

**E K O H O M I K A**

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***Tetiana Kharchuk,***

Doctor of Sciences (Economics), Associate Professor,  
National University of Ukraine on Physical Education and Sport, Kyiv (Ukraine)  
<https://orcid.org/0000-0001-5563-3268>

***Kateryna Klymenko,***

PhD (Economics), State Educational Scientific Institution  
«Academy of Financial Management», Kyiv (Ukraine)  
<https://orcid.org/0000-0001-8295-1333>

***Oksana Shkolenko,***

PhD (Economics), Associate Professor,  
National Aviation University, Kyiv (Ukraine)  
<https://orcid.org/0000-0003-2792-1523>

***Victoria Melnik,***

PhD (Economics), Associate Professor,  
State university of trade and economics, Kyiv (Ukraine)  
<https://orcid.org/0000-0001-5512-536X>

## **REPRODUCTION OF BUSINESS POTENTIAL IN UKRAINE AMIDST WAR CHALLENGES AND THE EUROPEAN INTEGRATION VECTOR**

The article examines the impact of Ukraine's EU candidate status on the innovative component of business economic security. It emphasizes the importance of innovation for business and the role of the EU in promoting innovative practices. The article analyzes the current state of Ukraine's economy and its readiness to implement EU standards and practices in the field of innovation under martial law. It also discusses the challenges, threats, and opportunities that Ukraine's status as an EU candidate presents for businesses, specifically in terms of strengthening economic security through the integration of innovation.

The article outlines Ukraine's rankings in terms of innovative capacity indices from 2015 to 2022. It also presents the dynamics of funding for Ukraine's scientific sector from both the general and special funds of the state budget between 2018 and 2022. It was found that, in 2022, the volume of expenditures for financing the scientific sector increased through both the general fund (by 10.80% compared to 2021) and the special fund (by 41.55%).

Innovative economies were studied by groups of countries based on income levels per capita (according to World Bank classifications). The introduction of innovative products in Ukraine during martial law, in cooperation with international partners and companies such as USAID, Microsoft, Google.org, and Rakuten, was also analyzed.

The article emphasizes the improvement of the legislative framework regulating innovation potential in Ukraine, including the adoption of the draft Law «On Innovation Parks.» It stresses the need for a new framework for innovation policy to address the challenges outlined in the Sustainable

Development Goals. This framework could be supported by the adoption of the Strategy for the Development of the Innovation Ecosystem in Ukraine, which aims for transformational changes and is based on a critical analysis of obstacles, challenges, and threats to the implementation of innovations by researchers and businesses, especially in key areas for reconstruction, as well as gaps in the management of innovation policy.

Furthermore, the article highlights the adoption of the Innovation Development Strategy until 2030, based on three key principles: first, the development of the Ukrainian innovation ecosystem, which includes creating conditions for the free emergence and circulation of ideas, and assisting research institutions, innovative start-ups, and technology companies; second, a multilateral state policy of innovation support, ranging from deregulation to national programs; and third, the stimulation of innovation and the development of technologies that address both current and future pressing problems.

**Keywords:** *innovations, innovative activity, state status for EU membership, business, martial law, budget, general and special fund of the state budget of Ukraine, international partnership, World Bank, Sustainable Development Goals*

**JEL classification:** *G38, H50, M21, O31, O32, O33*

У статті розглядається вплив статусу кандидата України в ЄС на інноваційну складову економічної безпеки бізнесу. Підкреслюється важливість інновацій для бізнесу та роль ЄС у просуванні інноваційних практик. У статті аналізується сучасний стан економіки України та її готовність до впровадження стандартів і практик ЄС у сфері інновацій в умовах воєнного стану. У статті також обговорюються виклики й загрози та можливості, які дає Україні статус кандидата на вступ до ЄС для бізнесу з точки зору посилення економічної безпеки шляхом впровадження інноваційної складової. Окреслено рейтинги України за індексами інноваційної спроможності за період 2015-2022 рр. У статті представлено динаміку фінансування наукової сфери України за рахунок загального та спеціального фондів державного бюджету у період 2018-2022 рр. З'ясовано, що у 2022 році обсяги видатків на фінансування наукової сфери зросли як за рахунок загального фонду (на 10,80% порівняно з 2021 роком), так і спеціального фонду (на 41,55%), у свою чергу частка видатків загального фонду на наукову сферу у ВВП у 2022 році становила 0,16% (у 2021 році – 0,17%).

Досліджено інноваційні економіки по групах країн за рівнем доходу на душу населення (за даними групування Світового банку). Досліджено упровадження інноваційних продуктів в Україні в умовах воєнного стану в контексті співробітництва з міжнародними партнерами та компаніями, а саме: USAID, Microsoft, Google.org, Rakuten тощо.

Авторами акцентовано увагу на вдосконаленні законодавчої бази, що регулює інноваційний потенціал в Україні, та прийнятті проекту Закону «Про інноваційні парки». Авторами наголошено, що з метою вирішення викликів, котрі втілені у Цілях сталого розвитку, потрібна нова рамкова структура інноваційної політики, що може бути забезпечено у разі прийняття Стратегії розвитку екосистеми інновацій в Україні, котра спрямована на трансформаційні зміни, та базуватиметься на критичному аналізі перешкод, викликів та загроз для здійснення дослідниками і бізнесом інновацій в найбільш важливих для відбудови сферах та прогалін в управлінні інноваційною політикою. Також у статті наголошено на прийнятті Стратегії інноваційного розвитку до 2030, котра базується на 3 принципах, а саме: розвиток української інноваційної екосистеми, зокрема йдеться про створення умов для вільного виникнення та циркуляції ідей. Це допомога науково-дослідним установам, інноваційним стартапам та технологічним компаніям. Другий – багатостороння державна політика підтримки інновацій: від дерегуляції до національних програм. Третє – стимулювання інновацій та розвитку технологій, які вирішують нагальні проблеми сьогодення та майбутнього.

**Ключові слова:** *інновації, інноваційна діяльність, статус держави на членство в ЄС, бізнес, воєнний стан, бюджет, загальний та спеціальний фонд державного бюджету України, міжнародне партнерство, Світовий банк, Цілі сталого розвитку*

**JEL classification:** *G 38, H 50, M 21, O 31, O 32, O 33*

**Problem statement.** Innovation is a key driver of economic growth and competitiveness in today's globalized world. The European Union has long recognized the importance of innovation for business and has introduced various measures to promote it. On June 23, 2022, the leaders of the 27 EU member states decided to grant Ukraine the status of a candidate for EU membership [1].

The candidate status officially begins the process of Ukraine's acquisition of EU membership. Further preparation for membership will involve the completion of a comprehensive transformation across all spheres, creating conditions in which the country will operate according to the principles of the European Union and its laws, which are aimed at protecting every citizen and business. In addition, the candidate status opens the possibility of receiving financial assistance for the transformation of society, the legal system, and the economy on the path to EU membership. It will also ensure that the country's European integration reforms remain a priority. Ukraine's EU candidate status provides Ukrainian businesses with a unique opportunity to take advantage of these measures and increase their economic security through innovation. It also addresses the challenge of developing a strategy for the innovative development of the economy, the implementation of which should ensure a high socio-economic level for the state and contribute to the improvement of the quality and efficiency of the functioning of the domestic knowledge generation sector, which serves as the foundation of an innovative economy.

Ukraine's accession to the European Community requires the country to identify factors and sources of financing that will promote innovation, taking into account the economic structure and potential under martial law.

Innovation is critical for businesses to maintain their competitiveness and achieve long-term sustainability. Innovative practices can help businesses reduce costs, increase efficiency, create new markets, and develop new products and services. Additionally, innovation can help businesses adapt to

changing market conditions and stay ahead of competitors.

The European Union has introduced various measures to promote innovation, including funding programs and research projects. These measures aim to support businesses in developing new technologies, products, and services that are more sustainable, efficient, and competitive.

Despite its considerable potential, Ukraine's economy has faced challenges in recent years due to political instability and economic difficulties. However, EU candidate status provides the country with a unique opportunity to enhance economic performance and competitiveness by implementing EU standards and practices, including those related to innovation.

**Analysis of recent research and publications.** The significant interest of specialists in the researched topic confirms its relevance. However, under the conditions of martial law, which characterizes the current state of the national economy, and considering Ukraine's status as an EU candidate, it is urgent to determine its innovative potential.

Issues related to the development of innovations and innovative activities have been studied by such scientists as Smiesova V. & Ischenko I. (2020) [2], Gamtsemlidze E.P. (2023) [3], Kravchuk I. (2022) [4], Petrovych Y.M. & Novakivskiy I.I. (2022) [5], Rushchyshyn M. (2023) [6], Krylov D. (2023) [7], Yefremova N. (2023) [8], Ulyanova L., Chaika J. (2021) [9], Tereshchenko E. Yu. (2023) [23], and others.

**The aim of research.** The purpose of the article is to study the influence of Ukraine's EU candidate status on the development of its business potential, taking into account the innovative and financial-economic discourse in the context of martial law.

General scientific and special methods are used, including analysis, synthesis, grouping, description, comparison, theoretical generalization, and abstract-logical reasoning.

**Results.** It should be noted that the potential and risks of such development in science and technology, particularly for

achieving the Sustainable Development Goals (SDGs), were discussed at the UN Multilateral Forum on Science, Technology, and Innovation for Sustainable Development (New York, USA, May 5-6, 2022) [10].

Ukraine is represented in several international rankings that assess its innovation potential, innovation capacity, and the effectiveness of its innovation policy. These rankings include the Global Innovation Index (GII), the Global Sustainable Competitiveness Index (GSCI), the Global Talent Competitiveness Index (GTCI), and the Summary Innovation Index (SII). The dynamics of Ukraine's rankings according to these four approaches to assessing innovative capacity for 2015-2022 (GII, GSCI, GTCI, SII) lead to the conclusion that there has been no active policy or breakthroughs in innovation support from either the state or business (Figure 1). In the 2022 international ranking by the International Institute for Technical Statistics, Ukraine entered the top 50 out of 180 countries worldwide.

Ukraine's acquisition of EU candidate status creates both challenges and opportunities for businesses in terms of increasing economic security through innovation. On the one hand, businesses may face significant difficulties in adapting to EU standards and practices, accessing funding and resources, and competing with established EU companies. On the other

hand, Ukraine's status as a candidate for EU accession also opens up opportunities for businesses to develop new partnerships, enter new markets, and benefit from EU programs and initiatives.

Ukraine demonstrates good results in key indicators for innovative activity, such as the level of education and the presence of a reduced but still critical mass of state research institutions. However, this does not ensure diversification toward knowledge-intensive goods and services, and ultimately, sustainable economic growth. From the perspective of public policy, there is a limited view of innovation, which is confined to scientific research and high-tech start-ups, and is not considered a driver of sustainable development. The national innovation system is insufficiently developed, and cooperation between science, industry, and universities (the knowledge triangle) is weak due to the presence of less efficient, non-competitive state-owned enterprises in several sectors.

The Global Innovation Index is a study of the innovation climate, published annually by the World Intellectual Property Organization (WIPO) in cooperation with Cornell University and the international business school INSEAD. The 2022 report, titled «What is the Future of Innovative Growth?», ranks 132 countries according to the level of their innovative performance, using 80 indicators across 7 areas.

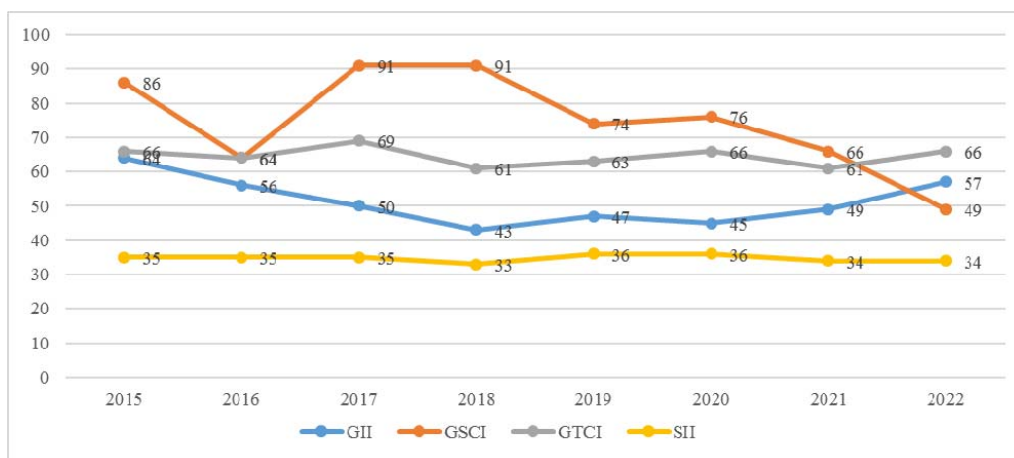


Fig. 1. Rankings of Ukraine by innovation capacity indices for 2015-2022 [11]

Switzerland (for the 12th consecutive year), the USA, Sweden, the United Kingdom, and the Netherlands lead the GII 2022 ranking. South Korea ranked sixth (having entered the Top 5 for the first time in 2021). According to the 2022 GII, China is moving closer to the top 10, while Turkey and India entered the top 40 for the first time. In 2022, Ukraine ranked 57th among 132 countries, compared to 49th place in 2021, and 34th among 39 European countries. Ukraine was also placed 4th in the group of countries with below-average income, with a GDP per capita of \$14,146 (PPP) (Table 1) [12].

In 2022, the volume of expenses for financing the scientific sphere increased

both at the expense of the general fund (by 10,80% compared to 2021) and the special fund (by 41,55%) (Figure 2).

The share of general fund expenditures in the scientific sphere in GDP in 2022 was 0.16% (in 2021 – 0.17%).

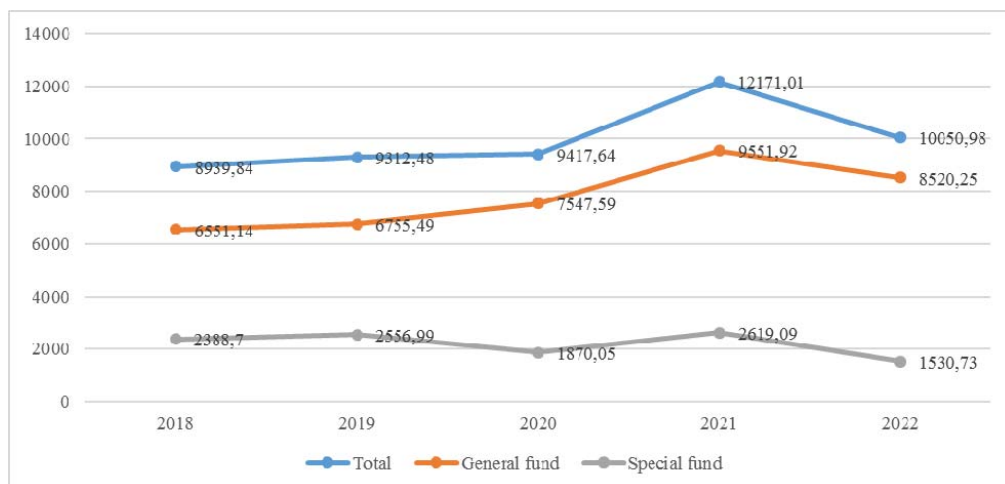
We outline the international cooperation programs in Ukraine in the context of cooperation with the EU:

– Horizon Europe – European Union Framework Program for Research and Innovation Horizon Europe is the ninth program for funding research and innovation projects of the European Union in 2021-2027 with a budget of 95.5 billion euros.

Table 1

**Top 5 Innovative economies by country groups based on per capita income level (World Bank Grouping) in 2022 [12]**

High-income group (total 48)	Income is above average (total 36)	Income below average (total 36)	Low-income group (total 12)
1. Switzerland (1)	1. China (11)	1. India (40)	1. Rwanda (105)
2. The USA (2)	2. Bulgaria (35)	2. Vietnam (48)	2. Madagascar (106)
3. Sweden (3)	3. Thailand (43)	3. Iran (53)	3. Mozambique (123)
4. The United Kingdom (4)	4. Brazil (54)	4. Ukraine (57)	4. Burundi (130)
5. The Neetherlands (5)	5. Moldova (56)	5. Philippines (59)	5. Ethiopia (117)



**Fig. 2. Dynamics of funding of the scientific sphere of Ukraine at the expense of the general and special funds of the state budget in 2018-2022, UAH million [11]**

– Euratom - The Euratom Research and Training Program (2021-2025) is a complementary Horizon Europe funding program covering nuclear research and innovation. The budget is 1.38 billion euros for the implementation of the new program for the period from January 1, 2021 to December 31, 2025.

– COST (European Cooperation in Science and Technology) is an organization that finances research and innovation networks [13].

Ukraine will become a leading country in the development of innovations in the military sphere, cyber security, and the protection of critical infrastructure. According to the Deputy Prime Minister for Innovation, Development of Education, Science, and Technology, and the Minister of Digital Transformation, it is essential to focus on military-tech – everything related to innovations in military topics. Cyber security, physical security innovations, and the protection of critical infrastructure will also evolve. A unique competence is already emerging in Ukraine.

As reported, the Ministry of Statistics has noted that military-tech startups will be allocated to a separate category within the Ukrainian Startup Fund (USF), which will allow for increased financing and consulting support for creating projects in accordance with NATO standards.

The budget of the USF fund at the beginning of the full-scale war was UAH 300 million. Part of this amount was directed towards the purchase of military bonds, resulting in the Fund receiving UAH 125 million.

Ukrainian military-tech startups are expected to achieve commercial success even after the war ends, provided they are built with NATO standards in mind. For this, startups need to be supported with assistance, financing, and expertise. In 2022, the USF financed projects totaling UAH 47.4 million. Of this, UAH 28 million was allocated to projects under the dual-purpose program [15].

The purpose of the cluster is to unite state and private initiatives for the development of

innovative solutions in the military sector, create a coordination platform for military technologies, support miltech entrepreneurs, deliver technical solutions to defense customers in a timely manner, and engage with teams and stakeholders working both in Ukraine and abroad [16].

In December 2020, Ukraine approved the Concept for the Development of Artificial Intelligence [19], and in May 2021, the Government approved an action plan for its implementation [20]. The concept outlines the directions, mechanisms, and timelines for achieving the main objectives in the development of artificial intelligence (AI) technologies. The focus is on advancing education in AI, fostering entrepreneurship using these technologies, actively implementing AI solutions in the public sector and key industries, enhancing cybersecurity and defense, and ensuring respect for privacy rights. The concept also aims to support domestic AI developments and facilitate their entry into foreign markets.

Ukraine maintains constant close contact with other government institutions and works collaboratively to address important issues. The CDTO (Chief Digital Transformation Officer) institute has been established in Ukraine, with CDTOs leading digital transformation efforts across state bodies, from regional levels to ministries. As a result, the effectiveness of interaction between all authorities is quite high.

USAID plans to allocate approximately 650,000 US dollars to support the dissemination of Ukraine's digital experience, including the Diya mobile application, to other countries. Additionally, USAID is actively developing a new project to support Ukraine's digitalization.

An agreement with Microsoft has been reached to provide technological assistance valued at 100 million US dollars. This technical assistance will allow government institutions, critical infrastructure, and other sectors in Ukraine to continue utilizing digital infrastructure and working in the Microsoft cloud free of charge.

Google.org has allocated a grant of 2 million USD to support the development of

digital education in Ukraine, with the goal of reskilling Ukrainians, teaching digital literacy, and improving job search skills.

Rakuten, the owner of Viber – the most popular messaging app in Ukraine—has expressed its support for the country. Viber CEO Hiroshi Mikitani donated 8.7 million USD to aid Ukraine at the outset of the full-scale aggression.

Additionally, a memorandum was signed with Finland’s Minister of Transport and Communications, Timo Harakka, to cooperate in the areas of digitalization, information technology, and cybersecurity. The agreement focuses on exchanging expertise, strengthening cyber resilience, and working together to rebuild Ukraine’s digital infrastructure.

Preliminary agreements have been made with SAP to provide free software for the Ministry of Defense of Ukraine. The company will allocate approximately 1,000 licenses to the Ministry, enabling the Armed Forces to become more technological and efficient [19].

The main challenge and urgent need during both the war and post-war periods is the transformation of Ukraine’s economy, defense capabilities, and security. Achieving positive results from this transformation is possible only by positioning Ukraine as one of the global centers of innovation.

We also highlight within the framework of this study that, in August 2022, the Government of Ukraine approved the draft Law of Ukraine “On Innovation Parks,” which was developed by the Ministry of Education and Science of Ukraine. The aim of the law is to establish the legal and organizational foundation for creating and operating innovation parks in Ukraine, ensuring the innovative development of the Ukrainian economy. The necessity of adopting this draft law stems from the need to legislatively regulate the functioning of innovation parks, the development of the innovation infrastructure network, and the interaction of its elements [20].

Thus, a well-developed innovation ecosystem creates the conditions for the creation and implementation of innovations

that drive economic growth. To this end, the Ministry of Digital Transformation presented a draft Strategy for the Development of the Innovation Ecosystem in Ukraine (hereinafter referred to as the Strategy). The development of the Strategy took place on the platform of the Center for Economic Recovery with expert assistance from the consulting company CIVITTA. State institutions, investment funds, incubation and acceleration support organizations, business associations, educational institutions, and scientists all contributed to the process [21].

The document consists of 10 initiative packages covering various spheres of activity. These include, in particular, the development of a culture of innovative entrepreneurship, programs for the creation and acceleration of startups, the innovative transformation of small and medium-sized businesses, and high-tech exports [24].

The priority areas outlined in the vision include medtech, edtech, AI, a borderless economy, biotech, greentech, cybersecurity, semiconductors, fluid economy, digital economy, agritech, and more [25].

The government is currently working on a framework where innovations in Ukraine 2030 serve as the foundation for the economy and national security. This framework is based on three principles. The first is the development of the Ukrainian innovation ecosystem, which involves creating conditions for the free emergence and circulation of ideas. This includes support for research institutions, innovative startups, and technology companies. The second principle is multilateral state policy support for innovation, ranging from deregulation to national programs. The third is the stimulation of innovation and the development of technologies that address current and future challenges [26].

Attention must also be given to the involvement of non-resident investors in financing innovative activities. While these investors may face certain risks, they contribute to financing innovation. It is essential to create appropriate guarantees for such investors at the state level, through the adoption of relevant legislative acts, to

stimulate the growth of their investments in various areas of innovative activity in industrial enterprises [5].

It should be noted that the Ministry of Economy of Ukraine has entered into an agreement with BlackRock Financial Market Advisory to provide support services to the Development Fund of Ukraine. The main goal of this fund is to attract private and public capital for the implementation of significant business projects in Ukraine. To ensure transparency and the successful implementation of the project, Ukraine is involving some of the world's leading financial and consulting organizations, such as BlackRock, JP Morgan, McKinsey, and others [22].

Creating a specific indicator to assess the impact of the war on the innovative activity of enterprises under force majeure conditions is a challenging task, as it depends on many factors.

Here is a general description of how such an indicator can be constructed:

1. Identify the variables: first, identify the set of variables that we will use to measure the impact of the war. Assign a numerical value to each variable.

2. Collect data: collect historical data for these variables for businesses that have been affected by military conflict and those that have not. This will make it possible to compare indicators before, during and after the war.

3. Determine the impact metric: choose a metric or indicator that will reflect the impact of the war on the innovative activities of enterprises.

4. Develop a mathematical model: based on the collected data, develop a mathematical model that takes into account the relationships between the variables and the impact metric. This can be a linear model or a non-linear model such as a regression model.

5. Validate the model: use historical data that was not used to build the model (before 02/24/2022, as a full-scale Russian invasion began in Ukraine).

There are several possible indicators that can be used to create such an indicator.

1. Political stability or instability in a country can directly impact a company's ability to innovate. Political instability can lead to a decrease in business confidence, an increase in risks, and a reduction in investment in research and development.

2. Changes in consumer demand: war can change consumer priorities and affect the demand for innovative products. Some industries may become less important or unviable during a military conflict, while others may find new opportunities.

3. Changes in the legal environment: war can lead to the introduction of temporary legal restrictions or changes in legislation. This may affect property rights, intellectual property, cooperation agreements and other aspects that may affect the innovative activities of enterprises.

4. Geopolitical changes: war can lead to changes in the geopolitical landscape.

5. Technological Availability: war can affect the availability of new technologies and innovations. For example, restrictions on technological exchange, sanctions or changes in research cooperation may limit access to advanced technologies and knowledge.

6. Infrastructure: military conflict can cause the destruction of infrastructure such as transportation networks, communication systems, energy networks, etc. This can affect the operational efficiency of enterprises and their ability to innovate.

7. Investment Climate: war can create an unfavorable investment climate with increased risk and uncertainty. This may lead to reduced investment in research and development of innovative projects.

8. Human resources: war can affect the human resources of enterprises through emigration, mobilization, reduced availability of skilled workers and changes in training and development priorities.

9. Regulatory restrictions: a military conflict can lead to the imposition of regulatory restrictions and controls on the activities of enterprises, particularly in scientific research projects and innovations. This can limit the opportunities and freedom of operation for businesses.

10. Geographical restrictions: a military conflict may result in geographical restrictions such as conflict zones, blockades or territorial barriers. This can complicate business operations and limit access to markets, partners and resources.

11. External technological change: military conflict can stimulate the development of new technologies or accelerate the adoption of existing ones. For example, a war may increase interest in technologies for military applications or cybersecurity, which can influence the direction of innovation and the focus of enterprises..

12. International Trade Restrictions: a military conflict can lead to the imposition of trade restrictions and sanctions. This can limit access to foreign markets, technologies and resources, which can affect international cooperation and innovative activities of enterprises.

To calculate the impact metric (I), it is advisable to use data and statistics starting from February 24, 2022, and conduct further research and analysis to estimate the impact factors. This mathematical model allows for a quantitative assessment of the impact of the war and other factors on the innovative activity of enterprises.

Equation of the model taking into account weighting factors and influence factors for each factor:

$$I = (W_1 \cdot F_1 \cdot C_1 + W_2 \cdot F_2 \cdot C_2 + W_3 \cdot F_3 \cdot C_3 + \dots + W_n \cdot F_n \cdot C_n) / (w_{total}) \quad (1)$$

where:  $I$  – assessment of the impact of the war on the innovative activity of enterprises;  $F_1, F_2, \dots, F_n$  are the influencing factors that we consider.  $w_1, w_2, \dots, w_n$  are weighting factors corresponding to each factor;  $c_1, c_2, \dots, c_n$  are influence coefficients that reflect the degree of influence of each factor on innovative activity;  $w_{total}$  is a weighting factor that normalizes the sum of weighting factors.

Each factor ( $F_1, F_2, \dots, F_n$ ) is multiplied by its corresponding weight factor ( $w_1, w_2, \dots, w_n$ ), which reflects its importance in influencing the innovative activity of enterprises. In addition, each factor is also multiplied by its influence coefficient ( $c_1, c_2,$

$\dots, c_n$ ), which reflects the degree of influence of a specific factor on innovative activity. The total sum of the products of each factor and the corresponding weighting factors is normalized using the weighting factor  $w_{total}$ .

Weighting factors ( $w_1, w_2, \dots, w_n$ ) and impact factors ( $c_1, c_2, \dots, c_n$ ) should be determined based on research, data analysis, expert evaluation or stakeholder involvement.

Optimal values for weights and impact factors can be established based on data analysis, peer review, optimization methods, or stakeholder involvement. It is important to take into account the context of the research and the specifics of the specific situation.

**Conclusions.** The peculiarities of Ukraine's socio-economic development under martial law, along with its determined course for European integration, necessitate Ukraine's active participation in calculating indicators, making relevant comparisons with other countries, and evaluating the relative strengths and weaknesses of its national innovation system. Studies of global rankings confirm that Ukraine is gradually increasing its participation in international competitions, sometimes receiving low positions, but gaining valuable experience in the comprehensive evaluation of scientific, technological, and innovative activities compared to the leading countries of the world.

Given the rise in environmental, geopolitical, economic, and social instability during wartime, which increases the likelihood of extreme events with devastating consequences, it is crucial to improve the effectiveness of research and innovation policies to respond effectively in a crisis situation. This is especially true for state support of innovative research and development in the defense sector. In Ukraine, it is essential to create an effective mechanism for activating innovative development, which will help ensure the recovery of its economy and further integration into the global economy..

To summarize, Ukraine's candidate status in the EU opens up significant opportunities for businesses, particularly in

strengthening economic security through innovation. However, realizing these opportunities will require substantial effort and investment, as well as a firm commitment to implementing EU standards and practices. Ukrainian businesses must be prepared to adapt to the evolving global economic landscape and leverage innovative EU practices to remain competitive and achieve long-term sustainability.

From the perspective of Ukraine's post-war development, innovation policy should

play a central role in driving changes toward an intellectual economy and a society focused on sustainable development. To address the challenges embodied in the Sustainable Development Goals, a new framework for innovation policy is needed. This framework would ensure transformational change by critically analyzing obstacles, challenges, and threats to the implementation of innovations by researchers and businesses in key areas for reconstruction, as well as identifying gaps in innovation policy management.

### References

1. *Ukraina otrymala status kandydata na chlenstvo v YeS.* (2022). [Ukraine received the status of a candidate for EU membership]. URL: <https://www.kmu.gov.ua/news/ukrayina-otrymala-status-kandidata-na-chlenstvo-v-yes> (Accessed December 03, 2023) (in Ukraine).
2. Smiesova, V., Ischenko, I. (2020). *Innovatsii iak osnova pidvyschennia iakosti produktsii ta zabezpechennia konkurentospromozhnosti pidpriemstva.* [Innovation as the basis of increasing product quality and ensuring competitiveness of the enterprise]. *Naukovyj visnyk Mizhnarodnoho humanitarnoho universytetu.* [International Humanitarian University Herald]. no 43. pp. 76–82. URL: <https://doi.org/10.32841/2413-2675/2020-43-12> (Accessed December 08, 2023) (in Ukraine).
3. Gamtsemidze, E. P. (2023). *Vidkryti innovatsii ta ikh vplyv na rozvytok biznesu.* [Open innovations and their impact on business development]. *Novi kompetensii dlia Industrii 5.0 ta upravlinnia danymy dlia zakladiv vyschoi osvity : zbirnyk materialiv kruhloho stolu* [New competencies for Industry 5.0 and data management for institutions of higher education: collection of materials of the round table]. Kyiv: NaUKMA, pp. 39-53. URL: <https://ekmair.ukma.edu.ua/handle/123456789/24488> (Accessed December 10, 2023) (in Ukraine).
4. Kravchuk, Iryna (2022). *Vplyv innovatsijnoi diial'nosti na finansovu efektyvnist' pidpriemstva.* [The influence of innovative activities on the financial efficiency of the enterprise]. *Ekonomichnyj forum.* [Economic Forum], vol. 1(3), pp. 172-178. DOI: <https://doi.org/10.36910/6775-2308-8559-2022-3-22> (in Ukraine).
5. Petrovych, Y., Novakivskyi, I. (2022). *Metodolohichne ta investytsijne zabezpechennia rozvytku innovatsijnoho potentsialu promyslovykh pidpriemstv.* [Methodological and investment support for development innovative potential of industrial enterprises]. *Visnyk Natsional'noho universytetu «L'vivs'ka politekhnikha». Seriya: «Problemy ekonomiky ta upravlinnia».* [Journal Bulletin of Lviv Polytechnic National University. Series: «Economics and Management Issues»] Vol. 6, no. 1. pp. 106-118. DOI: <https://doi.org/10.23939/semi2022.01.106> (in Ukraine).
6. Rushchyshyn, M. (2023). *Chynnyky formuvannia finansovoho zabezpechennia rozvytku vitchyznianskykh pidpriemstv na innovatsijnykh zasadakh.* [Factors of forming financial support for the development of domestic enterprises on innovative principles]. *Visnyk Khmel'nyts'koho natsional'noho universytetu. Ekonomichni nauky.* [Bulletin of Khmelnytskyi National University. Economic Sciences.] no. 3 (318). pp. 17-23. DOI: <https://doi.org/10.31891/2307-5740-2023-318-3-2> (in Ukraine).
7. Krylov, D. (2023). *Innovatsijna diial'nist' pidpriemstva: misiia, zavdannia, osoblyvosti orhanizatsii.* [Innovative activity of the enterprise: mission, tasks, and features of

organization]. *Problemy ta perspektyvy ekonomiky ta menedzhmentu*. [Problems and Prospects of Economics and Management]. no.1 (33), pp. 7–14. DOI: [https://doi.org/10.25140/2411-5215-2023-1\(33\)-7-14](https://doi.org/10.25140/2411-5215-2023-1(33)-7-14) (in Ukraine).

8. Yefremova, N. (2023). Orhanizatsiino-ekonomichnyi mekhanizm upravlinnia innovatsiinoiu diialnistiu ahrarnykh pidpriemstv [Organizational and economic mechanism of management of innovative activities of agricultural enterprises]. *Halyts'kyj ekonomichnyj chasopys (tern.)*. [Galician economic journal (Tern.)], vol. 81, no 2, pp. 115-122. DOI: [https://doi.org/10.33108/galicianvisnyk\\_tntu2023.02.115](https://doi.org/10.33108/galicianvisnyk_tntu2023.02.115) (in Ukraine).

9. Ulyanova, L., Chaika, Yu. (2021). *Innovatsijni aspekty staloho rozvytku ekonomiky Ukrainy*. [Innovative aspects of sustainable development of Ukraine's economy]. *Ekonomichnyj analiz*. [Economic Analysis], Vol.31. (1). pp. 218–226. DOI: <https://doi.org/10.35774/econa2021.01.218> (in Ukraine).

10. Multi-stakeholder forum on science, technology and innovation for the Sustainable Development Goals. (26 May 2022). *Note by the Secretariat of the UN Economic and Social Council*. E/HLPF/2022/6.

11. *Naukovo-analitychna dopovid': «Naukova ta naukovo-tekhnichna diial'nist' v Ukraini u 2022 rotsi»* [Scientific and scientific and technical activity in Ukraine in 2022: scientific and analytical report] / T.V. Pisarenko, T.K. Kuranda and others. 2023. Kiev: UkrINTEI, 93 p. URL: <https://mon.gov.ua/storage/app/media/nauka/2023/07/25/Nauk-analit.dopov.Naukova.ta.nauk-tekh.n.diyaln.v.Ukr.2022-25.07.2023.pdf> (Accessed December 11, 2023) (in Ukraine).

12. The Global Innovation Index 2022. URL: <https://www.wipo.int/edocs/pubdocs/en/wipo-pub-2000-2022-en-mainreport-global-innovation-index-2022-15th-edition.pdf> (Accessed December 08, 2023).

13. *Prohramy mizhnarodnoho spivrobotnytstva*. [Programs of international cooperation]. *Natsional'nyj portal mizhnarodnoho naukovo-tekhnichnoho Spivrobotnytstva. Buduiemo innovatsijnu Ukrainu*. [National portal of international scientific and technical cooperation. We are building an innovative Ukraine]. 2022. URL: <https://ms.nauka.gov.ua/> (Accessed December 14, 2023) (in Ukraine).

14. Mykhailo Fedorov. (July 16, 2023). *Ukraina stane odniieiu z najsyl'nishykh krain u rozvytku vijs'kovykh innovatsij*. [Ukraine will become one of the strongest countries in the development of military innovations]. *Ukrains'ka mul'tymedijna platforma dlja movlennia*. [Ukrainian multimedia platform for broadcasting]. URL: <https://www.ukrinform.ua/rubric-technology/3690718-ukraina-stane-odnieu-z-najsilnisih-krain-u-rozvitku-vijskovih-innovacij-fedorov.html> (Accessed December 14, 2023) (in Ukraine).

15. Oleksandr Bornyakov. (February 24, 2023) *Military-tech startapy budut' vydileni v okremyj napriam Ukrains'koho fondu startapiv* [Military-tech startups will be allocated to a separate direction of the Ukrainian Startup Fund]. *Informatsijne ahentstvo «Interfaks-Ukraina»*. [Information agency «Interfax-Ukraine»]. URL: <https://interfax.com.ua/news/telecom/893764.html> (Accessed December 15, 2023) (in Ukraine).

16. *Mintsyfra zapuskaie military tech klaster. Scho tse oznachaie i dlja koho initsiatyva* [The Ministry of Digital is launching a military tech cluster. What does this mean and for whom is the initiative]. 2023. URL: <https://dev.ua/news/mintsyfra-zapuskaie-military-tech-klaster-shcho-tse-oznachaie-i-dlja-koho-initsiatyva-1676962567> (Accessed December 16, 2023) (in Ukraine).

17. Decree of the Cabinet of Ministers of Ukraine (2021), «On the approval of the Concept of the development of artificial intelligence in Ukraine» from 2021, December 29, no. 1556-2020. Available at: <https://zakon.rada.gov.ua/laws/show/1556-2020-%D1%80#Text> (Accessed December 06, 2023) (in Ukraine).

18. Decree of the Cabinet of Ministers of Ukraine (2021), «On the approval of the plan of measures for the implementation of the Concept of the development of artificial intelligence in Ukraine for 2021-2024» from 2021, May 12, no. 438-2021-p. Available at: <https://zakon.rada.gov.ua/laws/show/438-2021-%D1%80#Text> (Accessed December 06, 2023) (in Ukraine).

19. Oleksandr Bornyakov, (March 20, 2023). *IT stane drayverom povoiennoi vidbudovy Ukrainy*. [IT will become a driver of Ukraine's military reform]. *Iurydychna hazeta. Vseukrains'ka profesijna iurydychna ekspertyza*. [legal newspaper. All-Ukrainian professional legal expertise]. URL: <https://yur-gazeta.com/interview/it-stane-drayverom-povoennyi-vidbudovi-ukrayini--oleksandr-bornyakov.html> (Accessed December 06, 2023) (in Ukraine).

20. The Verkhovna Rada of Ukraine (2022). The Law of Ukraine «On Innovation Parks» (August 11), no. 7658. Available at: [http://w1.c1.rada.gov.ua/pls/zweb2/webproc4\\_1?pf3511=74710](http://w1.c1.rada.gov.ua/pls/zweb2/webproc4_1?pf3511=74710) (Accessed December 20, 2023)

21. *Tsyfrova derzhava rozvyvaet'sia: doluchajtesia do obhovorennia Stratehii rozvytku ekosystemy innovatsij v Ukraini, - Komitet z pytan' tsyfrovoi transformatsii* [The digital state is developing: join the discussion of the Strategy for the Development of the Innovation Ecosystem in Ukraine, - Committee on Digital Transformation]. (April 5, 2023). URL: [https://www.rada.gov.ua/news/news\\_kom/234973.html](https://www.rada.gov.ua/news/news_kom/234973.html) (Accessed December 21, 2023)

22. *Prezydent proviv zustrich iz kerivnytstvom najbil'shoi u sviti investytsijnoi kompanii schodo stvorennia Fondu rozvytku Ukrainy*. [The President held a meeting with the management of the world's largest investment company regarding the creation of the Development Fund of Ukraine] (May 5, 2023). *Prezydent Ukrainy. Ofitsijne onlajn predstavnytstvo*. [President of Ukraine. Official online representation]. Available at: <https://president.gov.ua/news/prezident-proviv-zustrich-iz-kerivnictvom-najbilshoyi-u-svit-82725> (Accessed December 18, 2023) (in Ukraine).

23. Shkolenko, O.B., Tereshchenko, E. Yu, & Shulyar, N.M. *Pokraschennya biznes-klimatu dlya rozvytku maloho i seredn'oho pidpryyemnytstva v Ukraini*. [Improving the business climate for the development of small and medium-sized enterprises in Ukraine]. *Infrastruktura rynku* [Market infrastructure]. Vol. 45. pp. 45-51. <https://doi.org/10.32843/infrastruct45-8> (in Ukraine).

24. *Mintsyfry predstavlylo Stra tehiiu rozvytku innovatsij Ukrainy — pro scho v nij idet'sia* [The Ministry of Digitization presented the Innovation Development Strategy of Ukraine — what it is about]. 2023. URL: <https://ain.ua/2023/12/15/minczyfry-predstavlylo-strategiyu-rozvytku-innovacij-ukrayiny/> (Accessed December 12, 2023) (in Ukraine).

25. *Vidbulasia prezentatsiia Hlobal'noi innovatsijnoi vizii WINWIN*. [The presentation of the Global Innovation Visa WINWIN took place]. 2023. URL: <https://mon.gov.ua/ua/news/vidbulasya-prezentaciya-globalnoyi-innovacijnoyi-viziyi-winwin> (Accessed December 16, 2023) (in Ukraine).

26. Government is working on the Strategy for Innovative Development of Ukraine until 2030: Prime Minister. (2023). URL: <https://www.kmu.gov.ua/en/news/uriad-napratsovuie-stratehiu-innovatsiino-rozvytku-ukrainy-do-2030-roku-premier-ministr> (Accessed December 12, 2023) (in English).

## REPRODUCTION OF BUSINESS POTENTIAL IN UKRAINE AMIDST WAR CHALLENGES AND THE EUROPEAN INTEGRATION VECTOR

*Tetiana Kharchuk*, National University of Ukraine on Physical Education and Sport, Kyiv, (Ukraine).

E-mail: [tkharchuk@uni-sport.edu.ua](mailto:tkharchuk@uni-sport.edu.ua)

*Kateryna Klymenko*, Educational Scientific Institution «Academy of Financial Management», Kyiv, (Ukraine).

E-mail: [klymenko\\_kateryna@ukr.net](mailto:klymenko_kateryna@ukr.net)

*Oksana Shkolenko*, National Aviation University of Kyiv, Kyiv (Ukraine).

E-mail: [oksana.shkolenko@npp.nau.edu.ua](mailto:oksana.shkolenko@npp.nau.edu.ua)

*Victoria Melnik*, State university of trade and economics, Kyiv, (Ukraine).

E-mail: [v.melnyk@knute.edu.ua](mailto:v.melnyk@knute.edu.ua)

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The article examines the impact of Ukraine's EU candidate status on the innovative component of business economic security. It emphasizes the importance of innovation for business and the role of the EU in promoting innovative practices. The article analyzes the current state of Ukraine's economy and its readiness to implement EU standards and practices in the field of innovation under martial law. It also discusses the challenges, threats, and opportunities that Ukraine's status as an EU candidate provides for businesses, particularly in terms of strengthening economic security through the integration of innovation.

The article outlines Ukraine's rankings based on indices of innovative capacity from 2015 to 2022. It presents the dynamics of funding for Ukraine's scientific sector from both the general and special funds of the state budget between 2018 and 2022. It was found that, in 2022, the volume of expenses for financing the scientific sector increased both through the general fund (by 10.80% compared to 2021) and the special fund (by 41.55%).

The article also explores innovative economies, categorizing countries by their level of income per capita according to World Bank data. It examines the introduction of innovative products in Ukraine during martial law, particularly through cooperation with international partners and companies such as USAID, Microsoft, Google.org, and Rakuten.

Emphasis is placed on improving the legislative framework regulating Ukraine's innovation potential, including the adoption of the draft Law "On Innovation Parks".

It is emphasized that, in order to address the challenges outlined in the Sustainable Development Goals, a new innovation policy framework is necessary. This framework could be supported by the adoption of the Strategy for the Development of the Innovation Ecosystem in Ukraine, which aims for transformational change. It will be based on a critical analysis of obstacles, challenges, and threats to the implementation of innovations by researchers and businesses in key areas for reconstruction, as well as gaps in the management of innovation policy.

Finally, the article highlights the adoption of the Innovation Development Strategy until 2030, which is based on three key principles: first, the development of the Ukrainian innovation ecosystem, which includes creating conditions for the free emergence and circulation of ideas, and supporting research institutions, innovative start-ups, and technology companies; second, a multilateral state policy to support innovation, ranging from deregulation to national programs; and third, the stimulation of innovation and the development of technologies that address both current and future pressing issues.

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