

Electronic scientific and practical journal
**INTELLECTUALIZATION OF LOGISTICS
AND SUPPLY CHAIN MANAGEMENT**

#22 (2023)
December '23



WWW.SMART-SCM.ORG

ISSN 2708-3195

DOI.ORG/10.46783/SMART-SCM/2023-22

ISSN 2708-3195



Electronic scientific and practical publication in economic sciences

Electronic scientifically and practical journal “Intellectualization of logistics and Supply Chain Management” included in the list of scientific publications of Ukraine in the field of economic sciences (category "B"): **Order of the Ministry of Education and Culture of Ukraine dated October 10, 2022 No. 894 (Appendix 2)**

Field of science: Economic.

Specialties: 051 – Economics; 073 – Management

ISSN 2708-3195

DOI: <https://doi.org/10.46783/smart-scm/2023-22>

The electronic magazine is included in the international scientometric databases:
Index Copernicus, Google Scholar

Released 6 times a year

№ 22 (2023)

December 2023

Founder: Viold Limited Liability Company

Editor in Chief: Hryhorak M. Yu. – Doctor of Economics, Ass. Professor.

Deputy editors-in-chief: Koulyk V. A. – PhD (Economics), Professor.
Marchuk V. Ye. – Doctor of Tech. Sci., Ass. Professor.

Technical editor: Harmash O. M. – PhD (Economics), Ass. Professor.

Executive Secretary: Davidenko V. V. – PhD (Economics), Ass. Professor.

Members of the Editorial Board:

SWIEKATOWSKI Ryszard – Doctor of Economics, Professor (Poland);

POSTAN M. Ya. – Doctor of Economics, Professor;

TRUSHKINA N. V. – PhD (Economics), Corresponding Member of the Academy;

KOLOSOK V. M. – Doctor of Economics, Professor;

ILCHENKO N. B. – Doctor of Economics, Ass. Professor;

SOLOMON D. I. – Doctor of Economics, Professor (Moldova);

ALKEMA V. H. – Doctor of Economics, Professor;

Henryk DŹWIGOŁ – PhD (Economics), Professor (Poland);

SUMETS O. M. – Doctor of Economics, Ass. Professor;

STRELCOVÁ Stanislava – PhD (Economics), Ass. Professor, (Slovakia);

RISTVEJ Jozef (Mr.) PhD (Economics), Professor, (Slovakia);

ZAMIAR Zenon – Doctor of Economics, Professor, (Poland);

SMERICHEVSKA S. V. – Doctor of Economics, Professor;

GRITSENKO S. I. – Doctor of Economics, Professor;

KARPENKO O. O. – Doctor of Economics, Professor;

PATKOVSKYI S. A. – Business practitioner.

The electronic scientific and practical journal is registered in international scientometric data bases, repositories and search engines. The main characteristic of the edition is the index of scientometric data bases, which reflects the importance and effectiveness of scientific publications using indicators such as quotation index, h-index and factor impact (the number of quotations within two years after publishing).

In 2020, the International Center for Periodicals (ISSN International Center, Paris) included the Electronic Scientific and Practical Edition "Intellectualization of logistics and Supply Chain Management" in the international register of periodicals and provided it with a numerical code of international identification: ISSN 2708-3195 (Online).

Recommended for dissemination on the Internet by the Academic Council of the Department of Logistics NAU (No. 7 of February 26, 2020). Released 6 times a year. Editions references are required. The view of the editorial board does not always coincide with that of the authors.

Electronic scientifically and practical journal "Intellectualization of logistics and Supply Chain Management" included in the list of scientific publications of Ukraine in the field of economic sciences (category "B"): **Order of the Ministry of Education and Culture of Ukraine dated October 10, 2022 No. 894 (Appendix 2)**

Field of science: Economic.

Specialties: 051 – Economics; 073 – Management

t.me/smart_scm
facebook.com/Smart.SCM.org
twitter.com/ScmSmart

DOI: <https://doi.org/10.46783/smart-scm/2023-22>

e-mail: support@smart-scm.org

тел.: (063) 593-30-41

<https://smart-scm.org>

Contents

INTRODUCTION	6
MARCHENKO V.S. Postgraduate student, National Aviation University (Ukraine), BUGAYKO D.O. Doctor of Science (Economics), Professor (Associate), Corresponding Member of the Academy of Economic Sciences of Ukraine, Vice - Director of ES International Cooperation and Education Institute, Instructor of ICAO Institute, Professor of the Logistics Department National Aviation University (Ukraine), BUGAYKO D.D. Student of the Logistics Department National Aviation University (Ukraine) PROSPECTS OF THE SUSTAINABLE DEVELOPMENT CONCEPT, THE IMPORTANCE OF ITS HIGH-QUALITY IMPLEMENTATION IN THE LOGISTICS SPHERE	7 – 18
BUGAYKO D.O. Doctor of Science (Economics), Professor (Associate), Corresponding Member of the Academy of Economic Sciences of Ukraine, Vice - Director of ES International Cooperation and Education Institute, Instructor of ICAO Institute, Professor of the Logistics Department National Aviation University (Ukraine), TKACHENKO A.V. Student of the Logistics Department National Aviation University (Ukraine), GRABOVSKIY D.Y. Student of the Logistics Department National Aviation University (Ukraine) <i>PROSPECTS OF DEVELOPMENT OF UKRAINIAN AIR TRANSPORT REGULATION</i>	19 – 24
KORZHEVSKIY I.I. Postgraduate student, University "KROK", Kyiv (Ukraine) (Ukraine) USING OPEN SOURCES OF INFORMATION TO STUDY BUSINESS REPUTATION OF BUSINESS ENTITIES: FOREIGN EXPERIENCE	25 – 31
KOVAL Ya.S. PhD (Public administration), associate professor, associate professor of international management department, State University of Trade and Economics, Kyiv, Ukraine (Ukraine) WAYS TO IMPLEMENT PUBLIC-PRIVATE PARTNERSHIPS AND THEIR ECONOMIC EFFICIENCY	32 – 39
SERZHUK A.V. PhD of Economic, associate professor, associate professor of the department of commercial Activities and Logistics, Kyiv national economic university named after Vadym Hetman (Ukraine) <i>INNOVATIVE TECHNOLOGIES IN SUPPLY CHAINS</i>	40 – 45



MIRZAYEV Fuad Murvat. PhD in Economics, Associate Professor National Aviation Academy (Azerbaijan), **DADASHOVA Kavsar Khosrov** PhD Student National Aviation Academy (Azerbaijan), **BUGAYKO D.O.** Doctor of Science (Economics), Professor, Corresponding Member of the Academy of Economic Sciences of Ukraine, Vice - Director of ES International Cooperation and Education Institute, Instructor of ICAO Institute, Professor of the Logistics Department, National Aviation University (Ukraine)

DEVELOPMENT OF A SYSTEM OF KEY PERFORMANCE INDICATORS IN THE MANAGEMENT SYSTEM OF AVIATION TRAINING COMPLEX

46 –53

UDC 334

DOI: <https://doi.org/10.46783/smart-scm/2023-22-4>

JEL Classification: A10, E 65, F43, H11.

Received: 18 November 2023

Koval Ya.S. PhD (Public administration), associate professor, associate professor of international management department, State University of Trade and Economics, Kyiv, (Ukraine)

ORCID – 0000-0001-6578-2996

Researcher ID –

Scopus author id: –

WAYS TO IMPLEMENT PUBLIC-PRIVATE PARTNERSHIPS AND THEIR ECONOMIC EFFICIENCY

Yana Koval *"Ways to implement public-private partnerships and their economic efficiency"*. Given the role of business in meeting the needs of society, it can be concluded that the state cannot fulfill its socio-economic functions without an efficiently functioning business. This is an important condition for the formation of partnerships between business and the state. Another important condition is that business cannot develop effectively without the help and assistance of the state. This is due to a number of reasons. The effectiveness of demand satisfaction is directly related to the rational use of economic resources and a flexible response to changes in the structure of demand. Efficient use of resources by each individual producer ultimately ensures the efficiency of the entire economic system. Business, performing its direct functions, ensuring the preservation and expanded reproduction of their property through the increase of private capital, simultaneously performs social functions related to the increase of social capital and the product capable of ensuring effective demand in the market of goods and services. The article substantiates the need to use the mechanism of public-private partnership as an effective tool for implementing the innovation policy of regions, and also identifies the possibilities of public-private partnership in projects for commercialization of intellectual property as a form of interaction between the state, research institutions and business.

Keywords: economic efficiency, security, crisis management, public administration, legislative regulation, reform, innovation.

Яна Коваль *«Шляхи реалізації державно-приватного партнерства та їх економічна ефективність»*. Враховуючи роль бізнесу в задоволенні потреб суспільства, можна зробити висновок про те, що виконання державою своїх соціально-економічних функцій неможливе без ефективно функціонуючого бізнесу. Це є важливою умовою формування партнерських відносин між бізнесом і державою. Іншою важливою умовою є те, що бізнес не може розвиватися ефективно без допомоги та сприяння держави. Це зумовлено рядом причин. Ефективність задоволення попиту безпосередньо пов'язана з раціональністю використання економічних ресурсів, гнучким реагуванням на зміну структури попиту. Ефективне використання ресурсів кожним окремим виробником в кінцевому результаті забезпечує ефективність функціонування всієї економічної системи. Бізнес, виконуючи свої прямі функції, забезпечуючи збереження і розширене відтворення належних їм об'єктів власності за допомогою збільшення приватного капіталу, одночасно виконує і суспільні функції, пов'язані зі збільшенням суспільного капіталу та продукту, здатного забезпечити платоспроможний попит на ринку товарів і послуг. У статті обґрунтовано необхідність застосування механізму державно-приватного партнерства як ефективного інструменту

реалізації інноваційної політики регіонів, а також визначено можливості державно-приватного партнерства в проєктах комерціалізації продукту інтелектуальної праці як форми взаємодії між державою, науково-дослідними інститутами та бізнесом.

Ключові слова: економічна ефективність, безпека, антикризове управління, державне управління, законодавче регулювання, реформа, інновації.

Introduction. The mechanism of public-private partnerships is of particular importance in the relations between the state and business in regional innovation activities. In recent years, given the fact that the state is pursuing a course of innovative economic development, the importance of organizing this kind of partnership has gained special meaning. In addition, at the current stage of development of the Ukrainian state, the problems of organizing and improving the interaction between government and business are particularly relevant. As a response to the growing demands placed on business, the need for a constructive dialogue between the state, business and society is increasingly being recognized. However, the balance of interests between business, the state and local authorities in terms of responsibility for the welfare of citizens, territory and the country as a whole has not yet been found.

Analysis of recent research and publications. Foreign and domestic scholars have made an important contribution to the development of public-private partnerships, including as a tool for implementing regional innovation policy: O.S. Andreeva, O.M. Golovinov, A.M. Dyrdonova, V.M. Ivanova, V.S. Ivanov, A.A. Starodubova and other scholars. Nevertheless, it can be argued that the problem of public-private partnership as an effective tool for implementing regional innovation policy requires further research.

The formulation of the goals of the article is proposals on the main ways to implement public-private partnerships and their economic efficiency.

Presentation of the main results. Ukraine's infrastructure sectors need more state regulation not only because of the economic efficiency of infrastructure projects,

but also because of the significant obsolescence of fixed assets in certain infrastructure sectors, which threatens to cause man-made disasters. This "unified strategy of infrastructure renovation of Ukraine" aims to renovate infrastructure sectors using the most cost-effective methods. One of its goals is to combine the infrastructure needs of two levels: the state and regional. It is the combination of all infrastructure needs and problems in one plan, as well as their objective assessment based on common criteria, that will allow the government to focus its efforts on the most urgent ones. The evaluation of the most important projects should include, along with indicators of economic efficiency (quantitative), indicators of social necessity (qualitative), including indicators of the level of technological threat to infrastructure facilities.

This approach is intended to help local authorities, which are currently trying to solve infrastructure problems on their own, which is extremely inefficient due to the lack of modern tools and experience in local communities. Another important element of the plan is an assessment of all infrastructure needs in Ukraine [1].

The next stage in the implementation of the "unified strategy for the infrastructure renovation of Ukraine" should be an analysis of the most effective options for implementing priority projects. Investments should be attracted to projects whose economic efficiency is beyond doubt. For those projects where the projected rate of return is lower than investors' commercial expectations or where the forecasts are subject to a certain degree of uncertainty, it is necessary to use the mechanisms of partnership between business and

government or to raise funds through government guarantees. Such a structure for organizing reforms would allow, for example, using state guarantees to raise funds to finance a "pool" of local projects. In the current situation, small towns and regional centers simply do not have the funds to renovate capital-intensive housing and communal services. Outdated infrastructure increases the costs associated with its use due to the failure to save resources and maintain its performance. By attracting a "cheap loan" under state guarantees and spending it on such projects, the government gets a double effect. First, the economic effect comes from an increase in domestic consumption; however, to fully realize this effect, contractors must be forced to use domestic materials and services to the maximum extent possible. Secondly, it is the future savings on energy costs, in the case of housing and communal services, and on the repair of these facilities maintained by local authorities.

Stricter legislative regulation of procurement related to infrastructure projects, which will force contractors to purchase domestic materials in the construction of infrastructure facilities, has, in addition to the positive aspects related to domestic consumption, an anti-corruption effect. Its essence lies in the fact that suppliers of materials or services for infrastructure reconstruction projects, when applying for participation in a tender, must submit documents that would disclose the origin of these goods or services throughout the entire chain from the first supplier [2].

Unfortunately, as can be seen from the domestic experience, the mechanisms of partnership between business and government in Ukraine do not reduce corruption in the implementation of infrastructure projects, but are used as a modern mechanism for gaining control over important infrastructure facilities.

The analysis of the experience of implementing business-government partnership projects in Ukraine allows us to draw conclusions about two main approaches

to implementing the infrastructure renovation program and increasing demand within the state, which involve the creation of a "unified strategy for the infrastructure renovation of Ukraine" and optimization of the tools for implementing this strategy.

The creation of a management system for infrastructure projects involves: unification of project priority analysis methods; maintaining a unified system of distribution of investment subsidies taking into account regional development priorities; centralization of management mechanisms for partnership relations between business and government in the Cabinet of Ministers of Ukraine; establishment of a special Center for Public-Private Partnership with definition of its functions, duties and powers; clear demarcation of responsibilities and duties of other central and local authorities; establishment of public control over the use of funds allocated for infrastructure reconstruction at the state and local levels; increasing the transparency of reforms due to the introduction of a cumulative project accounting system; establishment of rules for the publication of information regarding the implementation of business and government partnership projects in parallel with the development of the audit structure; strengthening the manageability of the infrastructure investment market by guaranteeing the inclusion of local-level projects in the "unified infrastructure renovation strategy of Ukraine"; introduction of a multi-level system of participants in business-government partnership projects at the expense of local authorities of various levels and a gradual increase in the participation of the private sector in infrastructure renovation; strengthening of the budget, accounting and financial management component due to the development of a modern infrastructure project management structure [3].

The creation of a system of infrastructure reform using public-private partnership models will certainly also be affected by the implementation of a number of measures:

- the development by the Ministry of Economy of Ukraine together with other ministries and bodies of central and local authorities of the "unified strategy of infrastructural renovation of Ukraine", where priority projects will be determined each year;
- the development by the center for the development of business and government partnership under the Cabinet of Ministers of Ukraine of the conditions for the implementation of infrastructure projects with the determination of the possible participation of private investors in infrastructure projects with the calculation of the distribution of risks between the state and the private partner;
- carrying out a coordinated policy of the relationship between state investments and attracting private investors;
- the development of partnership relations between business and the government, increasing the number of professional participants in the public-private partnership market (mainly large domestic and foreign companies and commercial banks) with the aim of guaranteeing an increase in the efficiency of the mechanisms of partnership relations between business and the government due to increased competition among both investors and companies from management and contractors;
- conducting open tenders for the supply of basic materials according to a certain schedule (taking into account compliance with the norms of "nationality" of materials and services);
- integration of state and local infrastructure needs when entering international capital markets;
- a change in the structure of the state debt due to an increase in the share of financing infrastructure projects;
- refusal to make one-off decisions that are not subject to the "unified strategy of infrastructural renovation of Ukraine";
- conducting an independent examination of infrastructure projects that are

implemented at the expense of loans under state guarantees;

- ban on the use of external state borrowings for loans;

- reducing the volume of foreign loans guaranteed by the government (complete rejection of this practice), or providing state guarantees in the presence of counter-unconditional guarantees from domestic commercial banks, ensuring conditions for attracting investors' funds to infrastructure;

- introduction of external audit on infrastructure projects for loans under state guarantees;

- resolution of issues of reorganization and restructuring of infrastructural enterprises-debtors in accordance with adopted government decisions; application of such an administrative procedure as the termination of the employment contract concluded with them to the managers of debtor enterprises that ignore the fulfillment of debt obligations;

- the introduction of administrative punishment for persons responsible for deficiencies in the use of funds provided for the implementation of projects of the "unified strategy of infrastructural renovation of Ukraine" [4].

The solution to the problem of foreign credit lines, which Ukraine receives from the governments and banks of foreign countries, will also affect the development of the economy in terms of investments in infrastructure. Further attraction of so-called commodity (linked) loans can be carried out only under the conditions of defining criteria and carrying out a thorough assessment of the effectiveness of these credit resources, subcontractors that are linked to these loans. It is necessary to ensure clear management of the process of attracting, using and returning such external loans.

High-quality information support for projects, in particular, information systems supporting the processes of project preparation and implementation, designed to increase transparency and control by the public, will also contribute to the creation of

an effective system of partnership between business and government. Providing information support is very important, taking into account the involvement of a larger number of interested private entities in the development of Ukraine's infrastructure.

The Internet page of the Center for the Development of Business-Government Partnership under the Cabinet of Ministers of Ukraine, the holding of exhibitions and forums on the territory of Ukraine, as well as the participation of our specialists in foreign infrastructure forums should be part of an active information campaign. The availability of information on the status of business-government partnership projects should increase the interest of the private sector in infrastructure reforms [5].

Moreover, along with information on the actual projects, this information system should also contain data on planned projects that will involve private institutions. The analytical information should also include calculations of savings for already implemented projects. Such a system will increase the effectiveness of infrastructure reforms and the reliability of control over the implementation of these projects. The main principles of information presentation should be promptness and reliability of reports and analytical references [6].

International experience shows that modern and efficient infrastructure sectors have a positive impact on the investment potential of regions and regional development plans, stimulate business activity, help to increase incomes and reduce unemployment. Based on the above analysis, the following conclusions and recommendations can be made.

1. Implementation of a "unified strategy for infrastructure renovation of Ukraine" is appropriate and useful. It will allow for the most efficient distribution of efforts of the state and local authorities in the issues of infrastructure renovation of Ukraine.

2. The "Unified Strategy for Infrastructural Renovation of Ukraine" should be approved by the Verkhovna Rada of Ukraine at the

legislative level to protect its main directions and emphasis from the change of governments, as the systematic nature of reforms is a key factor in their success.

3. Establishment of the Center for Development of Business-Government Partnership under the Cabinet of Ministers of Ukraine is a necessary step to start active and faster implementation of infrastructure reforms in Ukraine, which are urgent.

4. An active and well-thought-out information policy should become a tool that will increase attention to the infrastructure sectors of Ukraine's economy from foreign investors and specialists.

5. Completion of the regulatory framework reform in the short term should be the basis for launching reforms in the infrastructure sectors. The regulatory framework should provide investors with the necessary guarantees to participate in business-government partnership projects, and the government should increase domestic consumption in addition to infrastructure reforms.

6. A government loan guarantee program could be useful to ensure access to financing for regional projects if such projects have received priority status in the "unified strategy for infrastructure renovation of Ukraine" but have low investment attractiveness and where attracting private capital, even through the use of business-government partnership mechanisms, is difficult, as confirmed by the Center for Business-Government Partnership Development.

7. Infrastructure reforms need to be diversified by sector and territory, with the Center under the Cabinet of Ministers of Ukraine setting a system of appropriate limits, and the maximum amount of state investment in projects of partnership between business and government in a particular region. The importance of balanced regional development has been demonstrated in the third section of our study.

8. It is important that not only large suppliers, but also small domestic companies

are allowed to participate in supply tenders, which will reduce the cost of the project. For this purpose, the Center for Business and Government Partnership Development should check the tender procedures of contractors and disseminate information on future procurements and conditions of participation in tenders for the supply of materials and services for business and government partnership projects as much as possible.

9. In order to increase the responsibility and efficiency of the owners and directors of infrastructure enterprises, it is advisable to conclude agreements with private partners on the basis of performance-based contracts (when the profit of the private partner managing the project depends on the efficiency of the project), so that these persons are materially interested in the successful implementation of the project.

10. Given that local authorities often operate at the regional level, and project development directly depends on the policy of local governments, it is worth creating a system of guarantees in contracts of partnerships between business and government in regional projects, in which local governments would participate. Moreover, it is advisable that the nationwide program of loan guarantees should operate only in those regions where local governments sign an agreement with the government of Ukraine on joint guaranteeing of projects of partnership relations between business and government for the regions.

11. With the participation of the Cabinet of Ministers of Ukraine and the Center for Development of Business and Government Partnerships, it is necessary to organize a system of continuous training and transfer of know-how to regional authorities to increase their tools for implementing reforms in the regions.

The introduction of public-private partnerships in Ukraine should become a priority area of interaction between the public and private sectors of the economy.

The main priorities of public-private partnership in Ukraine should be:

- solving strategic issues of Ukraine's economic development by attracting private capital;
- meeting the shortage of financial resources for the technical development (modernization) of the infrastructure for the provision of various socially necessary services;
- reducing the burden on the state and local budgets for the implementation of investment projects;
- directing the released funds of the state and local budgets to the implementation of socio-economic programs;
- meeting the public demand for better services and consumption of products.

In implementing public-private partnership mechanisms, the Government of Ukraine should be guided by the following principles

- balancing the interests of public and private partners;
- selection of a private partner on a competitive basis;
- fair distribution of risks between the public and private partners;
- state participation in financing public-private partnership projects;
- ensuring the legitimate rights and interests of consumers of goods (works, services);
- ensuring stability in fulfillment of the terms and conditions of concluded PPP agreements.

Conclusions. Thus, an important factor in the success of business-government partnerships in Ukraine will be the positive attitude of private partners to the government's policy on public-private partnerships, which should be based on the invariability of the above principles.

First of all, Ukraine needs to:

1. Create a legislative environment for the implementation of public-private partnerships, including improving the legal framework governing existing forms of public-private partnerships, namely, to

regulate the interaction of the Law of Ukraine "On Public-Private Partnership" and other legal acts, including the following:

- The Civil Code of Ukraine;
- The Commercial Code of Ukraine;
- The Law of Ukraine "On Concessions";
- The Law of Ukraine "On Concessions for the Construction and Operation of Roads";
- The Law of Ukraine "On Production Sharing Agreements";
- The Law of Ukraine "On Financial Leasing";
- The Law of Ukraine "On Lease of State and Municipal Property".

2. To expand the scope of public-private partnerships, namely, using international experience of partnerships between business and government, to attract private partners to projects in medicine, energy, mining, etc.

3. To develop and implement mechanisms of guarantees and risk reduction in public-private partnership projects.

4. Form an institutional environment: identify executive authorities at both the state and local levels that will be responsible for public-private partnerships, independent organizations that will carry out project expertise and consulting, etc.

5. Identify priority forms of public-private partnerships in certain sectors of the economy that will most effectively contribute to the development of industries and reduce corruption.

6. Ensure public discussion and independent audit of projects implemented with the use of public-private partnerships and informing the public about the progress of such projects in order to maximize public support for business-government partnership projects (stakeholder support).

7. To create a system for monitoring the implementation of public-private partnership projects, including in order to determine the effectiveness of their chosen form, and to take adequate measures to eliminate the identified shortcomings, as well as to assess the fulfillment of obligations by the partners.

8. It is possible to create and implement a sustainable framework for the effective functioning of public-private partnerships in various sectors of the Ukrainian economy by creating a legislative environment for the implementation of all forms of public-private partnerships, including through the improvement of the current legislative framework governing existing forms of public-private partnerships.

References

1. Antonov, V. V. (2013), "Methodological approaches to assessing the level of socio-economic development of the regions of Ukraine", *Management of the modern city*, № 7, pp. 51-61.
2. Golovinov, O. M. (2010), "Public private partnership in innovation", *Bulletin of Economic Science of Ukraine*, vol. 1, pp. 47-51.
3. Koval, Yana and Zahorodnia, Alona (2023), *Management of innovation processes in the business environment in the context of digitalization of the economy. The development of innovations and financial technology in the digital economy: col.mon. Pussi, Estonia. OÜ Scientific Center of Innovative Research*. Pp. 107-126. URL: <https://mono.scnchub.com/index.php/book/catalog/view/29/71/592> DOI: <https://doi.org/10.36690/DIFTDE-2023-107-126>
4. Gerrard, M. B. (2001), "What Are Public Private Partnerships, and How Do They Differ from Privatizations?", *Finance & Development*, vol. 38, pp. 48-51.
5. Rozum, G. M. (2017), "Public-private partnership as an effective tool for the implementation of innovation policy of the regions", *Investments: practice and experience*, № 20, pp. 90-92. URL : http://www.investplan.com.ua/pdf/20_2017/20.pdf.

6. Azarenkova, G., Alekseev, I., Gurkovsky, M., Orekhova, K., Golovko, O., & Kurylo, O. (2022), "The mechanism of public-private partnership", *Financial and Credit Activity Problems of Theory and Practice*, №5(46), 240-248. DOI : <https://doi.org/10.55643/fcaptp.5.46.2022.3887>.