

UDC 336.225(477)

Lagodiienko N.

*Doctor of Economics, Associate Professor,
Associate Professor of the Department of Accounting and Taxation,
Mykolayiv National Agrarian University, Ukraine;
e-mail: besedina77@gmail.com; ORCID ID: 0000-0002-8472-1395*

Yakushko I.

*Ph. D. in Economics,
Assistant of the Department of Accounting and Auditing,
Taras Shevchenko National University of Kyiv, Ukraine;
e-mail: sks1982@ukr.net; ORCID ID: 0000-0003-1161-7383*

DEVELOPMENT OF THE TAXATION SYSTEM IN THE CONDITIONS OF DIGITAL TRANSFORMATION OF THE NATIONAL ECONOMY

Abstract. Creating an effective tax system in the country is one of the most important conditions for ensuring its competitiveness. Today, there is a process of active tax competition between states around the world. This determines the importance of creating conditions for the introduction of digital technologies in the field of taxation, which can radically change the efficiency of tax authorities and facilitates the transition of tax systems to a qualitatively new level of development.

Thus, within the article, theoretical provisions of the development of fiscal digitalization as an objectively necessary component of reforming tax systems in the current context of the national economy digitalization are examined. This was implemented through the study of the digitalization essence, which was carried out based on the analysis of the formed scientific concepts of this phenomenon consideration, concretization of the influence of such phenomenon on the national economy development. As a result, advantages of the digital technologies introduction for the tax system of the countries are also determined.

To specify the essence of fiscal digitalization, within the article, the content of fiscal and digital space is considered, their objective convergence in the current conditions of economic development are substantiated, as well. The author's interpretation of the essence of fiscal transformation was proposed, namely: fiscal transformation — a space in which the processes of introduction of modern information technologies into the activities of fiscal authorities to increase the effectiveness of the relevant executive authorities policy in the field of revenue and expenditure regulation. economic development and ensuring the development of other economic entities. Conceptual principles of the fiscal digitalization development, its inevitable nature are also deepened, and its important role in ensuring the competitiveness of tax systems is substantiated, advantages and threats that may arise in the process of the introduction of modern digital technologies in the fiscal sphere are analyzed.

Keywords: digitalization, fiscal space, digital space, fiscal digitalization, digital technologies.

JEL Classification H21

Formulas: 0; fig.: 3; tabl.: 0; bibl.: 36.

Лагодієнко Н. В.

*доктор економічних наук, доцент,
доцент кафедри бухгалтерського обліку і оподаткування,
Миколаївський національний аграрний університет, Україна;
e-mail: besedina77@gmail.com; ORCID ID: 0000-0002-8472-1395*

Якушко І. В.

*кандидат економічних наук,
асистент кафедри обліку і аудиту,
Київський національний університет імені Тараса Шевченка, Україна;
e-mail: sks1982@ukr.net; ORCID ID: 0000-0003-1161-7383*

РОЗВИТОК СИСТЕМИ ОПОДАТКУВАННЯ В УМОВАХ ЦИФРОВОЇ ТРАНСФОРМАЦІЇ НАЦІОНАЛЬНОЇ ЕКОНОМІКИ

Анотація. Створення ефективної системи оподаткування у країні є однією з найважливіших умов забезпечення її конкурентоспроможності. На сьогодні в усьому світі відбувається процес активної податкової конкуренції між державами. Саме це зумовлює важливість створення умов для впровадження цифрових технологій у сферу оподаткування, що дає змогу кардинально змінити ефективність роботи податкових органів і сприяє переходу податкових систем на якісно новий рівень власного розвитку.

Таким чином, проведено дослідження теоретичних положень розвитку фіскальної діджиталізації як об'єктивно необхідного компонента реформування податкових систем у сучасних умовах цифровізації національної економіки. Це було реалізовано через дослідження сутності діджиталізації, що зроблено на основі аналізу сформованих наукових концепцій розгляду цього явища, конкретизації впливу такого явища на розвиток національної економіки. У підсумку також визначено переваги від упровадження цифрових технологій саме для податкової системи країн.

Для конкретизації сутності фіскальної діджиталізації також розглянуто зміст фіскального і цифрового простору, обґрунтовано їхню об'єктивну конвергенцію в сучасних умовах розвитку економіки країн. Було запропоновано авторське трактування сутності фіскальної трансформації, а саме: фіскальна трансформація — простір, у якому відбуваються процеси впровадження в діяльність фіскальних органів влади сучасних інформаційних технологій для підвищення ефективності реалізації відповідними органами виконавчої влади політики у сфері регулювання доходів і видатків держави з метою стимулювання її випереджального економічного розвитку та забезпечення розвитку інших економічних суб'єктів. Також поглиблено концептуальні засади розвитку фіскальної діджиталізації, її невідворотний характер та обґрунтовано її важливу роль у забезпеченні конкурентоспроможності податкових систем, проаналізовано переваги і загрози, які можуть виникати у процесі впровадження сучасних цифрових технологій у фіскальній сфері.

Ключові слова: діджиталізація, фіскальний простір, цифровий простір, фіскальна діджиталізація, цифрові технології.

Формул: 0; рис.: 3; табл.: 0; бібл.: 36.

Introduction. The formation of the digital economy today is an inevitable process, which is observed in the vast majority of developed countries. New information technologies are gradually penetrating all spheres of life, including economy. The peculiarity of the active development and implementation of such technologies in economic relations is their significant potential to upgrade economic systems, increase the efficiency of their operation, ensure the rational use of resources and save money. The use of this potential in modern conditions by economic agents is not only a desire to implement the latest information innovations in their own activities, but is an objective necessity to ensure the competitiveness of enterprises and national economies. Competition for financial resources, which is constantly taking place in the world capital markets, necessitates the investment attractiveness of countries. This requires improving institutional conditions for the efficient use of such resources and constantly updating the entire system of institutional regulation, ensuring its efficiency and compliance with modern conditions of the world economy. This can be done only through the use of advanced information technology in all areas of economic activity.

Creating an effective tax system in the country is one of the most important conditions for ensuring the competitiveness of the national economy. This situation is due to the desire of governments to create stable and favorable conditions for attracting foreign investment, especially in innovation and economy. Today, there is a process of active tax competition between the states around the world. The complexity of this is that «taxation remains the most effective tool of government regulation of economy, its insufficient level provokes a deficit of tax revenues in the budgets of all levels. Otherwise, excessive taxation will lead to the withdrawal of a significant part

of funds from economic entities in the form of taxes, and thus restrain economic activity, inhibit social business initiatives and hinder sustainable development of the country» [1, p. 88].

Scientists have already unequivocally proved that without the introduction of modern technologies, creating conditions for their development, no country can ensure its own development in the long run. That is why developed countries use the tax system as one of many tools to boost their own economic development.

However, lowering tax rates is not the only and most reliable way to attract foreign investment and stimulate economic development. The formation of an effective fiscal space in the country, within which much attention is paid to improving the administration of taxes and fees, increasing the transparency of the tax system in the country, improving the quality of services to businesses primarily by tax officials, is also important. Today, to solve these problems, the conditions are created for the introduction of digital technologies in the field of taxation and the functioning of the fiscal system in general, which can radically change the efficiency of fiscal authorities, especially tax administrations, and facilitates the transition of tax systems to a qualitatively new level. It is the relevance of the introduction of such technologies in the practice of tax authorities that necessitates new theoretical and applied research in this area.

Allocation of previously solved parts of the overall problem. However, given numerous developments of scientists, practitioners in the introduction of new digital technologies in the development of taxation, the functioning of the fiscal system, the knowledge of the essence of such technologies, their implementation in the work of fiscal authorities and the potential for transformation of the national tax systems remains understudied. The role of digitalization processes in the formation of a new fiscal space and increasing the level of its effective development need to be deepened. In general, the above confirms the expediency of conducting new research in both theoretical and practical terms, which would systematically and thoroughly reveal the features of the impact of digital innovations primarily on the tax system.

Literature Review. Today, the matter of the essence of digitalization processes, the impact of this phenomenon on the national economy development is being studied by a large number of scientists. These include: Berthon B., Dahlman C., Daugherty P., Domansky A., Dubyna M., Kholiavko N., Khrypko A., Knickrehm M., Lark K., Ligonenko L. O., Mealy S., Ruskykh A., Shaposhnikov K., Shkarlet S., Ustenko M., Wermelinger M. and others.

Negroponte N. in his remarkable work «Being Digital» for the first time, reveals theoretical issues concerning the essence of digitalization, peculiarities of the development of digitalization processes in modern society [2]. Gobble M. draws attention to gradual formation of Industrt 4.0 and the development of already Industry 5.0 in the most developed countries [3]. Features of the origin and development of digital economy have been studied in the works of Lane N. [4], Estevão M. [5] et all.

The issues of the digitalization impact on the development of certain spheres and sectors of the national economy are studied in the works of N. Kholiavko [6; 7]. The influence of modern digital technologies on the development of executive bodies is considered in the works of Oliychenko I., Ditkovska M., Zhovtok V. Significant attention to digital transformations in the functioning of financial institutions that change the customer service model of these institutions is paid in the works of Shkarlet S., Dubyna M. [8; 9]. Thus, the study of modern digital technologies, their essence and role in the transformations of various economic systems are relevant and implemented by many scientists.

Some issues on reforming tax systems and improving the efficiency of the fiscal sphere are currently being studied by the following scientists: Ejiogu A., Okechukwu O., Ejiogu C., Blanchard O., Zandi M., Asher M. G., Zen F., Dita A., Chakraborty P., Gnanngnon S. K., Brun J.-F., Bohn H., Heller P., Aizenman J. In particular, Ejiogu A., Okechukwu O., Ejiogu C. pay attention to the knowledhe of peculiarities of the development of tax systems in unstable economic environment and their impact on reducing financial stability of countries [10]. Asher M. G., Zen F., Dita A. Learn the trole of fiscal instruments in ensuring socio-economic development of countries, creating conditions for social justice [11].

Significant attention of scientists is also paid to the study of the digitalization impact on taxation. For example, Khudolei V., Bespalov M., Tulchynska S., Tulchinsky R., Kholiavko N. emphasize the importance of fiscal regulation for the national economy development, analyze the experience of European countries in this area, the need to increase the effectiveness of such regulation through the use of new innovative technologies [12]. Lipniewicz R. explores the possibilities of digital technologies in the formation of a tax risk management system, analyzes analytical and control tools that can be used by tax authorities in the implementation of innovative technologies in their work [13]. In turn, Casey P., Castro P. consider the impact of Electronic fiscal devices (EFDs) on improving the quality of tax administration and reducing cases of tax evasion, withdrawal of taxable income from the shadow sector [14].

Hanschitz G. and Campbell D. in «Tax Digitalization: Epistemic Tax Policy» systematically address the issues of the tax information digitalization, the simplification of tax systems and tax administration. The authors analyze the opportunities created by the digitalization process in the field of taxation, consider potential areas of the tax authorities transformation [15]. Estevão M. in his research pays special attention to the impact of COVID-19 on the tax systems functioning in different countries and notes that the current situation only increases the requirements for tax administrations in unusual conditions, and this highlights the need for active implementation of modern digital technologies in this sphere. These technologies, according to the author, are the only way to transform tax systems and are the basis for their transition to a new level of their own qualitative functioning [16].

The importance of the new knowledge formation among taxpayers as a result of digital technologies in the tax authorities' operation is considered in the work of Bornman M., Wassermann M. [17]. Peculiarities of the taxation systems formation of international digital corporations are studied in the works of Blagodyr L. and Filatova L. [18]. The scientists analyze the world experience of taxation of international corporations, modern approaches to building the outlined systems. The outlined issues are also considered in the works of Low P. [19].

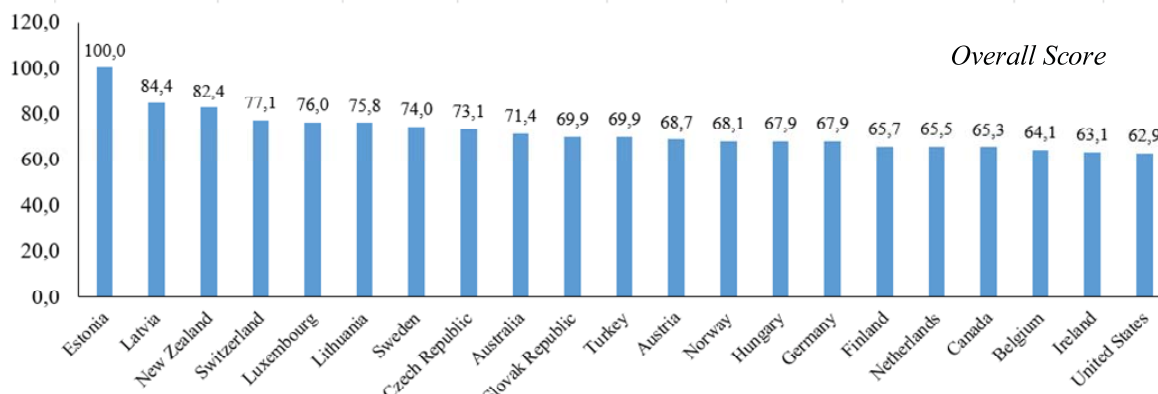
Methodology and Research Methods. In the article, a range of general and special methods of scientific research is used. In particular, in understanding the essence of the definition of «digitalization», the methods of abstraction, comparison and critical analysis were used, which allowed to specify the content of this definition and to identify the basic digital transformations that are currently taking place within national economies. The application of the content analysis method made it possible to analyze modern approaches to interpreting the content of such categories as «fiscal space», «digital space», and the use of synthesis and generalization methods allowed to specify the essence of the definition of «fiscal digitalization».

To deepen theoretical provisions of the fiscal digitalization development, methods of grouping and systematization, a systematic approach were used. The use of a wide range of scientific methods provided an opportunity to analyze in detail current trends in the tax systems digitalization, to specify new requirements for taxpayers to the work of tax authorities and to identify promising ways to improve their efficiency.

Results. Ensuring the competitiveness of the tax system is one of the key tasks of increasing investment attractiveness of countries for investors. Accordingly, each year relevant international ratings are created to assess the competitiveness level of tax systems. In *Fig. 1*, the results of the International Tax Competitiveness Index Rankings for 2020 are presented.

The analysis of information in *Fig. 1* only confirms a significant impact of the tax system on the national economy development. The most competitive outlined systems are inherent in the countries that are characterized by a high level of socio-economic development and significant achievements in the implementation of digital technologies in all areas of state institutions.

The study will begin with the specification of the essence of the category «digitalization» and determine the characteristics of the impact of modern digital technologies on the national economy development.



Countries	Overall Score	Corporate Tax Rank	Individual Taxes Rank	Consumption Taxes Rank	Property Taxes Rank	International Tax Rules Rank
Estonia	100,0	2	1	9	1	16
Latvia	84,4	1	5	26	6	9
New Zealand	82,4	24	4	6	2	20
Switzerland	77,1	14	14	1	34	3
Luxembourg	76,0	26	20	3	14	6
Lithuania	75,8	3	7	23	7	23
Sweden	74,0	8	19	16	5	11
Czech Republic	73,1	7	3	34	9	10
Australia	71,4	30	17	7	3	25
Slovak Republic	69,9	18	2	33	4	31
Turkey	69,9	15	6	20	21	12
Austria	68,7	21	29	13	13	5
Norway	68,1	11	15	18	19	14
Hungary	67,9	4	9	35	24	4
Germany	67,9	29	25	12	11	7
Finland	65,7	6	28	14	16	22
Netherlands	65,5	25	21	15	27	2
Canada	65,3	23	27	8	22	13
Belgium	64,1	13	10	28	20	19
Ireland	63,1	5	32	24	17	17
United States	62,9	19	23	5	28	32

Fig. 1. International Tax Competitiveness Index Rankings

Source: compiled by the authors on the basis [20].

Digitalization as a new category, process, phenomenon has been actively studied by scientists in the last five years, due to active development of information and communication technologies. This contributed to the formation of the scientific concept of digitalization as a separate process of the transformation of various systems through the use of modern information technology.

The OECD proposes to consider digitalization as a process of interconnected use of data and digital technologies that contributes to the emergence of new or change in existing activities [21]. Dahlman C., Mealy S., Wermelinger M. note that «digitalization is a combination of general-purpose technologies and a number of economic and social activities carried out by Internet users using appropriate technologies. Digitalization, therefore, includes the physical infrastructure needed to implement digital technologies (broadband networks, routers), access devices (computers, smartphones), information systems («Internet of Things», big data analysis, cloud computing)» [22]. Thus, the authors not only detail the essence of digitalization, but also consider it as a single integrated system with its components. In turn, Knickrehm M., Berthon B., Daugherty P. offer the following definition of the studied concept: «digitalization is a part of the total volume of production created by various digital resources. These resources include digital skills, digital equipment (components, software and communications) and intermediate digital goods and services used in manufacturing. This approach reflects the essence of digitalization» [23].

M. Dubyna and A. Kozlianchenko consider «digitalization as a modern stage of the development of society and economy, which is accompanied by a significant level of diffusion of information technologies, information resources and social processes, resulting in digitization of data of different nature, which expands their use in all spheres of human activity» [24, p. 26]. M. O. Ustenko, A. A. Ruskykh note that «digitalization is a radical transformation, which is expressed in the deep penetration of digital technologies into business processes, their optimization, increasing productivity and improving communication with consumers» [25, p. 184].

Ligonenko L., Khripko A., argue that «digitalization is a necessary process of the modern enterprises development in neo-economy. It is designed to simplify and accelerate the work with large databases, automate all activities, improve communication with customers, suppliers and partners and all institutions of the environment, the formation of new principles of the interaction within the enterprise — between departments, employees, management, transition to new organizational forms of management (network and virtual economy)» [26]. N. G. Sinyutka offers the following interpretation of the term «digitalization»: «digitalization (from the English word «digitalization») — is the process of digitizing, converting, information, etc. into digital form, in which it is organized into specific information units — bits — and is available as large data sets for computer processing [27, p. 364].

Thus, it can be argued that digitalization as a universal process, which today penetrates into all spheres of human life, affects the national economy development as follows: accelerates the process of making managerial decisions, which is carried out by accumulating a large array of necessary information and its rapid analysis; promotes competition in world markets, as gradually the borders between countries are blurred; allows cooperation between different suppliers and buyers who are in different parts of the world; promotes the emergence of new sectors of the national economy; allows to increase the efficiency of the resource use, which is based on the analysis of a significant number of production processes and the creation of optimal models for the manufacture of various types of goods; improves the quality of services to consumers, as their feedback in the public domain forms the reputation of the business entity; allows to improve the quality of management decisions of state and local authorities through rapid processing of large arrays of economic and financial information on the development of individual sectors and sectors of the national economy; allows to ensure the effectiveness of the financial market, as it contributes to the construction of complex models of its development for the implementation of correct and sound investment decisions, etc.

In general, the potential of digitalization for the development of the national economy today is not fully substantiated by scientists. The emergence of new innovative technologies is constantly changing the business environment, as such an environment is primarily affected by these technologies. However, state institutions are also interested in the introduction of new technologies in their own work, which allows them to more effectively manage and regulate economic relations and thus to obtain additional financial resources to improve the living conditions of citizens.

A separate area of active development and implementation of modern digital technologies is the fiscal system, and especially the field of taxation, as within this area, significant amounts of economic information about taxpayers, the use of accumulated resources are accumulated. The fiscal system plays a key role in the public finance system. This contributes to the understanding of the need to use available technologies to simplify the process of tax administration, increase the efficiency of fiscal authorities through. The introduction of digital technologies in the field of taxation today is due to the following factors: the need to simplify the process of processing tax information, which is constantly produced by tax authorities; the need to reduce the corruption component in decision-making in this area, new technologies can increase the transparency of tax authorities, the system of tax benefits, the return of accumulated tax funds, etc.; the need to improve the quality of services provided by tax authorities, to simplify the system of filing declarations, the ability to submit necessary information at any time and anywhere in the world; the need to improve the quality of tax control, the introduction of automatic mechanisms for finding cases of avoidance or understatement of tax payments; the need to ensure the flexibility of the taxation system, as quite

often decisions are made in this area to change the rules of taxation, interest rates, etc.; the need to find and prevent tax evasion by economic entities, using gaps in legislation; the ability to reduce the cost of maintaining tax authorities by automating management processes; the need to increase the efficiency of the economic information analysis in the country, much of which is accumulated by tax authorities, to improve the quality of planning and forecasting the development of the fiscal system and the national economy in general.

As mentioned, digitalization processes are objective and will only deepen and actively develop in the future. It is quite logical that in the future there will be a diffusion of fiscal and digital space within any country. This process is necessary to ensure the efficiency of fiscal, in particular tax authorities and to create a competitive tax system. The issue of fiscal digitalization today concerns every business entity and any participant in economic and financial relations. Today, every stakeholder is interested in the efficiency, convenience and clarity of the information [28, p. 317].

In Fig. 2, a model of convergence of fiscal and digital space is presented, which ultimately contributes to the formation of the fiscal digitalization space as an environment in which the development and implementation of innovative technologies in the processes of payment, control and use of financial resources.

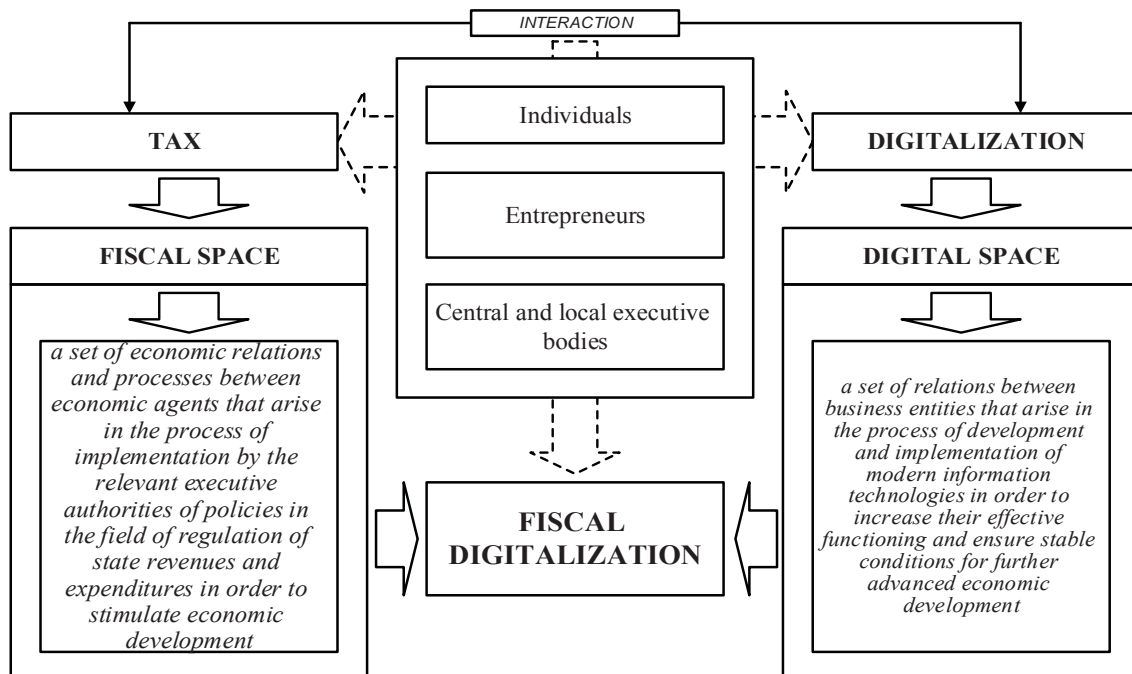


Fig. 2. Formation of the space of fiscal digitalization in modern conditions of digital transformation of the national economy

Source: compiled by the authors on the basis of [29—32].

Given the data of Fig. 2, it is possible to define such interpretation of the fiscal digitalization essence — a space in which there are processes of introduction in the activity of fiscal authorities of modern information technologies for the increase of efficiency of the implementation the policy by corresponding executive bodies in the field of the income and expenditure regulation, the development of other economic entities.

In Fig. 3, a conceptual model of the formation and development of fiscal digitalization within the economic space of economic entities is presented.

The analysis of information in Fig. 3 allows us to conclude that fiscal digitalization is an integral part of the implementation of changes in the work of fiscal authorities. We believe that the introduction of new digital technologies into the work of such bodies will be even faster in the future, as positive consequences of the use of such technologies far exceed the number of threats they pose.

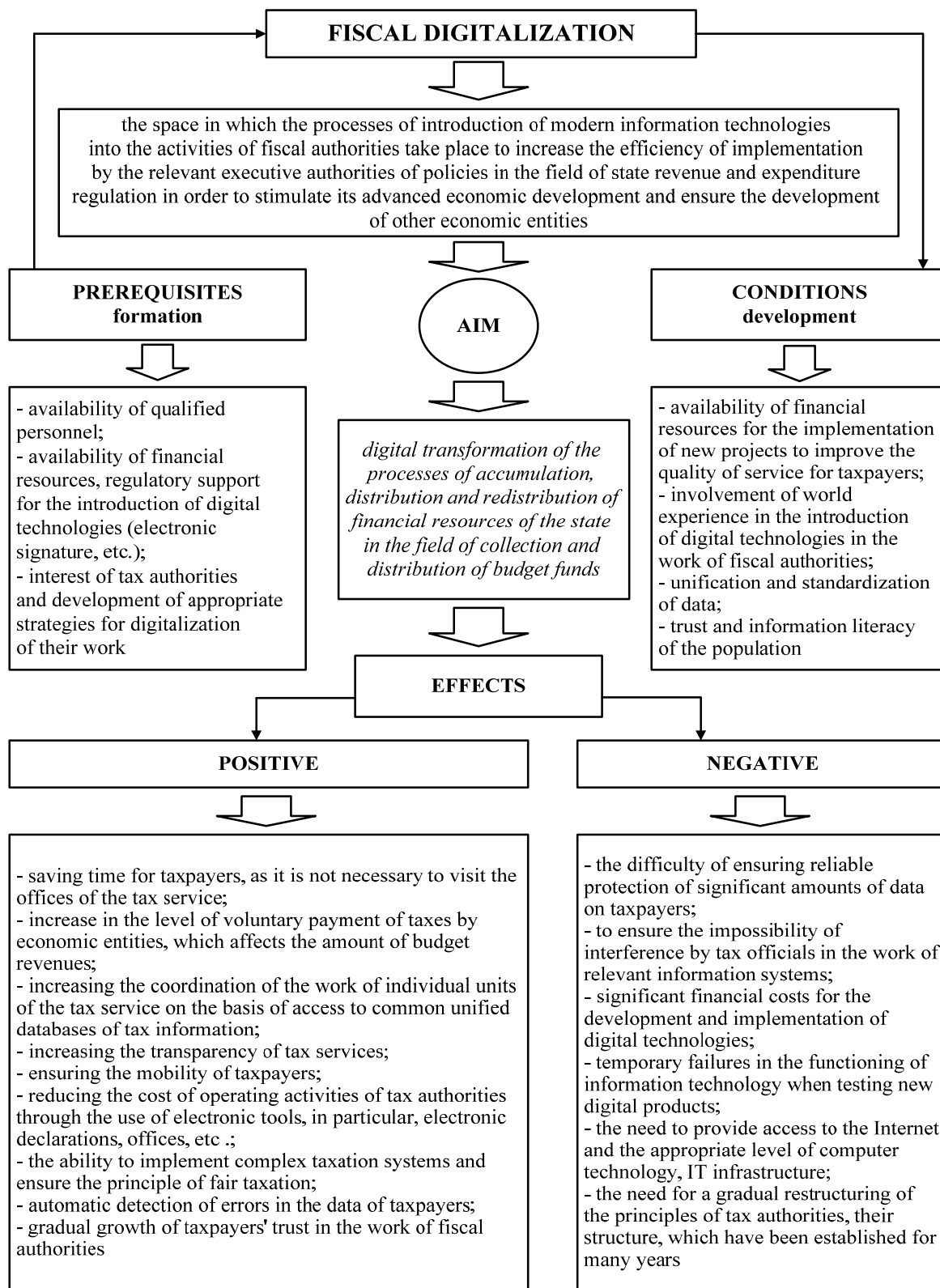


Fig. 3. Conceptual model of the formation and development of fiscal digitalization

Source: compiled by the authors on the basis [1; 33—36].

Moreover, another prerequisite for the fiscal digitalization development is constant improvement of modern technologies for processing large data, their analysis, which ultimately gradually reduces the cost of development and use of such technologies. Already today, fiscal authorities use such technologies as Artificial Intelligence, Machine Learning, Big Data, Blockchain, Cloud technologies and computing, etc. in their work. It is logical that the interest of

such bodies in the use of these technologies, the availability of proposals for their development and implementation from other companies working in the field of FinTech, increasing the number of such manufacturers of special software, on the one hand, will only contribute to the development of new systems of fiscal authorities, and on the other — a gradual reduction in the future cost of these technologies.

Conclusions. Thus, within the article, features of the introduction of digital technologies in the fiscal system development are analyzed, in particular the tax sphere, and theoretical aspects of the fiscal digitalization development are deepened. Important attention is paid to the analysis of the essence of digitalization and its impact on the national economy development. It is determined that the outlined process is objective and inevitable, and this necessitates the adaptation to new challenges of all spheres and branches of economy, including the work of state institutions.

The results of the analysis of the digitalization content allowed to distinguish the advantages of the introduction of digital technologies in the tax system. This allowed to substantiate the peculiarities of the diffusion process between fiscal and digital space, resulting in a space of fiscal digitalization. Within the article, it is defined that the convergence between the fiscal and digital space is an objective process that is currently actively taking place in all developed countries. Thus, considering the outlined, the phenomenon of fiscal digitalization, its essence, preconditions of the formation and conditions of the development were considered in more detail. The study of the advantages and disadvantages of this phenomenon gives grounds to assert a significant potential of digital technologies in the development of both the fiscal system, including taxation, and their national economies. In the article, it is emphasized that the development and implementation of the outlined innovations is an integral part of ensuring the competitiveness of tax systems in the world. Accordingly, the implementation of these innovations within the fiscal system is a mandatory component of the development of the entire sphere of public finance and requires both consideration and development of mechanisms to counter the threats that may arise in the process of fiscal digitalization.

In our opinion, promising areas of fiscal digitalization are the creation of mobile applications for businesses in order to increase the convenience of paying taxes, providing up-to-date information on changes in tax legislation; active use of chatbots to provide advice to taxpayers. We also believe that fiscal authorities in the field of servicing taxpayers and fees can take into account the experience of financial institutions that have achieved significant results in improving the quality of their own services to customers through the use of new digital technologies.

Література

1. Луцик А., Синютка Н. Податковий інструментарій фіскальної політики в умовах діджиталізації фіскального простору. *Світ фінансів*. 2019. № 1 (58). С. 87—97.
2. Negroponte N. *Being Digital*. New York : Vintage book, 1996.
3. Gobble M. M. Digitalization, Digitization, and Innovation. *Research-Technology Management*. 2018. Vol. 61 (4). P. 56—59.
4. Lane N. Advancing the Digital Economy into the 21st Century. *Information Systems Frontiers*. 1999. Vol. 1 (3). P. 317—320.
5. Estevão M. Why digital transformation matters for taxation. 2020. URL : <https://blogs.worldbank.org/voices/why-digital-transformation-matters-taxation>.
6. Kholiavko N., Djakona A., Dubyna M., Zhavoronok A., Lavrov R. The higher education adaptability to the digital economy. *Bulletin of national academy of sciences of the Republic of Kazakhstan*. 2020. Vol. 4. № 386. P. 294—306.
7. Shkarlet S., Kholiavko N., Dubyna M. Information Economy: Management of Educational, Innovation, and Research Determinants. *Marketing and Management of Innovations*. 2019. Is. 3. P. 126—141.
8. Dubyna M., Shkarlet S., Zhuk O. Determinants of the financial services market functioning in the era of the informational economy development. *Baltic Journal of Economic Studies*. 2018. Vol. 4. № 3. P. 349—357.
9. Shkarlet S., Prokopenko V., Dubyna M. Directions of development of the financial services market of Ukraine. *Baltic Journal of Economic Studies*. 2018. Vol. 4. № 5. P. 412—420.
10. Ejiogu A., Okechukwu O., Ejiogu C. Nigerian budgetary response to the COVID-19 pandemic and its shrinking fiscal space: financial sustainability, employment, social inequality and business implications. 2020. *Journal of Public Budgeting, Accounting and Financial Management*. 2020. Vol. 32 (5). P. 919—928.
11. Asher M. G., Zen F., Dita A. *Social protection goals in east Asia: strategies and methods to generate fiscal space*. London : Routledge, 2018.
12. Khudolei V., Bepalov M., Tulchynska S., Tulchinsky R., Kholiavko N. Fiscal stimulation of spatial development: the EU Countries' cases. *Financial and credit activity: problems of theory and practice*. 2021. Vol. 1. № 36. P. 124—132.
13. Lipniewicz R. Tax administration and risk management in the digital age. *Information System in Management*. 2017. Vol. 6 (1). P. 26—37.

14. Casey P., Castro P. Electronic fiscal devices (EFDs). An empirical study of their impact on taxpayer compliance and administrative efficiency. *Working Paper*. 2015. № 15/73. 56 p.
 15. Campbell D. F. J., Hanschitz G. Digitalization of Tax: Epistemic Tax Policy. *Handbook of Cyber-Development, Cyber-Democracy, and Cyber-Defense*. E. Carayannis, D. Campbell, M. Efthymiopoulos (Eds.). Dordrecht : Springer, Cham., 2018.
 16. Estevão M. Why digital transformation matters for taxation. 2020. URL : <https://blogs.worldbank.org/voices/why-digital-transformation-matters-taxation>.
 17. Bornman M., Wassermann M. Tax knowledge for the digital economy. *Journal of Economic and Financial Sciences*. 2020. Vol. 13. № 1.
 18. Блародир Л. М., Філатова Л. С. Фінансово-податковий аспект господарської діяльності цифрових корпорацій на міжнародних ринках. *Економіка та суспільство*. 2020. Вип. 22. URL : <https://economyandsociety.in.ua/index.php/journal/article/view/108/103>.
 19. Low P. Digital services taxes, trade and development. *Working Paper № 2020-07*. URL : https://iit.adelaide.edu.au/ua/media/1221/dst-paper_final_december_2020.pdf.
 20. Bunn D., Asen E. International tax competitiveness Index 2020 / Tax Foundation. 2020. URL : <https://files.taxfoundation.org/20201009154525/2020-International-Tax-Competitiveness-Index.pdf>.
 21. Vectors of Digital Transformation. *OECD Digital Economy Papers*. 2019. № 273. 38 p.
 22. Dahlman C., Mealy S., Wermelinger M. Harnessing the Digital Economy for Developing Countries. Paris : OECD, 2016.
 23. Knickrehm M., Berthon V., Daugherty P. Digital Disruption: The Growth Multiplier. Dublin : Accenture, 2016. URL : https://www.accenture.com/_acnmedia/PDF-4/Accenture-Strategy-Digital-DisruptionGrowth-Multiplier.pdf.
 24. Дубина М., Козляченко О. Концептуальні аспекти дослідження сутності діджиталізації та її ролі у розвитку сучасного суспільства. *Проблеми і перспективи економіки та управління*. 2019. № 3 (19). С. 21—32.
 25. Устенко М. О., Руських А. О. Діджиталізація: основа конкурентоспроможності підприємства в реаліях цифрової економіки. *Вісник економіки транспорту і промисловості*. 2019. № 68. С. 181—192.
 26. Лігоненко Л., Хрипко А., Доманський А. Зміст та механізм формування стратегії діджиталізації в бізнес-організаціях. *Міжнародний науковий журнал «Інтернаука»*. 2018. № 22.
 27. Синютка Н. Г. Цифрова ідентифікація платників податків як передумова для діджиталізації фіскального простору. *Бізнес Інформ*. 2018. № 10. С. 363—368.
 28. Рудик Н. В. Фіскальна діджиталізація — інструмент партнерства держави та малого і середнього бізнесу. *Бізнес Інформ*. 2019. № 11. С. 316—322.
 29. Cosmulese C. G., Grosu V., Hlaciuc E., Zhavoronok A. The Influences of the Digital Revolution on the Educational System of the EU Countries. *Marketing and Management of Innovations*. 2019. Is. 3. P. 242—254. URL : <https://mmi.fem.sumdu.edu.ua/en/journals/2019/3/242-254>.
 30. Dubyna M., Zhavoronok A., Kudlaieva N., Lopashchuk I. Transformation of household credit behavior in the conditions of digitalization of the financial services market. *Journal of Optimization in Industrial Engineering*. 2021. Vol. 14. Is. 1. P. 97—102.
 31. Shaposhnykov K., Holovko O. Public regulation and administration in the sphere of small business. *Baltic Journal of Economic Studies*. 2019. Vol. 5. № 4. P. 236—242.
 32. Shkarlet S., Oliychenko I., Dubyna M., Ditkovska M., Zhovtok V. Comparative analysis of best practices in e-Government implementation and use of this experience by developing countries. *Administratie si Management Public*. 2020. Is. 34. P. 118—136.
 33. Рогова Н. В. Трансформація політики, інструментів і технологій обліку та оподаткування в умовах цифрової економіки. *Фінансовий простір*. 2020. № 2 (38). С. 103—116.
 34. Чижикова О. В. Глобальні тренди впровадження технологій у сфері оподаткування в контексті цифрової трансформації економіки. *Наукові праці НДФІ*. 2019. № 3 (88). С. 126—134.
 35. Abramova A., Shaposhnykov K., Zhavoronok A., Liutikov P., Skvirskiy I., Lukashev O. Ecosystem of VAT Administration in E-Commerce: Case of the Eastern Europe Countries. *Estudios de economía aplicada*. 2021. Vol. 39. № 5.
 36. Lagovska O., Ilin V., Kotsupatriy M., Ishchenko M., Verbivska L. Priority directions of tax policy change in the information sphere. *Naukovyi Visnyk Natsionalnoho Hirnychoho Universytetu*. 2020. № 3. P. 183—190.
- Статтю рекомендовано до друку 20.09.2021* © Лагодієнко Н. В., Якушко І. В.

References

1. Lutsyk, A., & Syniutka, N. (2019). Podatkovi instrumentarii fiskalnoi polityky v umovakh didzhytalizatsii fiskalnoho prostoru [Tax tools of fiscal policy in terms of the fiscal space digitalization]. *Svit finansiv — The world of finance*, 1 (58), 87—97 [in Ukrainian].
2. Negroponte, N. (1996). *Being Digital*. New York: Vintage book.
3. Gobble, M. M. (2018). Digitalization, Digitization, and Innovation. *Research-Technology Management*, 61 (4), 56—59.
4. Lane, N. (1999). Advancing the Digital Economy into the 21st Century. *Information Systems Frontiers*, 1 (3), 317—320.
5. Estevão, M. (2020). Why digital transformation matters for taxation. Retrieved from <https://blogs.worldbank.org/voices/why-digital-transformation-matters-taxation>.
6. Kholiavko, N., Djakona, A., Dubyna, M., Zhavoronok, A., & Lavrov, R. (2020). The higher education adaptability to digital economy. *Bulletin of The National Academy of Sciences of the Republic of Kazakhstan*, 4 (386), 294—306.
7. Shkarlet, S., Kholiavko, N., & Dubyna, M. (2019). Information Economy: Management of Educational, Innovation, and Research Determinants. *Marketing and Management of Innovations*, 3, 126—141.
8. Dubyna, M., Shkarlet, S., & Zhuk, O. (2018). Determinants of the financial services market functioning in the era of the informational economy development. *Baltic Journal of Economic Studies*, 4 (3), 349—357.
9. Shkarlet, S., Prokopenko, V., & Dubyna, M. (2018). Directions of the development of the financial services market of Ukraine. *Baltic Journal of Economic Studies*, 4 (5), 412—420.
10. Ejiogu, A., Okechukwu, O., & Ejiogu, C. (2020). Nigerian budgetary response to the COVID-19 pandemic and its shrinking fiscal space: financial sustainability, employment, social inequality and business implications. 2020. *Journal of Public Budgeting, Accounting and Financial Management*, 32 (5), 919—928.

11. Asher, M. G., Zen, F., & Dita, A. (2018). *Social protection goals in east Asia: strategies and methods to generate fiscal space*. London: Routledge.
12. Khudolei, V., Beshpalov, M., Tulchynska, S., Tulchinsky, R., & Kholiavko, N. (2021). Fiscal stimulation of spatial development: the EU Countries' cases. *Financial and credit activity: problems of theory and practice*, 1 (36), 124—132.
13. Lipniewicz, R. (2017). Tax administration and risk management in the digital age. *Information System in Management*, 6 (1), 26—37
14. Casey, P., & Castro, P. (2015). Electronic fiscal devices (EFDs). An empirical study of their impact on taxpayer compliance and administrative efficiency. *Working Paper*, 15/73.
15. Campbell, D. F. J., & Hanschitz, G. (2018). Digitalization of Tax: Epistemic Tax Policy. E. Carayannis, D. Campbell, M. Efthymiopoulos (Eds.). *Handbook of Cyber-Development, Cyber-Democracy, and Cyber-Defense*. Dordrecht: Springer, Cham. https://doi.org/10.1007/978-3-319-06091-0_30-1.
16. Estevão, M. (2020). Why digital transformation matters for taxation. Retrieved from <https://blogs.worldbank.org/voices/why-digital-transformation-matters-taxation>.
17. Bornman, M., & Wassermann, M. (2020). Tax knowledge for the digital economy. *Journal of Economic and Financial Sciences*, 13 (1). <https://doi.org/10.4102/jef.v13i1.461>.
18. Blarodyr, L. M., & Filatova, L. S. (2020). Finansovo-podatkovyi aspekt hospodarskoi diialnosti tsyfrovoykh korporatsii na mizhnarodnykh rynkakh [Financial and tax aspect of economic activity of digital corporations in international markets]. *Ekonomika ta suspilstvo — Economy and Society*, 22. Retrieved from <https://economyandsociety.in.ua/index.php/journal/article/view/108/103> [in Ukrainian].
19. Low, P. (2020). Digital services taxes, trade and development. *Working Paper*, 2020-07. Retrieved from https://iit.adelaide.edu.au/ua/media/1221/dst-paper_final_december_2020.pdf.
20. Bunn, D., & Asen, E. (2020). International tax competitiveness Index 2020. *Tax Foundation*. Retrieved from <https://files.taxfoundation.org/20201009154525/2020-International-Tax-Competitiveness-Index.pdf>.
21. OECD. (2019). Vectors of Digital Transformation. *OECD Digital Economy Papers*, 273. <https://doi.org/10.1787/5ade2bba-en>.
22. Dahlman, C., Mealy, S., & Wermelinger, M. (2016). *Harnessing the Digital Economy for Developing Countries*. Paris: OECD.
23. Knickrehm, M., Berthon, B., & Daugherty, P. (2016). Digital Disruption: The Growth Multiplier. Dublin: Accenture. Retrieved from https://www.accenture.com/_acnmedia/PDF-4/Accenture-Strategy-Digital-DisruptionGrowthMultiplier.pdf.
24. Dubyna, M., & Kozlianchenko, O. (2019). Kontseptualni aspekty doslidzhennia sutnosti didzhitalizatsii ta yii roli u rozvytku suchasnoho suspilstva [Conceptual aspects of research of the digitalization nature and its role in the modern society development]. *Problemy i perspektyvy ekonomiky ta upravlinnia — Problems and prospects of economics and management*, 3 (19), 21—32 [in Ukrainian].
25. Ustenko, M. O., & Ruskykh, A. O. (2019). Didzhitalizatsiia: osnova konkurentospromozhnosti pidpriemstva v realiakh tsyfrovoy ekonomiky [Digitalization: the basis of the enterprise competitiveness in the realities of digital economy]. *Visnyk ekonomiky transportu i promyslovosti — Bulletin of Transport Economics and Industry*, 68, 181—192 [in Ukrainian].
26. Lihonenko, L., Khrypko, A., & Domanskyi, A. (2018). Zmist ta mekhanizm formuvannia stratehii didzhitalizatsii v biznes-orhanizatsiiakh [Content and mechanism of the digitalization strategy formation in business organizations]. *Mizhnarodnyi naukovi zhurnal «Internauka» — International scientific journal «Internauka»*, 22. <https://doi.org/10.25313/2520-2057-2018-22-4555> [in Ukrainian].
27. Syniutka, N. H. (2018). Tsyfrova identyfikatsiia platnykiv podatkov yak peredumova dlia didzhitalizatsii fiskalnoho prostoru [Digital identification of taxpayers as a prerequisite for the fiscal space digitalization]. *Biznes Inform — Business Inform*, 10, 363—368 [in Ukrainian].
28. Rudyk, N. V. (2019). Fiskalna didzhitalizatsiia — instrument partnerstva derzhavy ta maloho i serednoho biznesu [Fiscal digitalization — a tool for partnership between the state and small and medium-sized businesses]. *Biznes Inform — Business Inform*, 11, 316—322 [in Ukrainian].
29. Cosmulescu, C. G., Grosu, V., Hlaciuc, E., & Zhavoronok, A. (2019). The Influences of the Digital Revolution on the Educational System of the EU Countries. *Marketing and Management of Innovations*, 3, 242—254. Retrieved from <https://mmi.fem.sumdu.edu.ua/en/journals/2019/3/242-254>.
30. Dubyna, M., Zhavoronok, A., Kudlaieva, N., & Lopashchuk, I. (2021). Transformation of household credit behavior in the conditions of digitalization of the financial services market. *Journal of Optimization in Industrial Engineering*, 14 (1), 97—102.
31. Shaposhnykov, K., & Holovko, O. (2019). Public regulation and administration in the sphere of small business. *Baltic Journal of Economic Studies*, 5 (4), 236—242. <https://doi.org/10.30525/2256-0742/2019-5-4-236-242>.
32. Shkarlet, S., Oliychenko, I., Dubyna, M., Ditkovska, M., & Zhovtok, V. (2020). Comparative analysis of best practices in e-Government implementation and use of this experience by developing countries. *Administratie si Management Public*, 34, 118—136.
33. Rohova, N. V. (2020). Transformatsiia polityky, instrumentiv i tekhnologii obliku ta opodatkuvannia v umovakh tsyfrovoy ekonomiky [Transformation of policies, tools and technologies of accounting and taxation in digital economy]. *Finansovi prostir — Financial space*, 2 (38), 103—116 [in Ukrainian].
34. Chyzykova, O. V. (2019). Hlobalni trendy vprovadzhenia tekhnologii u sferi opodatkuvannia v konteksti tsyfrovoy transformatsii ekonomiky [Global trends in the introduction of technologies in the field of taxation in the context of digital transformation of economy]. *Naukovi pratsi NDFI — Scientific works of NDFI*, 3 (88), 126—134 [in Ukrainian].
35. Abramova, A., Shaposhnykov, K., Zhavoronok, A., Liutikov, P., Skvirskiy, I., & Lukashev, O. (2021). Ecosystem of VAT Administration in E-Commerce: Case of the Eastern Europe Countries. *Estudios de economía aplicada*, 39 (5). <http://dx.doi.org/10.25115/eea.v39i5.4909>.
36. Lagovska, O., Ilin, V., Kotsupatriy, M., Ishchenko, M., & Verbitska, L. (2020). Priority directions of tax policy change in the information sphere. *Naukovi Visnyk Natsionalnoho Hirnychoho Universytetu*, 3, 183—190.

The article is recommended for printing 20.09.2021

© Lagodiienko N., Yakushko I.