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PROSPECTS FOR SUSTAINABLE DEVELOPMENT OF INNOVATION ACTIVITY IN THE CONTEXT OF ENSURING THE ECONOMIC SECURITY OF KYIV

Abstract. The article is dedicated to exploring the prospects for sustainable development of innovation activity in the context of ensuring the economic security of the city of Kyiv. It has been established that the number of applications for the registration of industrial property rights in Ukraine increased by 47.59% in 2023 compared to 2022, although the number of registered industrial property objects decreased by 5.64%. Kyiv traditionally leads in the registration of industrial property rights, as evidenced by the dynamics of submitted and registered applications for the period 2019–2023. The total number of patent applications for inventions by national applicants in Kyiv decreased by 51.44% in 2023 compared to 2019 but increased by 32.71% compared to 2022, indicating a positive trend. It was found that the share of registered inventions by national applicants in Kyiv accounted for 40.78% of the total registered inventions by national applicants in Ukraine in 2023, while the share of registered utility models was 26.17%, 14.61% less than that of inventions. Given their degree of uniqueness, inventions are considered more innovative than utility models, and thus, the trend of surpassing registered invention applications over utility model applications in Kyiv is viewed positively. Quantitative calculations of the group indicator (sub-index) of innovation activity in the economic security of Kyiv for 2019–2023 were conducted. A decline in innovation activity in Kyiv was observed in 2022, attributed to the war. However, innovation activity improved by 3.22% in 2023 compared to 2022. It is forecasted that innovation activity will increase upon the cessation of military actions in Ukraine, as the necessity to restore the city's infrastructure and production capacities will create favorable conditions for further development.

Keywords: urban economy; sustainable development; economic security; innovation activity; digital technologies; post-war revitalization of Ukrainian cities.

INTRODUCTION

Problem Statement. In the current context, the need for modernization and renewal of Kyiv's economy and infrastructure is significant. Analyzing the dynamics of innovation activity allows for a short-term forecast of the further development of innovation initiatives. The level of innovation activity depends on numerous factors, including the availability of financial resources. The war has significantly constrained the financial capabilities of both enterprises and individuals engaged in innovation activities. Updating the forecast for the future development of innovation activity in Ukraine, particularly in Kyiv, requires analytical research into the current state of innovation activity, which is the focus of this article.

Analysis of Recent Studies and Publications. The study of various aspects of the innovative development of Ukrainian cities and the economic security system of cities has been addressed in the scientific works of the following authors. The article by Harashchuk O. and Kutsenko V. focuses on the innovative aspects of sustainable development and social security formation in a sociocultural context [1]. Innovative activity of enterprises as a prospect for the development of Ukraine's national economy is explored in the article by Vorona A.V. [2], and as a factor of economic security in the work of Malysh V. and Samoylovych O. [3]. The need for the protection and utilization of intellectual property by domestic enterprises is emphasized in the research by Loyko V.V. and Cherednichenko A.O. [4]. The article by Khrapkina V.V. and Mohylnyi Y.Y. is devoted to the analysis of the current state, challenges, and development trends of innovation activity in Ukraine [5]. The innovation-investment component of regional development strategy is considered in the work by Nedilska L.V. and Yashchenko M.S. [6]. The article by Ptashchenko O.V. examines the system of social security in the context of digital transformation [7]. The realization of municipal target programs as a factor ensuring the economic security of city residents is explored in the article by Shlapak A.V., Ivashchenko O.A., and Nykonyuk K.O. [8]. An analytical report by the National Institute for Strategic Studies addresses current challenges and threats to Ukraine's economic security under martial law [9]. The interdependence of innovation development and urban development is highlighted in the works of foreign researchers Harvey D. [10] and Florida R. [11].

The presented research topic is highly relevant and, due to constant changes in external conditions, requires further studies.

Purpose of the Article. To analyze the prospects for sustainable development of innovation activity in the context of ensuring the economic security of the city of Kyiv.

RESEARCH RESULTS

The field of innovation encompasses a broad range of activities, from development to implementation and utilization of innovations. Innovation activity is a significant component of the modern knowledge economy. Under conditions of globalization, digitalization, and accelerating scientific and technological progress, innovation has become a driving force for effective economic development both at the national and city levels. As one of Ukraine's largest cities, Kyiv has a substantial need to modernize its economy and infrastructure through the development and implementation of innovations. The war has significantly altered Kyiv's innovation activity, creating a high demand for products from the defense industry, which is currently the most innovative sector. Additionally, Kyiv has become a relocation hub for many businesses from regions at higher risk due to military actions. Enterprises in Kyiv have the opportunity to receive donor support from other countries, positively influencing the potential for enhanced innovation activity. According to statistical data from Kyiv's 2023 Annual Report, the city had 2,923 enterprises, of which only 5.6% were actively engaged in innovation [12]. As per the 2022 Annual Report, out of Kyiv's 1,140 largest industrial enterprises, only 417 were operational, with the number of employees at these enterprises halved. Moreover, 124 enterprises in the capital were relocated to other regions of the country, and many shifted production to defense-oriented products. Despite these challenges, the number of startup companies in Kyiv increased by 16 in 2022, signaling a positive trend in the activation of innovation activity. Furthermore, 11 international companies were involved in Ukraine's innovation transformation in 2022. In Kyiv, 340 companies engaged in scientific and technological research, further contributing to the positive trend of increased innovation activity.

An analysis of macroeconomic indicators for the development of Ukraine's national economy and the economy of Kyiv suggests that 2023 was more successful for the country compared to 2022. Ukraine's GDP growth in 2023 is estimated at 5%, contrasting with a significant GDP decline of 29% in 2022. The share of Kyiv's gross regional product in Ukraine's GDP accounted for 23.4% in 2023, while the share of industrial goods sold reached 19.7% [12]. Positive shifts in the macroeconomic sphere were also reflected in the field of intellectual property. The number of applications for the registration of industrial property rights in Ukraine increased by 47.59% in 2023 compared to 2022; however, the number of registered industrial property objects decreased by 5.64% (Table 1).

Table 1

Dynamics of Applications and Registrations for Industrial Property Objects in Ukraine for the Period 2019–2023

Indicator, unit of measurement	Actual data 2019	Actual data 2020	Actual data 2021	Actual data 2022	Actual data 2023	Deviation in 2023 compared to 2019, %
Applications for industrial property objects, units	48672	38388	41003	22195	32759	-32,69
Registration of industrial property objects, units	30588	30251	30867	20325	19178	-37,30
Share of registered industrial property objects in the total number of applications, %	62,84	78,80	75,28	91,57	58,64	-4,2

Source: compiled by the authors based on data from the State Organization "Ukrainian National Office of Intellectual Property and Innovation" [13], [14]

The upward trend in applications for the registration of industrial property rights in 2023 compared to 2022 reflects a positive dynamic in improving the macroeconomic indicators of the national economy's development. The decline in the number of registered industrial property objects is due to the length of the examination and registration process for industrial property rights. Thus, the situation in 2023 mirrors the decline in the number of applications submitted in 2022. Regarding the dynamics of the share of registered industrial property objects in the total number of applications, the highest level was observed in 2022 at 91.57%, while the lowest level was in 2023 at 58.64%. This is attributed to the average duration of the examination process: 18.4 months for inventions, 5.7 months for utility models, and 5.5 months for industrial designs [13].

Kyiv has traditionally been a leader in the registration of industrial property rights, as evidenced by the dynamics of submitted and registered applications during the period from 2019 to 2023 (Tables 2 and 3).

Table 2

**Dynamics of Applications and Registrations for Inventions by
National Applicants in Kyiv for the Period 2019–2023**

Indicator, unit of measurement	Actual data 2019	Actual data 2020	Actual data 2021	Actual data 2022	Actual data 2023	Deviation in 2023 compared to 2019, %
Total number of invention applications by national applicants in Kyiv per year, units	727	442	408	266	353	-51,44
Total number of invention applications by national applicants in Ukraine per year, units	2103	1370	1296	793	1010	-51,97
Share of invention applications by national applicants in Kyiv as a percentage of total national applications, %	34,56	32,26	31,48	33,54	34,95	0,39
Total number of registered inventions by national applicants in Kyiv per year, units	446	367	363	234	175	-60,76
Total number of registered inventions by national applicants in Ukraine per year, units	1248	1086	990	630	429	-65,63
Share of registered inventions by national applicants in Kyiv as a percentage of total national registrations, %	35,73	33,79	36,66	37,14	40,79	5,06
Share of registered inventions as a percentage of invention applications in Kyiv, %	62,34	83,03	88,97	87,96	49,57	-12,77

Source: compiled by the authors based on data from the State Organization "Ukrainian National Office of Intellectual Property and Innovation" [13], [14]

The analysis shows that the total number of invention applications by national applicants in Kyiv decreased by 51.44% in 2023 compared to 2019. However, it increased by 32.71% compared to 2022, indicating a positive trend. The share of invention applications by national applicants in Kyiv as a percentage of the total number of such applications in Ukraine for the period 2019–2023 increased by 0.20%, reaching 34.95% in 2023. The total number of registered inventions by national applicants in Kyiv in 2023 decreased by 60.76% compared to 2019 and by 25.21% compared to 2022. The share of registered inventions as a percentage of submitted applications by national applicants in Kyiv in 2023 stood at 49.57%, which is the lowest figure for the 2019–2023 period.

Table 3

Dynamics of Applications and Registrations for Utility Models by
National Applicants in Kyiv for the Period 2019–2023

Indicator, unit of measurement	Actual data 2019	Actual data 2020	Actual data 2021	Actual data 2022	Actual data 2023	Deviation in 2023 compared to 2019, %
Total number of utility model applications by national applicants in Kyiv per year, units	2104	1285	1001	630	900	-57,22
Total number of utility model applications by national applicants in Ukraine per year, units	8344	5059	4335	2320	3427	-58,92
Share of utility model applications by national applicants in Kyiv as a percentage of total national applications, %	25,21	25,40	23,09	27,15	26,26	1,05
Total number of registered utility models by national applicants in Kyiv per year, units	2249	1644	1031	513	700	-68,87
Total number of registered utility models by national applicants in Ukraine per year, units	8288	6229	4214	2031	2675	-67,72
Share of registered utility models by national applicants in Kyiv as a percentage of total national registrations, %	27,13	26,39	24,46	25,25	26,17	-0,96
Share of registered utility models as a percentage of utility model applications in Kyiv, %	106,89	127,93	102,99	81,42	77,77	-29,12

Source: compiled by the authors based on data from the State Organization "Ukrainian National Office of Intellectual Property and Innovation" [13], [14]

The total number of utility model applications by national applicants in Kyiv decreased by 57.22% in 2023 compared to 2019 but increased by 42.85% compared to 2022. The share of utility model applications by national applicants in Kyiv as a percentage of the total national utility model applications for the period 2019–2023 increased by 1.08%, reaching 26.26% in 2023. The total number of registered utility models by national applicants in Ukraine in 2023 decreased by 67.72% compared to 2019 but increased by 36.45% compared to 2022. The share of registered utility models as a percentage of utility model applications by national applicants in Kyiv for the period 2019–2023 decreased by 29.12%, standing at 77.77% in 2023.

It is worth noting that the share of registered inventions by national applicants in Kyiv as a percentage of the total number of registered inventions by national applicants in Ukraine in 2023 amounted to 40.78%. Meanwhile, the share of registered utility models by national applicants in Kyiv as a percentage of the total number of registered utility models by national applicants in Ukraine in 2023 stood at 26.17%, which is 14.61% lower than that of inventions. Given their degree of uniqueness, inventions are considered more innovative than utility models. Therefore, the trend of a higher number of registered invention applications compared to registered utility model applications in Kyiv is a positive indicator.

The activation of innovation activity is one of the factors ensuring the sustainable development of Ukrainian cities in the context of economic security during post-war recovery [15]. Innovation activity plays a key role in ensuring the economic security of Kyiv. To calculate the level of the innovation component within Kyiv's economic security system, we will use the algorithm proposed in the *"Methodological Recommendations for Calculating the Level of Economic Security of Ukraine"* [16]. The level of the innovation component in Kyiv's economic security system is determined using a methodology for calculating a group indicator, which consists of four coefficients:

1. Efficiency coefficient of innovation activity for inventions, fractional units.
2. Efficiency coefficient of innovation activity for utility models, fractional units.
3. Efficiency coefficient of innovation activity for industrial designs, fractional units.
4. Efficiency coefficient of innovation activity for trademarks, fractional units.

The quantitative values of these coefficients were calculated based on data from the State Organization "Ukrainian National Office of Intellectual Property and Innovation" [13], [14]. The calculation results are presented in Table 4.

Table 4

Results of Efficiency Coefficient Calculations for Innovation Activity in Inventions, Utility Models, Industrial Designs, and Trademarks in Kyiv for the Period 2019–2023

Indicator, unit of measurement	Actual data 2019	Actual data 2020	Actual data 2021	Actual data 2022	Actual data 2023
Efficiency coefficient of innovation activity for inventions	0,36	0,34	0,37	0,37	0,41
Efficiency coefficient of innovation activity for utility models	0,27	0,26	0,24	0,25	0,26
Efficiency coefficient of innovation activity for industrial designs	0,26	0,28	0,29	0,27	0,24
Efficiency coefficient of innovation activity for trademarks	0,33	0,34	0,35	0,31	0,32

Source: calculated by the authors

All considered indicators—efficiency coefficients for innovation activity in inventions, utility models, industrial designs, and trademarks—are stimulators. This means that an increase in the quantitative value of an indicator enhances the function value, specifically the level of economic security in Kyiv as determined by its functional innovation component. To normalize the arguments for stimulators, the adopted index method formulas were applied [16]. Weighting coefficients were determined through expert evaluation. The results of normalizing the quantitative values of individual indicators for calculating the group indicator (sub-index) of the innovation component in Kyiv's economic security system, using the index method and defined weighting coefficients, are presented in Tables 5–8.

Table 5

Efficiency coefficient of innovation activity for inventions, fractional units

	X^L_{crit}	X^L_{dang}	X^L_{unsat}	X^L_{sat}	X^L_{opt}	Normalization results	Results with weighting coefficient
Boundary value of the indicator (author's development)	0,25	0,30	0,35	0,40	0,45	Yij = 0,8 + 0,2*(Xij - Xsat)/(opt - Xsat); Yij = 0,6 + 0,2*(Xij - Xunsat)/(Xsat. - Xunsat); Yij = 0,4 + 0,2*(Xij - Xdang)/(Xunsat. - Xdang);	Weighting coefficient 0,0220
2019	-	-	0,36		-	Y_{2019} = 0,6 +0,2*(0,36-0,35)/(0,40-0,35) = 0,64	0,0141
2020	-	0,34		-	-	Y_{2020} = 0,4 +0,2*(0,34-0,30)/(0,35-0,30) = 0,56	0,0123
2021	-	-	0,37		-	Y_{2021} = 0,6 +0,2*(0,37-0,35)/(0,40-0,35) = 0,68	0,0149
2022	-	-	0,37		-	Y_{2022} = 0,6 +0,2*(0,37-0,35)/(0,40-0,35) = 0,68	0,0149
2023	-	-	-	0,41		Y_{2023} = 0,8 +0,2*(0,41-0,40)/(0,45-0,40) = 0,84	0,0185

Source: compiled and calculated by the authors

Table 6

Efficiency coefficient of innovation activity for utility models, fractional units

	X^L_{crit}	X^L_{dang}	X^L_{unsat}	X^L_{sat}	X^L_{opt}	Normalization results	Results with weighting coefficient
Boundary value of the indicator (author's development)	0,10	0,15	0,20	0,25	0,30	Yij = 0,8 + 0,2*(Xij - Xsat)/(opt - Xsat); Yij = 0,6 + 0,2*(Xij - Xunsat)/(Xsat. - Xunsat);	Weighting coefficient 0,0218
2019	-	-		0,27		Y_{2019} = 0,8 +0,2*(0,27-0,25)/(0,30-0,25) = 0,88	0,0191
2020	-	-	-	0,26		Y_{2020} = 0,8 +0,2*(0,26-0,25)/(0,30-0,25) = 0,84	0,0183
2021	-	-	0,24		-	Y_{2021} = 0,6 +0,2*(0,24-0,20)/(0,25-0,20) = 0,76	0,0166
2022	-	-	0,25		-	Y_{2022} = 0,6 +0,2*(0,25-0,20)/(0,25-0,20) = 0,8	0,0174
2023	-	-	-	0,26		Y_{2023} = 0,8 +0,2*(0,26-0,25)/(0,30-0,25) = 0,84	0,0183

Source: compiled and calculated by the authors

Table 7

Efficiency coefficient of innovation activity for industrial designs, fractional units

	X^L_{crit}	X^L_{dang}	X^L_{unsat}	X^L_{sat}	X^L_{opt}	Normalization results	Results with weighting coefficient
Boundary value of the indicator (author's development)	0,10	0,15	0,20	0,25	0,30	Yij = 0,8 + 0,2*(Xij - Xsat)/(opt - Xsat); Yij = 0,6 + 0,2*(Xij - Xunsat)/(Xsat. - Xunsat);	Weighting coefficient 0,0216
2019	-	-	-	0,26		Y_{2019} = 0,8 + 0,2*(0,26-0,25)/(0,30-0,25) = 0,84	0,0181

	X^L_{crit}	X^L_{dang}	X^L_{unsat}	X^L_{sat}	X^L_{opt}	Normalization results	Results with weighting coefficient
2020	-	-	-	0,28		$Y_{2020} = 0.8 + 0.2*(0.28-0.25)/(0.30-0.25) = 0.92$	0,0198
2021	-	-	-	0,29		$Y_{2021} = 0.8 + 0.2*(0.29-0.25)/(0.30-0.25) = 0.96$	0,0207
2022	-	-	-	0,27		$Y_{2022} = 0.8 + 0.2*(0.27-0.25)/(0.30-0.25) = 0.88$	0,190
2023	-	-	0,24		-	$Y_{2023} = 0.6 + 0.2*(0.24-0.20)/(0.25-0.20) = 0.76$	0,0164

Source: compiled and calculated by the authors

Table 8

Efficiency coefficient of innovation activity for trademarks, fractional units

	X^L_{crit}	X^L_{dang}	X^L_{unsat}	X^L_{sat}	X^L_{opt}	Normalization results	Results with weighting coefficient
Boundary value of the indicator (author's development)	0,15	0,20	0,25	0,30	0,35	$Y_{ij} = 0.8 + 0.2* (X_{ij} - X_{sat})/(opt - X_{sat});$	Weighting coefficient 0,0215
2019	-	-	-	0,33		$Y_{2019} = 0.8 + 0.2*(0.33-0.30)/(0.35-0.30) = 0.92$	0,187
2020	-	-	-	0,34		$Y_{2020} = 0.8 + 0.2*(0.34-0.30)/(0.35-0.30) = 0.96$	0,0206
2021	-	-	-	0,35		$Y_{2021} = 1$	0,0215
2022	-	-	-	0,31		$Y_{2022} = 0.8 + 0.2*(0.31-0.30)/(0.35-0.30) = 0.84$	0,0180
2023	-	-		0,32		$Y_{2023} = 0.8 + 0.2*(0.32-0.30)/(0.35-0.30) = 0.88$	0,0189

Source: compiled and calculated by the authors

Based on the results of the calculations, a summary table has been compiled (Table 9).

Table 9

**Quantitative value of the group indicator (sub-index) of innovation
activity in Kyiv's economic security for the period 2019–2023**

Year	Coefficient 1	Coefficient 2	Coefficient 3	Coefficient 4	Group indicator of innovation component	Share of the benchmark indicator, %
2019	0,0141	0,0191	0,0181	0,0187	0,0700	80,45
2020	0,0123	0,0183	0,0198	0,0206	0,0710	81,61
2021	0,0149	0,0166	0,0207	0,0215	0,0737	84,71
2022	0,0149	0,0174	0,0190	0,0180	0,0693	79,65
2023	0,0185	0,0183	0,0164	0,0189	0,0721	82,87

Source: compiled and calculated by the authors

Based on the analysis of the obtained calculation results, a conclusion was made about the decline in innovation activity in the city of Kyiv in 2022, which is attributed to the war. The results of innovation activity in Kyiv improved by 3.22% in 2023 compared to the results of 2022 (Fig. 1).
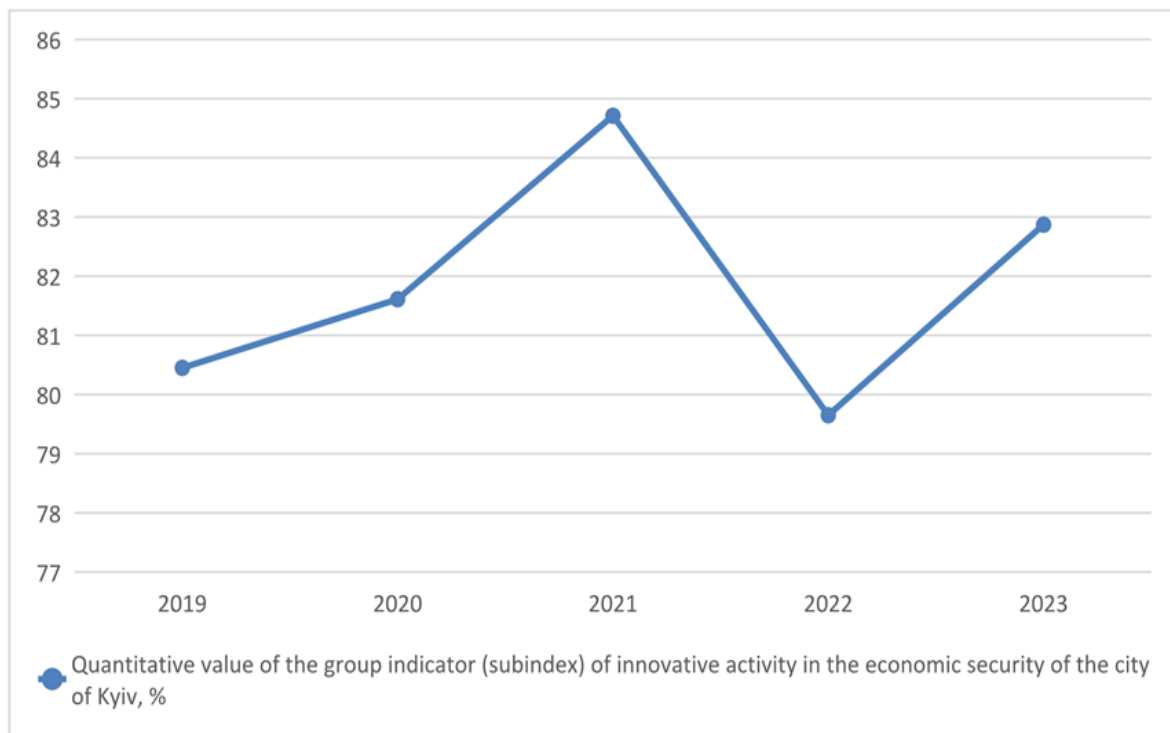
Fig. 1. Quantitative value of the group indicator (subindex) of innovative activity in the
economic security of the city of Kyiv for the period 2019–2023, %
Source: compiled and calculated by the authors

Based on the identified trends in the development of innovation activity in Kyiv and considering current realities, the following predictive assumptions can be made:
- an increase in the level of innovation activity due to the necessity of developing and implementing innovations in the products of the defense-industrial complex;
- growth in innovation activity driven by the relocation of enterprises and businesses to Kyiv;
- a rise in innovation activity due to the potential for increased funding for the development and implementation of innovations through donor support for entrepreneurship development.

CONCLUSIONS AND PROSPECTS FOR FURTHER RESEARCH
Innovation activity serves as a source of growth for both Ukraine's national economy and the economy of Kyiv. The city of Kyiv has traditionally been a leader in the field of registering industrial property rights, as evidenced by the share and dynamics of submitted and registered applications during the period of 2019–2023.
The war has negatively impacted the level of innovation activity, reducing the innovative engagement of inventors in applications submitted by national applicants in Kyiv from 2019 to 2023. Registered inventions decreased by 51.44%, while utility models decreased by 29.12%. The trend of increasing applications for industrial property rights registration in 2023 compared to 2022 reflects a positive tendency in improving macroeconomic indicators of national economic development. The cessation of hostilities on Ukrainian territory will create the necessary conditions for increasing innovation activity in Kyiv, driven by the need to restore the city's infrastructure and production capacities.

REFERENCES (TRANSLATED AND TRANSLITERATED)

1. Harashchuk, O., & Kutsenko, V. (2022). Innovative aspects of forming sustainable development and social security in a sociocultural context. Economic Bulletin, 1, 8–21. https://doi.org/10.35774/visnyk2022.01.008

2. Vorona, A. V. (2020). Innovative activity of enterprises as a prospect for the development of Ukraine's national economy. Effective Economy, 3. Retrieved from http://www.economy.nayka.com.ua/?op=1&z=7747

3. Malysh, V., & Samoylovych, O. (2024). Innovative development as a factor in ensuring economic security of industrial enterprises. Problems and Prospects of Economics and Management, 1(37), 81–89.

4. Loyko, V. V., & Cherednychenko, A. O. (2021). Intellectual property of an enterprise: Protection and effective use. European Scientific Journal of Economic and Financial Innovation, 1(7), 41–51.

5. Khrapkina, V. V., & Mohylnyi, Y. Yu. (2023). Innovative activity in Ukraine: Current state, challenges, and development trends. European Scientific Journal of Economic and Financial Innovation, 2(12), 124–134.

6. Nedilska, L. V., & Yashchenko, M. S. (2023). Innovation and investment components of the region's development strategy. European Scientific Journal of Economic and Financial Innovation, 1(11), 125–139.

7. Ptashchenko, O. V. (2023). The system of social security of a city in the context of digital transformation. Bulletin of the Eastern Ukrainian National University Named after V. Dahl, 4(280), 74–79.

8. Shlapak, A., Ivashchenko, O., & Nykoniuk, K. (2024). City target programs as tools for ensuring social security of city residents. European Scientific Journal of Economic and Financial Innovation, 1(13), 48–55.

9. National Institute for Strategic Studies. (n.d.). Current challenges and threats to Ukraine's economic security under martial law. Retrieved from https://niss.gov.ua/publikatsiyi/analitychni-dopovidi/aktualni-vyklyky-ta-zahrozy-ekonomichniy-bezpetsi-ukrayiny-v

10. Harvey, D. (2013). Rebel Cities: From the Right to the City to the Urban Revolution. London, New York: Verso.

11. Florida, R. (2003). The Rise of the Creative Class. And How It's Transforming Work, Leisure and Everyday Life. Basic Books.

12. Department of Economy and Investments, Kyiv City State Administration. (n.d.). Annual reports. Financial information. Retrieved from https://dei.kyivcity.gov.ua/content/richnyy-zvit-mkyieva.html

13. State Enterprise "Ukrainian Institute of Intellectual Property." (2022). Industrial property in figures. Retrieved from https://ukrpatent.org/atachs/promvlasnist-9m-2022.pdf

14. State Organization "Ukrainian National Office of Intellectual Property and Innovations." (2023). Intellectual property in figures: Performance indicators for 2023. Retrieved from https://euroosvita.net/prog/data/attach/8193/intelektualna-vlasnist-u-cifrax-za-2023r.pdf

15. Loyko, V. V., & Verbnyak, T. M. (2024). Factors for ensuring sustainable development of Ukrainian cities in the context of economic security during post-war recovery. European Scientific Journal of Economic and Financial Innovation, 1(13), 318–328.

16. Ministry of Economic Development and Trade of Ukraine. (2013). Methodological recommendations for calculating the level of economic security of Ukraine (Order No. 1277, October 29, 2013). Retrieved from https://zakon.rada.gov.ua/rada/show/v1277731-13#Text

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ПЕРСПЕКТИВИ СТАЛОГО РОЗВИТКУ ІННОВАЦІЙНОЇ ДІЯЛЬНОСТІ В КОНТЕКСТІ ЗАБЕЗПЕЧЕННЯ ЕКОНОМІЧНОЇ БЕЗПЕКИ МІСТА КИЄВА

Анотація. Стаття присвячена дослідженню перспектив сталого розвитку інноваційної діяльності в контексті забезпечення економічної безпеки міста Києва. Встановлено, що кількість поданих заявок на реєстрацію прав на об'єкти промислової власності у 2023 р. зросла в Україні на 47,59 % у порівнянні з 2022 р., проте кількість зареєстрованих об'єктів промислової власності зменшилась на 5,64 %. Визначено, що місто Київ традиційно є лідером у сфері реєстрації прав на об'єкти промислової власності, що підтверджується динамікою поданих та зареєстрованих заявок за період 2019–2023 рр.: загальна кількість поданих заявок на винаходи від національних заявників у місті Києві за рік скоротилась у 2023 р. на 51,44% у порівнянні із 2019 р, проте зросла на 32,71% у порівнянні з 2022 р., що є позитивною тенденцією. Встановлено, що питома вага зареєстрованих винаходів від національних заявників у місті Києві за рік у загальній кількості зареєстрованих винаходів від національних заявників в Україні у 2023 р. склала 40,78%, а питома вага зареєстрованих корисних моделей склала 26,17%, що менше, ніж на винаходи на 14,61%. За ступенем унікальності винаходи вважаються більш інноваційними, ніж корисні моделі, тому тенденція перевищення зареєстрованих заявок на винаходи над зареєстрованими заявками на корисні моделі в місті Києві є позитивною. Проведено розрахунки кількісного значення групового показника (субіндекса) інноваційної діяльності в економічній безпеці міста Києва за період 2019–2023 рр. Зроблено висновок про зниження інноваційної активності у місті Києві у 2022 р., що пов'язано із війною. Результати інноваційної активності у місті Києві у 2023 р. покращились на 3,22% у порівнянні з результатами 2022 р. Зроблено прогноз щодо підвищення рівня інноваційної активності по завершенню воєнний дій на території України, так як це створить необхідні умови внаслідок необхідності оновлення інфраструктури міста та його виробничих потужностей.

Ключові слова: економіка міста; сталий розвиток; економічна безпека; інноваційна діяльність; цифрові технології; післявоєнне відродження міст України.