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ROLE OF WORLD FINANCIAL INSTITUTIONS IN DE-SHADOWING OF GLOBAL ECONOMY

The article examines practical aspects of world financial institutions' influence on preventing the spread of shadowing processes in global economy. The systematization of literary sources and approaches for solving the investigated problem shows that despite the diversity and content of views surrounding the problems of global and national economies' de-shadowing, the study of potential role of global financial institutions in these processes remains poor.

The methodological basis of the research are the methods of economic analysis and methods of fundamental research: system analysis, synthesis and comparative analysis to outline the main directions and means of detinization of the economy; a functional-systemic approach for assessing the state and trends of the shadow sector of the global economy and determining its impact on the country's international competitiveness; generalization method for forming research conclusions. The object of the study is the process of global economy de-shadowing.

The article assesses the level of economic shadowing, tolerance to corruption, and the level of international competitiveness of Ukraine and its close neighbors - the countries of the Visegrad Group (Poland, the Czech Republic, Hungary and Slovakia), the USA - the world's first economy, Denmark and Switzerland - the leading countries in the rating international competitiveness. The article empirically confirms that the strategic directions of global economic de-shadowing require coordinated and comprehensive actions of international organizations. The elements of the complex economic de-shadowing on a global scale are characterized, which can be effectively implemented and observed only with intervention in these processes international institutions, in particular financial ones. The areas of influence of international financial institutions regarding global economic de-shadowing are determined. The commited research proves the need for multi-vector cooperation with international financial organizations and highly developed countries that have at their disposal effective mechanisms of de-shadowing of economic activity.

The results of the study can be useful for the development of science-based recommendations for improving the mechanisms of cooperation with international financial institutions for effective global economy de-shadowing.

Key words: global institutions, level of shadow economy, global competitiveness index, tolerance to corruption, offshorization.

РОЛЬ СВІТОВИХ ФІНАНСОВИХ ІНСТИТУЦІЙ У ДЕТІНІЗАЦІЇ ГЛОБАЛЬНОЇ ЕКОНОМІКИ

У статті досліджено практичні аспекти впливу світових фінансових інституцій на запобігання поширення процесів тінізації глобальної економіки. Систематизація літературних джерел та підходів до вирішення досліджуваної проблеми свідчить про те, що незважаючи на різноплановість і змістовність поглядів навколо проблем детінізації глобальної та національної економіки, на незначному рівні залишається опрацювання аспектів можливої ролі в даних процесах глобальних фінансових інституцій.

Методологічною основою дослідження ϵ методи економічного аналізу та фундаментальних досліджень: системного аналізу, синтезу та компаративного аналізу для окреслення основних напрямків та засобів детінізації економіки; функціонально-системного підходу для оцінки стану та тенденцій тіньового сектору глобальної економіки та визначення її впливу на міжнародну конкурентоспроможність країни; метод узагальнення для формування висновків дослідження. Об'єктом дослідження ϵ процеси детінізації глобальної економіки.

У статті оцінено рівень тінізації економіки, толерантності до корупції та рівень міжнародної конкурентоспроможності України та її близьких країн-сусідів – країн Вишеградської групи (Польща, Чехія, Угорщина і Словаччина), США – першої економіки світу, Данії та Швейцарії – країн-лідерів в рейтингу міжнародної конкурентоспроможності. У статті емпірично підтверджено, що стратегічні напрями детінізації глобальної економіки потребують скоординованості та комплексності дій міжнародних організацій. Охарактеризовано елементи комплексу детінізації економіки в глобальному масштабі, які можуть бути ефективно впроваджені та дотримані лише за умови втручання в дані процеси міжнародних інституцій, зокрема фінансових. Визначено напрями впливу міжнародних фінансових інституцій щодо детінізації глобальної економіки. Проведене дослідження доводить необхідність багатовекторного співробітництва із міжнародними фінансовими організаціями та високорозвиненими країнами, що мають у своєму арсеналі ефективні механізми детінізації економічної діяльності.

Результати дослідження можуть бути корисними для розробки науково-обґрунтованих рекомендацій щодо удосконалення механізмів співпраці з міжнародними фінансовими інститутами для ефективної детінізації глобальної економіки.

Ключові слова: глобальні інституції, рівень тіньової економіки, індекс глобальної конкурентоспроможності, толерантність до корупції, офшоризація.

Statement of the problem in a general form and its connection with important scientific and practical tasks. In global practice, spreading of shadow economy is one of the economic risks for the next decade (*The Global Risks Report, 2023*). Insufficient activity of international organizations and national governments in fight against shadow economy has led to its significant spreading. Currently, despite the threatening scale of shadow economy, there is no comprehensive and coordinated agenda to overcome shadow economy. Instead, it is a common practice to form program documents regulating separate acts of shadow world economy, or the latter are limited to national scales. Accelerating the pace of development of shadow economic sectors not only worsens people's living standards, but also causes global economic crisis, poverty and unemployment, social inequality and insufficient indicators of economic growth. The current situation with the level of shadowing of the world economy requires, in our opinion, the development of an effective mechanism and response program from global financial institutions, because they have all necessary tools and level of influence.

Analysis of the latest research and publications which have begun to solve this problem. Scientific achievements in economic de-shadowing at different levels are quite diverse. Among the schollars dealing with the outlined issues, Bondarenko A., Varnaliya Z., Vyganaiylo S., Demkiva I., Dyachenko O., Kramarenko I., Lapinsky I., Levchenko Yu., Lykhina D., Oliynyka A., Onyshchenko S., Pavlenko N., Pylypenko N. are worth mentioning. Some foreign scientists such as Glassman J., Kassel D., Sauka A., Chambless J., Schneider F. and others have studied various fundamental aspects of methodology for assessing the level of economic shadowing and forms of economic de-shadowing. At the same time, despite the diversity of views related to the problems of de-shadowing of global and national economy, the studying of aspects of possible role of global financial institutions in these processes remains at low level.

Objectives: to study practical aspects of influence of world financial institutions on preventing the spread of shadowing processes in global economy.

Presentation of the **main research material** with full **justification** of the **scientific results**. The global scale of shadow economy proves that even in the 21st century it occupies its place among global problems and to a greater or lesser extent affects almost all economies. A wide range of its variations even more determines the need for an in-depth systemic approach to identifying the root causes and delineating adequate measures for their leveling.

According to traditional approaches to the detection of possible elements of shadow economy, the following elements are distinguished: "white" shadow economy — redistribution of income received as a result of implementation of illegal schemes and acts of corruption; "grey" economy — implementation of economic activity so that to conceal the tax revenue partially or completely; "black" economy — implementation of activities related to manufacture and sell of weapons, drugs, adulteration as well as pimping and fraud.

The fact that shadowing of the economy has a significant negative impact both on a separate economic system and on the entire world economy is undeniable. However, scientific opinion also finds statements about positive aspects of shadow economy existence. Thus, D. Cassel mentions the following positive effects of shadowing: smoothing of differences in the economic situation due to the flow of resources between legal and shadow economy; reduction of social costs for the state; performing the functions of a "built-in stabilizer" through, for example, the use of illegally obtained income for purchasing economic benefits created in the legal economic system, etc. (Cassel, 1986).

The current level of the world economy development and the regulatory impact of global institutions demonstrate certain success of many world countries in reducing the indicators of shadowing economy, however, this problem remains relevant both for developed economies and for those that are at the stage of formation or transformation.

In this study, we propose to evaluate the level of economic shadowing, tolerance to corruption, and the level of international competitiveness of Ukraine and its close neighbors — the countries of the Visegrad Group (Poland, the Czech Republic, Hungary and Slovakia), the USA —the world's first economy, Denmark and Switzerland — the leading countries in the rating of international competitiveness (table 1, fig. 1, fig. 2).

The study of chosen indicators for the above mentioned countries makes it possible to state:

- there is a direct relationship between the index values of international competitiveness, Corruption Perceptions Index and the level of economy shadowing: the volume of the shadow economy is greater in those countries in which, as a rule, tolerance to corruption is higher and the index of international competitiveness is lower;
- 2015 was characterized by relatively negative trends regarding the volume of shadow economy: the high level of shadow economy in the USA is explained by the increase in the base interest rate, which led to the investors' expectant position; in the EU countries, measures taken by the European Central Bank to stabilize the price level were not effective; for Ukraine the increase of the discount rate from 14% to 30%, the introduction of large-scale sanctions against the Russian Federation, the introduction by the Kyiv Council moratorium on the capital's external debt repayment, i.e. a technical default was declared, the NBU declaring a number of the largest financial institutions of Ukraine insolvent;
- in 2019, the level of economic shadowing "slowed down" both in the countries of the Visegrad Group (in highly developed economies) and in Ukraine because: an increase in economic growth indicators; the key rate was raised by the central banking system of the USA, which led to a simultaneous increase in the Central Bank around the world in order to keep investors with attractive yields;

Table 1. Comparative index values of global competitiveness and perception of corruption, as well as the index values of level of the shadow economy of the USA, Denmark, Switzerland,

Visegrad Group countries and Ukraine, 2015, 2019, 2021-2022.

Index	Country	Year			
		2015	2019	2021	2022
Shadow Economy Index	USA	5,9	4,8	6,6	7,3
	Denmark	12,0	8,9	9,6	15,2
	Switzerland	6,5	5,5	5,8	7,5
	Poland	23,3	20,7	22,0	22,4
	Czech Republic	15,1	13,1	13,9	14,5
	Hungary	21,9	23,2	25,0	23,3
	Slovakia	14,1	12,2	13,7	14,8
	Ukraine	35,0	28,0	32,0	44,2
Perception of Corruption Index	USA	76	69	67	69
	Denmark	91	87	88	90
	Switzerland	86	85	84	82
	Poland	63	58	56	55
	Czech Republic	56	56	54	56
	Hungary	51	44	43	42
	Slovakia	51	50	52	53
	Ukraine	27	30	32	33
Global Competitiveness Index	USA	5,61	83,7	89,1	89,9
	Denmark	5,33	81,2	96,7	100,0
	Switzerland	5,76	82,3	100,0	98,9
	Poland	4,49	68,9	68,6	68,9
	Czech Republic	4,69	70,9	71,0	71,1
	Hungary	4,25	65,1	65,1	65,7
	Slovakia	4,22	66,8	66,9	67,2
	Ukraine	4,03	57,0	56,0	54,8

Note

The level of the shadow economy is calculated as a % of the official GDP.

Corruption Perceptions Index (CPI) is an annual ranking of the world countries compiled by Transparency International since 1995. The countries in the rating are ordered according to the level of corruption based on the assessments of entrepreneurs and analysts. The rating reproduces the perception of corruption on a scale from 100 (no corruption) to 0 (extreme corruption).

Global Competitiveness Index ranks different number of countries each year on indicators grouped into 12 main components.

Compiled on the basis of (Slovo I dilo, 2021 (Слово і діло, 2021); Minfin , 2022 (Мінфін, 2022); Corruption Perceptions Index, 2015-2022; The Global Competitiveness Report. 2015-2022; World Economics, 2022).

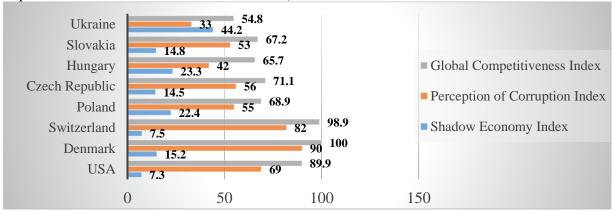


Fig. 1. Value of Global Competitiveness Index, Perception of Corruption Index and Shadow Economy Index in 2022.

Compiled on the basis of (Slovo I dilo, 2021 (Слово і діло, 2021); Minfin, 2022 (Мінфін, 2022); Corruption Perceptions Index, 2015-2022; The Global Competitiveness Report. 2015-2022).

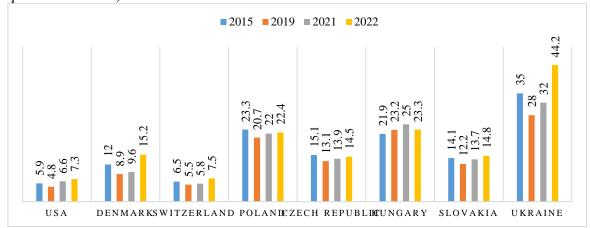


Fig. 2. Dynamics of the world countries' shadow economy level, 2015-2022. Compiled on the basis of (Slovo I dilo, 2021 (Слово і діло, 2021); Minfin, 2022 (Мінфін, 2022)).

- in 2019, Ukraine was characterized by growth of gold and foreign exchange reserves, the stabilization of business activity, which resulted in the best indicator for a decade in terms of the economic freedom index, the global index of innovations and global competitiveness;
- in 2020, the whole world was covered by coronavirus pandemic, which resulted in a serious economic recession in all countries. The average European indicator of the shadow economy reached 17.87% (Schneider, 2022), which is 9.8% higher than in 2019 and is overall the highest indicator for the Eurozone over the last 20 years. The main reasons for this phenomenon were people's efforts to compensate for their official loss of income;
- in 2021, the trends of 2020 were preserved. There was "only" a moderate decrease in shadow economy in the Eurozone from 17.87% to 17.42% of GDP (Schneider, 2022). The reasons for this situation were large-scale public infrastructure spending, subsidies to enterprises and special programs for the population. This led to GDP growth and decrease in unemployment. However, because of the lockdowns and increased uncertainty, workers had excess free time which they would normally use in shadow economy;
- in 2022, there was a further global economic recovery, but since the coronavirus pandemic was still affecting most European countries, the further reduction of the shadow economy was not significant. The average size of the shadow economy of the EU member states decreased to 17.29% (Schneider, 2022). The negative tendencies of economic shadowing in Ukraine were provoked by the full-scale military invasion of the Russian Federation on the territory of Ukraine. Many countries, mainly in Europe, have accepted a large number of refugees who faced obstacles to employment in the official economy. As a result, it has prevented the stabilization of the shadow economy volume in the countries of the Eurozone.

Separately, it is worth noting that one of the main reasons for the shadow economy presence in any state is corruption in its sectors.

According to the data in Table 1 and Fig. 1, the conclusion is obvious: the level of corruption in Ukraine is fairly high (the index of perception of corruption is the worst among the studied countries). Moreover, there is also a direct relationship between tolerance to corruption and the level of international competitiveness.

In their writings some researchers of shadow economy state that one of the reasons for high level of corruption in Ukraine is that in domestic legislation there are no norms for countering corrupt practices within the enterprise (Dyachenko, 2018).

Conclusions, discussions and recommendations. International institutions have the basic functions and capacities to regulate issues of economic de-shadowing.

As for reducing the level of corruption, it should be mentioned that being the most influential organization in the field of business, the International Chamber of Commerce has been closely dealing with it since 1977. In particular, the Code of Conduct for Enterprises "Combating corruption" is developed and constantly amended and supplemented. The main theses of this document are:

- each employee must build such relationships in the team so as not to face commitment to anyone;
- each employee is obliged to behave in an appropriate manner with colleagues, partners, representatives of the authorities and to avoid conflicts of interests; to behave responsibly with gifts at work, etc.;
 - each employee must clearly perform only their duties;
- management of the enterprise should establish clear communication with employees, as well as to develop a transparent and clear system of control and sanctions, which should include quality control of performance of duties and appropriate sanctions for non-performance or improper performance (Gutmann, 1985).

The de-shadowing of the global economy in general and of a separate country in particular should have a complex nature.

Firstly: overcoming the shadow economy should take place:

- at national level:
- at regional level (Caribbean Financial Action Task Force (CFATF), Eastern and Southern Africa Anti-Money Laundering Group (ESAAMLG), Offshore Group of Banking Supervisors OGBS, Asia/Pacific Group on Money Laundering (APG), Financial Action Task Force on Money Laundering in South America, etc.);
- at international level (The Financial Action Task Force (FATF), the Egmont Group of Financial Intelligence Units, The Basel Committee on Banking Supervision, World Bank, UN, Interpol, Wolfsberg Group, The Committee of Experts on the Evaluation of Anti-Money Laundering Measures (MONEYVAL), The European Bank for Reconstruction and Development, the Eurasian Group for Combating the Legalization of Criminal Proceeds and the Financing of Terrorism, the Committee of Experts on the Evaluation of Anti-Money Laundering Measures (MONEYVAL).

Secondly: the areas of economic de-shadowing should be corruption overcoming, shadow labor market limiting, tax policy rationalization, preventing laundering of illegally obtained funds, criminal business combating. Thirdly: the methods of de-shadowing should not be limited to sanctions for prohibition violation because this requires a significant amount of budget funds. European experience proves that ensuring a high level of wages for civil servants and implementing transparent law are more effective in shadowing overcoming and in ensuring high level of fair competition as well as in supplying a reliable mechanism for protecting the rights of citizens when receiving services from state structures. On a global scale, the abovementioned elements of economic de-shadowing complex measures can be effectively implemented and observed only with intervention in these processes international institutions, in particular financial ones. The strategic areas of global economy de-shadowing require coordinated and comprehensive actions of international organizations (Fig. 3).

Economic de-shadowing is a multi-component process that requires creation of a favorable environment for legalization of business. The committed research proves the need for multi-vector cooperation with international financial organizations and highly developed countries which have at their disposal effective mechanisms of economic activity deshadowing.

carrying out audit of national economies in order to determine scale and features of shadowing

monitoring of regulatory systems of national economies (taxation, health care, property rights, consumer rights, etc.) to identify opportunities for simplification and increase of transparency

assessment of impact of labour migrants, forced migrants, refugees, and national minorities on national wellbeing in order to develop an effective policy for regulating the location of these categories of population on the territory of a country

cash flows control of financial institutions of countries in order to overcome illegal schemes in this area

enhance of regulatory influence on cash transactions and implementation of more effective mechanisms to deal with undeclared and unaccounted cash accounts

enhance of control over operations related to offshore activities

improvement of rules and norms of financial markets and increase of transparency level of financial instruments

influence on transformation of national currency systems in order to reduce risks of integration into the financial global space

promoting implementation of "Washington Consensus" concept (economic policy rules for countries in a crisis situation): lowering marginal tax rates, maintaining minimal state budget deficit, liberalizing financial markets and foreign trade, ensuring absence of restrictions on foreign direct investment, etc.

enhance of control over the level of the financial system stability

enhance of control over the bank capital norms in order to create equal competitive conditions for international and national banks, as well as promoting transparency of financial institutions' reporting

Fig. 3. Areas of international financial institutions' influence regarding the global economic de-shadowing

Compiled on the basis of (*Onyshchenko and Lapinsky*, 2013 (*Онищенко та Лапінський*, 2013); Levchenko, 2017 (Левченко, 2017); Oliynyk, 2017 (Олійник, 2017); Lykhin et al., 2020 (Лихін та ін., 2020); Pavlenko et al., 2021 (Павленко та ін., 2021)).

It is global financial institutions that have the potential to de-shadow effectively the economy on a global scale because in the conditions of a single financial space formation, the capabilities of national regulatory bodies to control the country's financial flows and its own financial system are leveled.

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Investigation: Baula Olena Methodology: Baula Olena

Project administration: Baula Olena

Resources: Baula Olena Supervision: Baula Olena Confirmation: Baula Olena Visualization: Olena Lutak Written by: Baula Olena

References:

- 1. Diachenko, O. (2018). Masshtaby i struktura tinovoi ekonomiky u sviti ta prychyny yii vynyknennia [The scale and structure of the shadow economy in the world and the reasons for its emergence]. Naukovi zapysky Instytutu zakonodavstva Verkhovnoi Rady Ukrainy – Scientific notes of the Institute of Legislation of the Verkhovna Rada of Ukraine. [Online], 2. http://lib.osau.edu.ua/jspui/bitstream/123456789/2101/1/767-Article%20Text-1461-1-10-20180521.pdf (accessed: 15 March 2023). [in Ukrainian].
- 2. Levchenko, Yu.O. (2017). Zapobihannia tinizatsii svitovoi ekonomiky [Preventing shadowing of the world economy]. Yurydychna nauka: suchasnyi stan ta perspektyvy rozvytku – Legal science: current state and development prospects. Retrieved http://elar.naiau.kiev.ua/bitstream/123456789/4121/1/-%20%D0%97%D0%91%D0% 086.pdf (accessed: 14 March 2023). [in Ukrainian].
- 3. Lykhin, D.A., Kramarenko, I.V., & Bondarenko, A.V. (2020). Vahomyi vplyv tinovoho sektoru na mizhnarodnu ekonomichnu bezpeku krainy [The significant impact of the shadow sector on the country's international economic security]. Vcheni zapysky TNU imeni V. I. Vernadskoho. Seriia: Ekonomika i upravlinnia – Scholarly notes of TNU named after VI Vernadskyi. Series: Economics and management. Volume 31 (70). [Online], 6. Retrieve https://www.econ.vernadskyiournals.in.ua/journals/2020/31_70_6/5.pdf (accessed: 14 March 2023). [in Ukrainian].
- 4. Oliinyk, A.A. (2017). Mizhnarodni finansovi orhanizatsii yak skladova finansovoi hlobalizatsii [International financial organizations as a component of financial globalization]. Efektyvna ekonomika - Efficient economy. [Online], 10. Retrieved from http://www.economy.nayka.com.ua/?op=1&z=5821 (accessed: 15 March 2023). [in Ukrainian].
- Onyshchenko S.V., & Lapinskyi I.E. (2013). Mizhnarodnyi dosvid borotby z tinizatsiieiu ekonomiky v umovakh hlobalizatsii [International experience of combating the tinization of the economy in the conditions of globalization]. Efektyvna ekonomika – Efficient economy. [Online], 2. Retrieved from http://www.economy.nayka.com.ua/?op=1&z=2074 (accessed: 15 March 2023). [in Ukrainian].
- 6. Pavlenko, N.V., Vyhaniailo, S.M., & Pylypenko, N.M. (2021). Detinizatsiia ekonomiky Ukrainy yak chynnyk ekonomichnoho zrostannia [Childization of the economy of Ukraine as a factor of economic growth]. Ekonomika ta derzhava - Economy and the state. [Online], 7. Retrieved from http://www.economy.in.ua/pdf/7 2021/6.pdf (accessed: 14 March 2023).
- 7. Riven tinovoi ekonomiky v Ukraini perevyshchyv 30% Minekonomiky. [The level of the shadow economy in Ukraine has exceeded 30% — Ministry of Economy]. Retrieved from https://minfin.com.ua/ua/2022/02/10/80801573/ (accessed: 12 March 2023). [in Ukrainian].
- 8. Yak zminiuwaysia riven tinovoi ekonomiky v Ukraini za ostanni 11 rokiy [How the level of the shadow economy in Ukraine has changed over the past 11 years]. Retrieved from https://www.slovoidilo.ua/2021/07/08/ infografika/ekonomika/yakzminyuvavsya-riven-tinovoyi-ekonomiky-ukrayini-ostanni-11-rokiv (accessed: 12 March 2023). [in Ukrainian].
- 9. Cassel, D. (1986) Funktionen der Schattenwirtschaft im Koordinationsmechanismus von Marktund Plan-wirtschaften [Functions of the shadow economy in the coordination mechanism of market and planned economies]. ORDO. Jahrbuch fur die Ordnung von Wirtschaft und Gesellschaft. vol. 37. pp. 73—103. [in German].
- 10. Corruption Perceptions Index 2015. Retrieved from https://www.transparency.org/en/cpi/2015 (accessed: 13 March 2023).
- 11. Corruption Perceptions Index 2019. Retrieved from https://www.transparency.org/files/content/pages/2019 CPI Report_EN.pdf (accessed: 13 March 2023).
- 12. Corruption Perceptions Index 2021. Retrieved from https://www.transparency.org/en/cpi/2021 (accessed: 13 March 2023).
- 13. Corruption Perceptions Index 2022. Retrieved from https://www.transparency.org/en/cpi/2022 (accessed: 13 March 2023). 14. Gutmann, P. (1985). The Subterranean Economy, Redux. The Economics of the Shadow Economy. Heidelberg.
- 15. Informal Economy Sizes. World Economics. Retrieved from https://www.worldeconomics.com/Informal-Economy/ (accessed: 14 March 2023).
- 16. Schneider, F. (2022). New COVID-related results for estimating the shadow economy in the global economy in 2021 International Economics and Economic Policy. Volume 19. pp. https://link.springer.com/article/10.1007/s10368-022-00537-6 (accessed: 15 March 2023).
- 17. The Global Competitiveness Report 2015–2016. Retrieved from 2016/Global Competitiveness Report 2015-2016.pdf (accessed: 13 March 2023). https://www3.weforum.org/docs/gcr/2015-
- Competitiveness Report 2019. Retrieved https://www3.weforum.org/docs/WEF_ Global from TheGlobalCompetitivenessReport2019.pdf (accessed: 15 March 2023).
- 19. The Global Competitiveness Report 2021. Retrieved from https://www.ips.lk/global-competitiveness-report-2021/ (accessed: 15 March 2023).
- Global Risks Report 2023. 18th Edition Insight Report. Retrieved from https://www3.weforum.org/docs/WEF_Global_Risks_Report_2023.pdf (accessed: 12 February 2023).
- 21. World Competitiveness Booklet 2022. Retrieved from https://imd.cld.bz/IMD-World-Competitiveness-Booklet-2022/34/ (accessed: 15 March 2023).

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