

Taxation and Economic Growth in Transition Economies

Shapovalova Alla^{1,*}, Prokopova Olena¹, Kuzmenko Olena¹, Saienko Volodymyr² and Larysa Lazebnyk³

¹Department of Accounting and Taxation, State University of Trade and Economics, Kyiv, Ukraine.

²Department of Innovation Management Academy of Applied Sciences, Academy of Management and Administration, Opole, Poland.

³Department of Economy, Entrepreneurship and Economic Security, Educational and Scientific Institute of Economic Security and Customs, State Tax University, Irpin, Ukraine.

Abstract: The purpose of the study is to identify the impact of taxation on economic growth in transition economies. Research methodology based on K-Means Clustering and Panel Regression Analysis. The study's results identified significant features and positive changes in taxation in transition economies. It was revealed that there is a direct correlation between Tax Revenue and GDP growth. The obtained results have scientific and practical significance as they can be used in the tax policy and its components' justification as tools of economic development in transition economies.

Keywords: Economic growth; GDP; taxation; tax revenues; transition economies.

JEL Classification: H2, F43, O4, P2.

INTRODUCTION

In the OECD classification, “taxes” are defined as compulsory unrequired payments to national or supranational authorities (OECD, 2021). Taxation systems aim at financing public expenditures financing, promoting countries' fiscal stability, and solving social and economic problems. The primary purpose of taxation at the country level is to achieve three main fiscal goals: promoting fiscal stability, promoting economic stability and improving the allocation of resources (de Biase and Dougherty, 2022). To achieve these goals, not only the level of taxes is significant but also how tax instruments are designed and combined to obtain maximum effect and economic growth of countries (Johansson *et al.*, 2008).

Substantial reforms of the fiscal rules were accomplished in most countries after the global financial crisis of 2008. The goal of the reforms was to develop steps to better deal with the crisis and create safeguards for possible future downturns. Such measures have come in handy during and after the COVID-19 pandemic. At the same time, in addition to improving the conditions of public finances in a crisis, taxation issues include eliminating the effects of population ageing, climate change, and energy conservation, growing regional inequality and should contribute to the countries' economic growth as a whole (de Biase and Dougherty, 2022).

Despite the common goals and objectives of taxation, there is no single scenario of tax policy, and the development of a

fiscal rules system is the choice of each country that prefers one or more fiscal functions. Schemes and patterns for the approaches implementations in taxation depend on various factors combinations, and the level of taxation complexity in different countries differs significantly (Hoppe *et al.*, 2020). In the short term, tax priorities may be based on political sentiment or be a reaction to a crisis or a jump in world prices for a certain group of goods. In the long-term perspective, priorities change and are directed specifically to the country's economic growth. Low-income countries can focus their efforts on poverty reduction, while in advanced economies, reforms can focus on longer-term indicators, such as those related to population aging (Horton and El-Ganainy, 2009). At the same time, differences in economic, political, and regulatory characteristics between countries can determine how taxation affects economic growth (Alinaghi and Reed, 2021).

LITERATURE REVIEW

A significant amount of research on the impact of taxes on economic growth proves the existence of scientific and applied interest in this problem. As Alinaghi and Reed (2021) note, there is no consensus among scholars regarding the effect of taxes on economic growth. The main reason for the differences in research results is that they cover various aspects and indicators of taxation and evaluate this effect differently. Also, research by scientists on the relationship between taxes and economic growth has undergone major changes in recent years. Significant changes are related to determining the impact of certain types of taxes and tax benefits on the regional economy and economic effects at the local level. Hanson (2021), studying the trends in empirical

*Address correspondence to this author at the Department of Accounting and Taxation, State University of Trade and Economics, Kyiv, Ukraine; E-mail: Shapovalova_alla@email.ua

studies related to taxes and economic development, emphasizes that some scholars focus on solving endogeneity problems in taxation. While more recent research concerns the tax policy impact on the local economy, as well as certain taxes types on economic development. Numerous empirical studies analysed in the OECD's publication on fiscal federalism suggest that fiscal rules are essential to assist government policy development.

Simultaneously, fiscal rules can have a side effect by reducing investment, negatively impacting economic growth, and even leading to regional inequality (de Biase and Dougherty, 2022). Fairness in taxation has two main dimensions. Vertical equity refers to the treatment of those with different incomes. The impact of taxation on this aspect is to differentiate taxes, that is, the share of taxed income increases with a growth in the income level. Horizontal equity implies that those who are similar in all tax-relevant respects should be treated equally (de Mooij and Keen, 2015).

The economic literature provides evidence that taxes have different effects on countries' economic growth. Hakim *et al.* (2022) prove that the impact of the taxation system on economic development differs between developed and developing countries. In developing countries, in contrast to developed countries, there are significant problems with the tax systems' efficiency, furthermore the mobilization of domestic financial resources. Direct taxes (social security contributions, consumption taxes, income taxes) have a more significant effect in developed countries (Thaçi and Gerxhaliu, 2018). Raising taxes on consumption while lowering taxes on labour and capital can stimulate economic growth, but the tax burden and tax structure will have different effects depending on the country, times, and circumstances (Stoilova, 2017).

Scientists justify contradictory results regarding the impact of taxes on economic growth. Taxes and tariffs on goods and services contribute to GDP growth in developed and developing countries (Maganya, 2020; Mdanat *et al.*, 2018; Vintilă *et al.*, 2021). Thaçi and Gerxhaliu (2018) prove that taxes have a negative effect on economic growth in developing countries. The results of Shahmoradi *et al.* (2019) research indicate that income tax has a negative impact on GDP in developed countries, but in developing countries such an effect is insignificant. Babatunde *et al.* (2017) argue that tax revenue is positively related to GDP and contributes to economic growth in African countries. Aydin and Esen (2019) use data from Central and Southeast Europe and the Baltics to show that the impact of tax revenues on GDP significantly depends on the level of taxation. Taxes above the threshold harm economic growth, while taxes below the threshold have a positive impact on economic growth.

There is not enough research on the impact of taxation on the transition economies' economic growth. Khujamkulov and Abizadeh (2022) study the impact of economic growth on total tax revenues and different tax rates in countries with economies in transition. Tolstopiatenko and Commander (1996) argue that restructuring in the public sector depends on the tax burden in transition economies, and the tax burden depends on unemployment and the ability to tax the private sector. Engelschalk and Loepnick (2015) show that many existing small business tax regimes in Eastern Europe and

Central Asia transition economies are too simplified and do not contribute to the growth of business and the economy of these countries. Abdixhiku *et al.* (2017) indicate that tax evasion is an important issue for governments in transition economies and that institutional factors are significant for corporate tax evasion behaviour.

Despite the differences in scientific approaches, methodology, and research findings, Hanson (2021) believes that research methods should be used not only to study tax policy but also to justify its feasibility as a tool of economic development. Scientific research is important for decision-making, determining the impact of tax policy features on achieving the goals of economic development, and the well-being of the population. Although the effectiveness of basic research for economic growth is higher in high-income countries (Jung and Liu, 2019), such research is no less important in low-income countries. Bartik (2017) notes the lack of examination of state and local taxes' impact on business, taking into account differences of the region, state, industry, or period. Such results significantly limit the rationale of tax incentives for the development of economic policy.

Contradictory results and ambiguous approaches of scholars need further study to reveal the impact of taxation on economic growth in transition economies. To achieve the goal, the following hypotheses were considered in the study:

- 1) Transition economies have significant differences in taxation.
- 2) Tax revenues have a positive impact on the transition economies' economic growth.
- 3) Taxation in transition economies has a positive impact on their economic growth.

METHODOLOGY

The study used the data of transition economies, which, according to the United Nations (2021) classification, include 17 countries: the Republic of Albania, Bosnia and Herzegovina, Montenegro, the Republic of North Macedonia, the Republic of Serbia, the Republic of Armenia, the Republic of Azerbaijan, the Republic of Belarus, Georgia, the Republic of Kazakhstan, the Kyrgyz Republic, the Republic of Moldova, the Russian Federation, the Republic of Tajikistan, Turkmenistan, Ukraine, the Republic of Uzbekistan. This approach to the study of taxation in countries with transition economies was used by Martinez-Vazquez and McNab (1997), Khujamkulov and Abizadeh (2022) and Tolstopiatenko and Commander (1996). They include socialist countries of Central and Eastern Europe, as well as the former Soviet Union in the transition economies group. Our study covers the period from 2010 to 2020, based on the countries' data availability. Turkmenistan was not included in the research, as information about this country is missing or significantly limited.

To measure the economic growth of transition economies, we used GDP growth (annual %) based on data from The World Bank (2022). Most scientists use the indicators of GDP and GDP per capita (Alinaghi and Reed, 2021; Celikay, 2020; Hoang *et al.*, 2021; Hoppe *et al.*, 2020; Johansson *et*

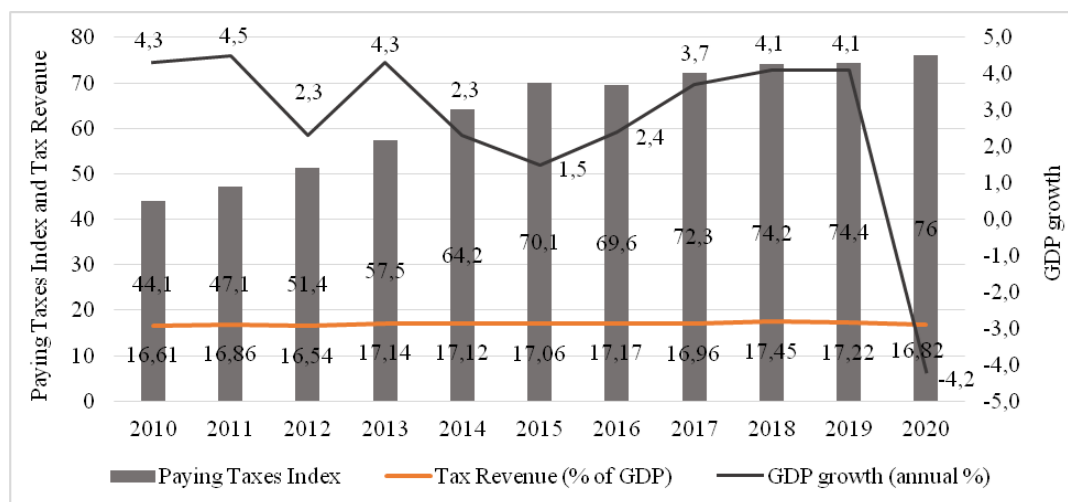


Fig. (1). Tax Revenue, GDP growth and Paying Taxes Index in transition economies in 2010-2020.

al., 2008; Shahmoradi *et al.*, 2019) when conducting similar studies.

The complexity of choosing an indicator that characterizes the taxation system is emphasized in many scientific studies. Celikay (2020) and Hoang *et al.* (2021) use the tax burden as an indicator measured by the total tax revenue on the GDP. Hakim *et al.* (2022). Avdin and Esen (2019). Bahatunde *et al.* (2017) and Shahmoradi *et al.* (2019) also use tax revenue as an indicator. Hoppe *et al.* (2020) consider that the peculiarities of assessing the tax system in different countries determine the expediency of generalizing indices using. For example, the Tax Complexity Index included a tax code sub-index, covering tax regulations, and a tax framework sub-index, covering tax processes and features.

Popovici (2012) uses the Taxation Index, which is based on the Doing Business report to determine the impact of taxation on the attractiveness of Central and Eastern European countries for foreign investors. Based on the analysed approaches, we chose two indicators: Tax Revenue based on data from The World Bank (2022) and Paying Taxes Index which measured the Total Tax and Contribution Rate (the cost of all taxes borne, as a % of the commercial profit), the time needed to comply with the major taxes (profit taxes, labour taxes and mandatory contributions, and consumption taxes), and the number of tax payments (The World Bank, n.d.b).

Cluster analysis was conducted to identify common features and changes in the studied indicators of Tax Revenue (% of GDP); GDP growth (annual %) and Paying Taxes Index according to data from 16 countries. Clusters were built for 2010 and 2020 using K-Means Clustering. Liu *et al.* (2012) and Mihokova *et al.* (2016) prove the feasibility of using this method in taxation studies of a group of countries. After countries clustering, a panel regression analysis was used to examine the relationship between Tax Revenue and GDP growth, as well as Paying Taxes Index and GDP growth based on data from 2010 to 2020.

RESULTS

Relatively high tax rates, their number, and the complexity of payment and administration, besides the time and effort

that companies spend on paying taxes can negatively affect the quality indicators that characterize a country's tax system. This impact can also be negative on performance indicators that reflect the country's economic growth. To study the taxation dynamics in transition economies, we covered three indicators: Tax Revenue (% of GDP); GDP growth (annual %), and Paying Taxes Index. Fig. (1) shows the change in the average value of these indicators from 2010 to 2020 in the studied countries.

Source: Author's development based on the data from The World Bank (2022) and The World Bank (n.d.b).

The given data reflect a relatively stable Tax Revenue level for the studied period. Simultaneously, the value of this indicator significantly exceeds the world level, which was 13.5% in 2020. In some countries, Tax revenue exceeds 20% (the Republic of Armenia - 21.86%; the Republic of Serbia - 23.5%; Georgia - 21.4%), the lowest indicator is in the Republic of Kazakhstan - 8.32%.

Fluctuations and a significant decrease in GDP growth in the studied countries correspond to the international economy general trends associated with the impact of the COVID-19 pandemic crisis. The average value of GDP growth in transition economies in 2020 was -4.2%, and the global level was -3.1%. The most significant decrease was in Montenegro (-15.3%), the Kyrgyz Republic (-8.4%), the Republic of Moldova (-7.4%), and Georgia (-6.8%).

The Paying Taxes Index reflects the improvement of the general situation in the studied countries regarding the payment of taxes and their administration. The level of this indicator increased from 44.1 in 2010 to 76 in 2020. Meanwhile, there are significant countries' differences in the overall value of the Paying Taxes Index and separate sub-indices. Georgia (14th place), the Republic of Moldova (32nd place), and the Republic of North Macedonia (36th place) had the best taxation in the world ranking for 2020 among the studied countries. The values of the Paying Taxes Index are significantly worse in the Kyrgyz Republic (117th place), the Republic of Tajikistan (139th place), the Republic of Albania (123rd), the Republic of Belarus (99th place), and Bosnia and Herzegovina (144th place).

Table 1. Results of a Cluster Analysis Based on Indicators of Tax Revenue, GDP Growth, and Paying Taxes Index in Transition Economies.

	2010	2020
Cluster 1	The Republic of Azerbaijan, Georgia, the Republic of Kazakhstan, the Republic of Moldova, the Republic of North Macedonia, the Russian Federation	The Republic of Belarus, the Republic of Kazakhstan, the Russian Federation, the Republic of Uzbekistan
Cluster 2	The Republic of Belarus, the Republic of Tajikistan, Ukraine, the Republic of Uzbekistan	The Republic of Albania, Bosnia and Herzegovina, the Kyrgyz Republic, the Republic of Tajikistan, Ukraine
Cluster 3	The Republic of Albania, the Republic of Armenia, Bosnia and Herzegovina, the Kyrgyz Republic, Montenegro, the Republic of Serbia	The Republic of Armenia, the Republic of Azerbaijan, Georgia, the Republic of Moldova, Montenegro, the Republic of North Macedonia, the Republic of Serbia

Source: Author's development based on the data from The World Bank (2022) and The World Bank (n.d.b).

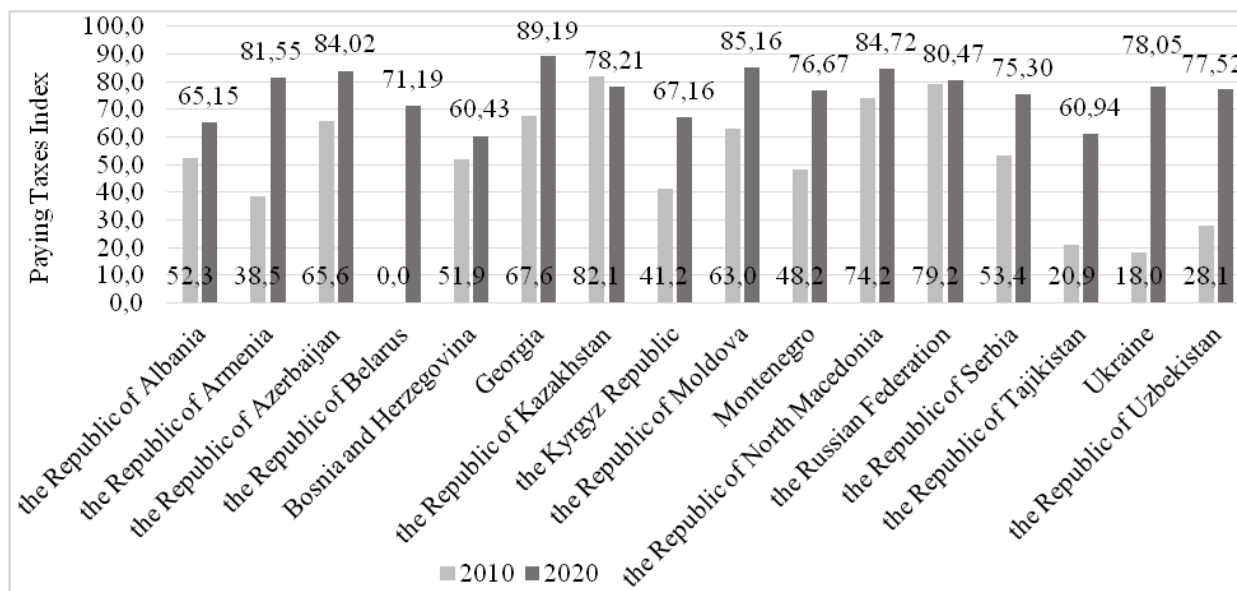


Fig. (2). Paying Taxes Index in transition economies in 2010-2020.

Source: Author's development based on the data from The World Bank (n.d.b).

The results of a cluster analysis based on the data of 16 countries to identify common and distinctive features in the indicators of Tax Revenue (% of GDP); GDP growth (annual %) and Paying Taxes Index are presented in Table (1).

The information presented in Table (1) allows us to state that the countries have significant differences according to the studied indicators of Tax Revenue, GDP growth, and Paying Taxes Index. None of the three clusters are unchanging since modifications in macroeconomic indicators that characterize economic growth took place in the countries during 2010-2020, and tax reforms were also performed and implemented.

Data characterizing the change in the Paying Taxes Index in the studied countries for 2010-2020 are shown in Fig. (2).

Among the countries that remained in the first cluster (Table 1), the Russian Federation practically did not change its position in the rating and in the Republic of Kazakhstan the indicator decreased from 82.1 to 78.21. The most significant positive changes in the Paying Taxes Index are observed in the Republic of Armenia, the Republic of Belarus, the Kyrgyz Republic, the Republic of Tajikistan, Ukraine, and the Republic of Uzbekistan. It was these countries that carried out the most tax reforms, improved tax administration, re-

duced the tax burden, and significantly changed taxation (Table 2).

Some of the countries listed in Table (2) moved into clusters with higher indicators than in 2010 (the Republic of Belarus, the Kyrgyz Republic, the Republic of Uzbekistan) or remained the same as in 2010 (the Republic of Armenia, Ukraine, the Republic of Tajikistan) (Table 1). Tax reforms implementation improved the tax environment in the countries listed in Table (2), so there is a close relationship between Tax Revenue, GDP growth, and Paying Taxes Index in countries with transition economies. The results of the regression analysis are shown in Table (3).

The correlation between GDP Growth and Paying Taxes Index in the studied group of 16 countries with a transition economy is reverse. So, with a 1% increase in the score of Paying Taxes Index (the index takes into account taxes and mandatory contributions that companies pay during the year, as well as indicators of the administrative burden and ease of paying taxes and contributions in the country) by 1%, GDP Growth decreases by 0.07%. The correlation between Tax Revenue and GDP Growth is direct and amounts to 0.388, i.e., with an increase in tax pressure in the studied countries by 1%, GDP Growth increases by 0.39%, respectively.

Table 2. Tax Reforms in Some Transition Economies for 2010-2020.

Country	Tax Reforms				
	Made paying taxes easier	Reduced the number of payments	Made paying taxes easier and less costly	Introduced electronic filing and paying taxes	Lowered some taxes or abolished several taxes
The Republic of Armenia	2020 2019 2014	2012		2012	
The Republic of Belarus	2015		2013 2010	2012	2012
The Kyrgyz Republic	2020		2010	2020	
The Republic of Tajikistan	2017 2015		2017 2014	2017 2016 2015	2011
Ukraine	2018 2015 2014 2013	2016		2014 2013 2011	2012
The Republic of Uzbekistan	2020 2014 2010	2020	2019 2018	2018	2017

Source: Author's development based on the data from The World Bank (n.d.a).

Table 3. Results of regression analysis between Tax Revenue, GDP growth and Paying Taxes Index in countries with transition economies for 2010-2020.

	Dependent Variable	
	GDP Growth (Annual %)	
Tax Revenue (% of GDP)	0.388** (0.187)	
Paying Taxes Index		-0.066*** (0.020)
Constant	-5.088 (3.492)	5.983*** (1.566)
Observations	148	172
R2	0.215	0.280
Adjusted R2	0.125	0.206
Residual Std. Error	3.171 (df = 132)	3.435 (df = 155)

Note: *p<0.1; **p<0.05; ***p<0.01.

DISCUSSION

The assessment of the taxation impact on economic growth has significant features related to the specifics of the studied

country or group of countries, together with the factors' and indicators' selection approaches. A tax structure may be optimal for a country or may not produce the desired effect due to many factors, including government policies, economic and societal structure differences, tax burden, etc. (Hoang *et al.*, 2021). The results of our analysis of Tax Revenue, GDP growth, and Paying Taxes Index for 2010-2020 confirm the hypothesis that there are significant differences in taxation in transition economies. Despite the relatively stable level of Tax Revenue for 2010-2020, the value of this indicator in 2020 significantly exceeds the world level and ranges from 23.5% (the Republic of Serbia) to 8.32% (the Republic of Kazakhstan). The Paying Taxes Index also differs significantly in individual countries from 89.19 in Georgia (14th place in the world ranking) to 60.43 in Bosnia and Herzegovina (144th place in the world ranking). Such results correspond to the studies of most scientists, who prove that the implementation of taxation approaches and the level of its complexity varies significantly in different countries (Acosta-Ormaechea *et al.*, 2019; Hakim *et al.*, 2022; Hoppe *et al.*, 2020; Stoilova, 2017).

The results of the cluster analysis (Table 1) also prove that the tax systems of the studied countries have significant differences but have a general tendency to improve. Similar conclusions were obtained by Mihokova *et al.* (2016), who, using the example of EU countries, prove the existence of common and different taxation, which creates conditions for tax competition between countries and the development of

taxation harmonization measures. Changes in clusters for 2010 and 2020 are related to tax reforms in the studied countries. Our results correlate with Khujamkulov and Abizadeh's (2022) view that economic growth leads and contributes to tax changes in transition countries in different ways, allowing these countries to optimize their taxes and properly plan and change their tax systems accordingly.

Tax reforms and tax incentives can have double results: in some cases, they have a positive impact on business location decisions, but at the same time, especially at the local level, the reforms may not have the expected effect and are too costly for the economy (Bartik, 2017). Similar results were founded in Gobillon and Magnac's (2016) study. Hakim *et al.* (2022) prove that the tax structure in developing countries does not contribute to their economic growth. Our results also confirm the absence of a positive relationship between taxation, which was assessed based on the Paying Taxes Index, and economic growth in transition economies.

Our result regarding the presence of a direct correlation between Tax Revenue and GDP growth is confirmed by the research of other scientists. Shahmoradi *et al.* (2019) prove a significant relationship between tax revenue and GDP in developed countries, while there is no close relationship in developing countries. Alinaghi and Reed (2021) also prove the existence of a relationship between the tax burden and annual GDP growth in OECD countries. Babatunde *et al.* (2017) found that tax revenue is positively related to GDP and contributes to economic growth in African countries.

We agree with Celikay (2020), who argues that factors such as GDP per capita, economic, financial and corporate structures, and the openness of a country's economy are major determinants of the tax burden and simultaneously susceptible to its impact. The same position is substantiated by Khujamkulov and Abizadeh (2022), who confirms the hypothesis that economic growth leads to an increase in the ratio of total tax revenues to GDP. That is, for countries with a transition economy, the influence of Tax Revenue, GDP growth, and Paying Taxes Index is mutual since they are closely related.

CONCLUSION

The results of the study of the taxation impact on the transition economies' growth made it possible to identify features related to the specifics of the studied group of countries, as well as approaches to the selection of indicators and indicators. A comparative analysis of the values of Tax Revenue, Paying Taxes Index, and GDP growth and their dynamics for 2010-2020 proves the existence of significant differences in taxation in countries with transition economies.

The results of K-Means Clustering confirm that the tax systems of the studied countries have a general tendency to improve, taking into account the significant growth of the Paying Taxes Index. Tax Revenue, which characterizes the tax burden, differs in individual countries, exceeds the global level, and remained relatively stable during 2010-2020. The presence of common and distinctive features in taxation promotes tax competition between countries and the implementation of tax reforms in the studied countries.

Based on the results of panel regression analysis, the Paying Taxes Index has an inverse relationship with GDP growth in

countries with transition economies. An increase in the score of Paying Taxes Index by 1% reduces GDP Growth by 0.07%. Tax Revenue has a direct relationship with GDP Growth, that is, an increase in tax pressure by 1% increases GDP Growth by 0.39%. In countries with a transition economy, there is a relationship and mutual influence of the factors of Tax Revenue, Paying Taxes Index, and GDP growth.

Prospects for further research will be to identify the causes of the negative impact of taxation in terms of taxes and mandatory payments, as well as the administrative burden of paying taxes and mandatory contributions on transition economies' economic growth.

CONFLICT OF INTEREST

The authors reported no potential conflict of interest.

REFERENCES

- Abdixhiku, Lumir, Besnik Krasniqi, Geoff Pugh and Iraj Hashi. 2017. "Firm-level Determinants of Tax Evasion in Transition Economies." *Economic Systems* 41(3):354-366. <https://doi.org/10.1016/j.ecosys.2016.12.004>
- Acosta-Ormaechea, Santiago, Sergio Sola and Jiae Yoo. 2019. "Tax Composition and Growth: A Broad Cross-Country Perspective." *German Economic Review* 20(4):e70-e106. <https://doi.org/10.1111/geer.12156>
- Alinaghi, Nazila and W. Robert Reed. 2021. "Taxes and Economic Growth in OECD Countries: A Meta-analysis." *Public Finance Review* 49(1):3-40. <https://doi.org/10.1177/1091142120961775>
- Aydin, Celil and Ömer Esen. 2019. "Optimal Tax Revenues and Economic Growth in Transition Economies: A Threshold Regression Approach." *Global Business and Economics Review* 21(2):246-265. <https://doi.org/10.1504/GBER.2019.098091>
- Babatunde, Onakoya A., Afintinni O. Ibukun and Ogundajo G. Oyeyemi. 2017. "Taxation Revenue and Economic Growth in Africa." *Journal of Accounting and Taxation* 9(2):11-22. <https://doi.org/10.5897/JAT2016.0236>
- Bartik, Timothy J. 2017. A New Panel Database on Business Incentives for Economic Development Offered by State and Local Governments in the United States. Report W.E. Upjohn Institute for Employment Research. Michigan: W.E. Upjohn Institute for Employment Research. <https://research.upjohn.org/reports/225/>
- Celikay, Ferdi. 2020. "Dimensions of Tax Burden: A Review on OECD Countries." *Journal of Economics, Finance and Administrative Science* 25(49):27-43. <https://doi.org/10.1108/JEFAS-12-2018-0138>
- de Biase, Pietrangelo and Sean Dougherty. 2022. The Past and Future of Subnational Fiscal Rules: An Analysis of Fiscal Rules Over Time. OECD Working Papers on Fiscal Federalism No. 41. Paris: OECD Publishing. <https://doi.org/10.1787/d2798c9e-en>
- de Mooij, Ruud A. and Michael Keen. 2015. "Back to Basics: Taxes in Practice - It is Hard to Design a Fair and Efficient Revenue System." *Finance and Development* 52(001):48-49. <https://www.elibrary.imf.org/view/journals/022/0052/001/article-A017-en.xml>
- Engelschalk, Michael and Jan Loeprick. 2015. MSME Taxation in Transition Economies: Country Experience on the Costs and Benefits of Introducing Special Tax Regimes. World Bank Policy Research Working Paper No. 7449. World Bank Group. <https://ssrn.com/abstract=2676418>
- Gobillon, Laurent and Thierry Magnac. 2016. "Regional Policy Evaluation: Interactive Fixed Effects and Synthetic Controls." *The Review of Economics and Statistics* 98(3):535-551. https://doi.org/10.1162/REST_a_00537
- Hakim, Taufik A., Abdul A. Karia, Jasmine David, Rainah Ginsad, Norziana Lokman and Salwa Zolkafli. 2022. "Impact of Direct and Indirect Taxes on Economic Development: A Comparison Between Developed and Developing Countries." *Cogent Economics and Finance* 10(1):2141423. <https://doi.org/10.1080/23322039.2022.2141423>

- Hanson, Andrew. 2021. "Taxes and Economic Development: An Update on the State of the Economics Literature." *Economic Development Quarterly* 35(3):232–253. <https://doi.org/10.1177/08912424211022832>
- Hoang, L. K., C. B. Tan, L. K. My and D. T. T. Nguyen. 2021. "Taxation and Economic Growth: A Regression Analysis Based on a New Classification." *Economic Horizons* 23(3):215–229. <https://doi.org/10.5937/ekonhor2103225H>
- Hoppe, Thomas, Deborah Schanz, Susann Sturm and Caren Sureth. 2020. Measuring Tax Complexity Across Countries: A Survey Study on MNCs. arqus Discussion Paper No. 245. arqus - Arbeitskreis Quantitative Steuerlehre. <https://econpapers.repec.org/paper/zbwarqudp/245.htm>
- Horton, Mark A. and Asmaa A. El-Ganainy. 2009. "Back to Basics: What is Fiscal Policy?" *Finance & Development* 46(002):52–53. <https://www.elibrary.imf.org/view/journals/022/0046/002/article-A019-en.xml>
- Johansson, Åsa, Chistopher Heady, Jens M. Arnold, Bert Brys and Laura Vartia. 2008. Taxation and Economic Growth. OECD Economics Department Working Papers No. 620. Paris: OECD Publishing. <https://doi.org/10.1787/241216205486>
- Jung, Euy-Young and Xielin Liu. 2019. "The Different Effects of Basic Research in Enterprises on Economic Growth: Income-level Quantile Analysis." *Science and Public Policy* 46(4):570–588. <https://doi.org/10.1093/scipol/scz009>
- Khujankulov, Ismoil and Sohrab Abizadeh. 2022. "Trends in Tax Revenues of Transition Economies: An Empirical Approach." *Empirical Economics* 64(2):833–868. <https://doi.org/10.1007/s00181-022-02269-7>
- Liu, Bin, Guang Xu, Qian Xu and Nan Zhang. 2012. "Outlier Detection Data Mining of Tax Based on Cluster." *Physics Procedia* 33:1689–1694. <https://doi.org/10.1016/j.phpro.2012.05.272>
- Maganya, Mnaku H. 2020. "Tax Revenue and Economic Growth in Developing Country: An Autoregressive Distribution Lags Approach." *Central European Economic Journal* 7(54):205–217. <https://doi.org/10.2478/ceej-2020-0018>
- Martinez-Vazquez, Jorge and Robert M. McNab (1997). Tax Reform in Transition Economies: Experiences and Lessons. GSU Andrew Young School of Policy Studies Working Papers No. 97-6. GSU Andrew Young School of Policy Studies. <https://dx.doi.org/10.2139/ssrn.470841>
- Mdanat, Metri F., Manhal Shotar, Ghazi Samawi, Jean Mulot, Talah S. Arabiyat and Mohammed A. Alzyadat. 2018. "Tax Structure and Economic Growth in Jordan, 1980-2015." *EuroMed Journal of Business* 13(1):102–127. <https://doi.org/10.1108/EMJB-11-2016-0030>
- Mihokova, Lucia, Alena Andrejovska and Slavomira Martinkova. 2016. "Categorization of Corporate Taxation in the European Union Countries Using Cluster Analysis: A Comparative Study." *Economic Annals-XXI* 160(7–8):4–8. <https://doi.org/10.21003/ea.V160-01>
- OECD. 2021. *Revenue Statistics: Interpretative Guide*. Paris: OECD. <https://www.oecd.org/tax/tax-policy/oecd-classification-taxes-interpretative-guide.pdf>
- Popovici, Oana C. 2012. "Is Taxation Affecting the Attractiveness of Central and Eastern Europe Countries for FDI?" *Annals of the "Constantin Brancusi" University of Targu Jiu, Economy Series* (1):141–145. https://www.utgjiu.ro/revista/ec/pdf/2012-01/21_POPOVICI_OANA_CRISTINA.pdf
- Shahmoradi, Masud, Ata M. Molgharni and Farzad Moayri. 2019. "Tax Policy and Economic Growth in the Developing and Developed Nations." *International Journal of Finance and Managerial Accounting* 4(14):15–25. https://ijfma.srbiau.ac.ir/article_15034_e8c58109576960642692648374a7a499.pdf
- Stoilova, Desislava. 2017. "Tax Structure and Economic Growth: Evidence from the European Union." *Contaduria y Administracion* 62(3):1041–1057. <https://doi.org/10.1016/j.cya.2017.04.006>
- Thaçi, Lumnije and Arbnora Gerxhaliu. 2018. "Tax Structure and Developing Countries." *European Journal of Economics and Business Studies* 4(1):213–220. <https://doi.org/10.26417/ejes.v10i1.p220-227>
- The World Bank. 2022. DataBank: World Development Indicators. Available from: <https://databank.worldbank.org/source/world-development-indicators#>
- The World Bank. n.d.a. Doing Business Archive: Business Reforms in Paying Taxes. Available from: <https://archive.doingbusiness.org/en/reforms/overview/topic/paying-taxes>
- The World Bank. n.d.b. Doing Business Archive: Doing Business 2004–2020. Available from: <https://archive.doingbusiness.org/en/doingbusiness>
- Tolstoptiatenko, Andreim and Simon J. Commander. 1996. Restructuring and Taxation in Transition Economies. Policy Research Working Paper No. 1625. The World Bank. <https://ssrn.com/abstract=636114>
- United Nations. 2021. *World Economic Situation and Prospects: Statistical Annex*. New York: United Nations. https://www.un.org/development/desa/dpad/wp-content/uploads/sites/45/WESP2021_ANNEX.pdf
- Vintilă, Georgeta, Ștefan C. Gherghina and Cosmina Ș. Chiricu. 2021. "Does Fiscal Policy Influence the Economic Growth? Evidence from OECD Countries." *Economic Computation and Economic Cybernetics Studies and Research* 55(2):229–246. <https://doi.org/10.24818/18423264/55.2.21.14>

Received: April 13, 2023

Revised: April 17, 2023

Accepted: July 12, 2023

Copyright © 2023– All Rights Reserved

This is an open-access article.