle of budgetary subsidiarity. Meanwhile, the effect of budget decentralization on economic growth remains a rather debatable issue. In the classic of fiscal federalism, Oates (2005), argued that the overwhelming advantages of decentralization are the increase in public administration efficiency and economic development fostering. However, empirical study indicates that decentralization, which is ensured by shared-tax revenues, the base and rate of which is fully controlled by the central government, does not show any positive impact on economic growth (Thornton, 2007). Ambiguous conclusions regarding the role of fiscal decentralization in ensuring economic growth were also found in our study. Adapting to new socio-

economic conditions, it is necessary to focus attention on enhancing fiscal efficiency. This concept is inextricably related to issues of public trust in government institutions and the fiscal policy they provide. An important task is to form the financial capacity of the local government. Moreover, the public services should be as close as possible to the consumer, and the quality of these services has to meet international criteria.

CONCLUSIONS

In this article authors assessed the efficiency of public services, provided by the local governments. The analysis of the aggregate quality indicator of public services showed that a high quality regarding the sample of 15 Central and Eastern Europe countries was observed in Slovenia and Estonia, while a moderate index – in Belarus, Bulgaria, Czechia, Hungary, Latvia, Lithuania, Poland, and Slovakia. In Poland and Czechia, Musgrave's expenditure efficiency indicators were the highest for the sample. Instead, for Ukraine it indicated an urgent need to develop the institutional environment for fiscal policy. Also, we evaluated the impact of fiscal decentralization on economic growth. We figured out that the Central and Eastern European countries have rather moderate fiscal decentralization levels, while expenditures decentralization was significantly higher than the revenues one. Revenue decentralization is adverse to economic growth, but expenditure decentralization has a tiny positive impact on real output. However, robustness checks showed those parameters are statistically insignificant. It is essential to determine tools for supporting fiscal decentralization processes that would contribute to sustainable economic development. The focus of further research will be on exploring additional fiscal revenues for local budgets that would ensure a strong relationship between paid taxes and quality and affordable public services. Considering the international experience in this case is essential.

ADDITIONAL INFORMATION

AUTHOR CONTRIBUTIONS

Conceptualization: Tetiana Kaneva, Julia Tabenska

Data curation: Maksym Karpenko, Julia Tabenska

Formal Analysis: Maksym Karpenko, Julia Tabenska, Tetiana Tomniuk

Methodology: Tetiana Kaneva, Olha Nasibova

Software: Julia Tabenska, Tetiana Tomniuk

Resources: Maksym Karpenko, Julia Tabenska

Supervision: Tetiana Kaneva, Olha Nasibova, Tetiana Tomniuk

Validation: Tetiana Kaneva, Julia Tabenska

Investigation: Tetiana Kaneva, Maksym Karpenko, Olha Nasibova

Visualization: Julia Tabenska, Tetiana Tomniuk

Project administration: Tetiana Kaneva, Olha Nasibova

Writing – review & editing: Maksym Karpenko, Olha Nasibova

Writing – original draft: Maksym Karpenko, Julia Tabenska, Tetiana Tomniuk

REFERENCES

1. 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. [https://doi.org/10.1016/S0094-1190\(02\)00018-9](https://doi.org/10.1016/S0094-1190(02)00018-9)
2. Arends, H. (2020). The dangers of fiscal decentralization and public service delivery: a review of arguments. *Politische Vierteljahresschrift*, 61(3), 599–622. <https://doi.org/10.1007/s11615-020-00233-7>
3. Barro, R. J., & Sala-i-Martin, X. (1992). Public finance in models of economic growth. *The Review of Economic Studies*, 59(4), 645–661. <https://doi.org/10.2307/2297991>
4. Borge, L. E., Brueckner, J. K., & Rattsø, J. (2014). Partial fiscal decentralization and demand responsiveness of the local public sector: Theory and evidence from Norway. *Journal of Urban Economics*, 80, 153–163. <http://www.svt.ntnu.no/iso/jorn.rattso/Papers/lebjbjrjue.pdf>
5. Bellofatto, A. A., & Besfamille, M. (2018). Regional state capacity and the optimal degree of fiscal decentralization. *Journal of Public Economics*, 159,

- 225–243.
<https://doi.org/10.1016/j.jpubeo.2017.12.010>
6. Bird, R. M., & Slack, E. (2014). Local taxes and local expenditures in developing countries: strengthening the Wicksellian connection. *Public Administration and Development, 34*(5), 359–369.
<https://doi.org/10.1002/pad.1695>
 7. Buriachenko, A. & Filimoshkina I. (2018) Fiscal decentralization and financial capacity of the local government in Ukraine. *Finance of Ukraine, 5*, 56–68. URL: http://nbuv.gov.ua/UJRN/Fu_2018_5_6
 8. Canavire-Bacarreza, G., Martinez-Vazquez, J., & Yedgenov, B. (2019). Identifying and disentangling the impact of fiscal decentralization on economic growth, IDB Working Paper Series, No. IDB-WP-1037, Inter-American Development Bank (IDB), Washington, DC. <https://doi.org/10.18235/0001899>
 9. Canavire-Bacarreza, G., Martinez-Vazquez, J., & Yedgenov, B. (2016). Reexamining the determinants of fiscal decentralization: what is the role of geography? *Journal of Economic Geography, 17*(6), 1209–1249. <https://doi.org/10.1093/jeg/lbw032>
 10. Carniti, E., Cerniglia, F., Longaretti, R., & Michelangeli, A. (2019). Decentralization and economic growth in Europe: for whom the bell tolls. *Regional Studies, 53*(6), 775–789.
<https://doi.org/10.1080/00343404.2018.1494382>
 11. Chugunov, I., Pasichnyi, M., Koroviy, V., Kaneva, T., & Nikitishin, A. (2021). Fiscal and monetary policy of economic development. *European Journal of Sustainable Development, 10*(1), 42–52.
<https://doi.org/10.14207/ejsd.2021.v10n1p42>
 12. Davoodi, H., & Zou, H. F. (1998). Fiscal decentralization and economic growth: A cross-country study. *Journal of Urban Economics, 43*(2), 244–257. <https://doi.org/10.1006/juec.1997.2042>
 13. Easterly, W., & Levine, R. (2016). The European origins of economic development. *Journal of Economic Growth, 21*(3), 225–257.
<https://doi.org/10.1007/s10887-016-9130-y>
 14. Jin, Y., & Rider, M. (2020). Does fiscal decentralization promote economic growth? An empirical approach to the study of China and India. *Journal of Public Budgeting, Accounting & Financial Management, 34*(6), 146–167.
<https://doi.org/10.1108/JPBAFM-11-2019-0174>
 15. Hanif, N., & Arshed, N. (2016). Relationship between School Education and Economic Growth: SAARC Countries. *International Journal of Economics and Financial Issues, 6*(1), 294–300.
<https://www.econjournals.com/index.php/ijefi/article/view/1605>
 16. Kaplanova, P. (2016). Public goods as factors of a local economic development in Slovakia. *Administratie si Management Public, 26*, 6–24.
https://www.researchgate.net/publication/304704909_Public_Goods_as_Factors_of_a_Local_Economic_Development_in_Slovakia
 17. Kuznyetsova, A., Tiutiunyk, I., Panimash, Y., Zsolt, Z., & Zsolt, P. (2022). Management of Innovations in Public Administration: Strategies to Prevent the Participation of Financial Intermediaries in Shadow Operations. *Marketing and Management of Innovations, 3*, 125–138.
<https://doi.org/10.21272/mmi.2022.3-11>
 18. Liberati, P., & Sacchi, A. (2013). Tax decentralization and local government size. *Public Choice, 157*, 183–205. <https://doi.org/10.1007/s11127-012-9937-9>
 19. Müller, W., Kuznetsova, A., Khrystoforova, O., Karpachova O., & Sulyma, M. (2021). Accounting and auditing according to international standards as a management function. *Financial and Credit Activity Problems of Theory and Practice, 4*(35), 60–68.
<https://doi.org/10.18371/fcaptop.v4i35.221787>
 20. Oates, W.E. (2005). Toward a Second-Generation Theory of Fiscal Federalism. *International Tax and Public Finance, 12*, 349–373. https://www.parisschoolofeconomics.eu/docs/koenigpamina/2ndgenerationfiscalfederalism_oates_2005.pdf
 21. Oparin, V., & Sarnetska, Y. (2020). Budget regulatory imperatives in Ukraine under conditions of fiscal decentralization. *Finance of Ukraine, 1*, 58–73.
<https://doi.org/10.33763/finukr2020.01.058>
 22. Pasichnyi, M., Kaneva, T., Ruban, M., & Nepytyaliuk, A. (2019). The impact of fiscal decentralization on economic development. *Investment Management and Financial Innovations, 16*(3), 29–39.
[https://doi.org/10.21511/imfi.16\(3\).2019.04](https://doi.org/10.21511/imfi.16(3).2019.04)
 23. Tiebout, C. (1961). An Economic Theory of Fiscal Decentralization, in National Bureau Committee for Economic Research. *Public Finances: Needs, Sources, and Utilization*, Princeton University Press, Princeton, 79–96.
<https://www.nber.org/system/files/chapters/c2273/c2273.pdf>
 24. Thornton, J. (2007). Fiscal decentralization and economic growth reconsidered. *Journal of Urban Economics, 61*(1), 64–70.
<https://doi.org/10.1016/j.jue.2006.06.001>
 25. Wollmann, H., Koprić, I., & Marcou, G. (Eds.). (2016). *Public and social services in Europe: From*

public and municipal to private sector provision.
 Springer. https://doi.org/10.1057/978-1-137-57499-2_21

26. Woller, G. M., & Phillips, K. (1998). Fiscal Decentralization and LDC Economic Growth: An Empirical Investigation, *Journal of Development Studies*, 34, 139–48.
<https://doi.org/10.1080/00220389808422532>

Канєва Т., Карпенко М., Насібова О., Табенська Ю., Томнюк Т.

ВПЛИВ ФІСКАЛЬНОЇ ДЕЦЕНТРАЛІЗАЦІЇ НА ЕФЕКТИВНІСТЬ СУСПІЛЬНИХ ПОСЛУГ ТА ЕКОНОМІЧНЕ ЗРОСТАННЯ

Теоретичні дослідження вказують, що фіскальна децентралізація пов'язана з підвищенням ефективності державного управління та сприяє процесам економічного зростання. Водночас згадані речі залежать від багатьох факторів і дуже відрізняються в розрізі країн. Метою дослідження є оцінка ефективності суспільних послуг, що їх надають органи місцевого самоврядування; визначення ролі фіскальної децентралізації в цьому процесі та оцінювання впливу фіскальної децентралізації на економічне зростання. Авторами виявлено, що серед 15 країн Центральної та Східної Європи найвищий рівень якості публічних послуг зафіксовано в Естонії та Словенії. Не знайдено очевидних доказів того, що фіскальна децентралізація має тісний взаємозв'язок із ефективністю надання суспільних послуг. Результати дослідження засвідчили, що децентралізація в царині доходів стримує зростання реального ВВП на одну особу, а децентралізація в царині видатків має лише незначний позитивний вплив на економічне зростання в Центральній та Східній Європі протягом періоду 2010-2022 років. Автори дійшли висновку, що ефективність видатків місцевих бюджетів слід підвищувати, оскільки просте зростання співвідношення державних видатків до ВВП може мати негативні наслідки без інституційного вдосконалення.

Ключові слова: фіскальна децентралізація, органи місцевого самоврядування, видатки бюджету; суспільні послуги, ефективність надання суспільних послуг, економічне зростання

JEL Класифікація: H75, H77, O23