SCIENTIFIC HORIZONS

Journal homepage: https://sciencehorizon.com.ua

Scientific Horizons, 25(7), 31-42

UDC 330.341.1(477)
DOI: 10.48077/scihor.25(7).2022.31-42

Modern Trends of Innovative Activity Ensuring Growth and Sustainable Development of the Economy of Ukraine

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Article's History:
Received: 05.08.2022
Revised: 06.09.2022
Accepted: 05.10.2022

Suggested Citation:
Diachenko, V., Diachenko, N., Suray, I., Novachenko, T., & Vasiurenko, O. (2022). Modern trends of innovative activity ensuring growth and sustainable development of the economy of Ukraine. *Scientific Horizons*, 25(7), 31-42.

Abstract. The urgency of finding ways and opportunities to intensify modern innovative practice determined the purpose of this publication, which is to highlight the results of research into the trends of innovative activity to ensure the growth and sustainable development of the economy of Ukraine, as well as to find factors that inhibit this process. This study is based on the thesis that in modern realities, to obtain a commercial or social effect, it is necessary to intensify innovative activity, as a set of processes aimed at creative search, formation, publication, and implementation of innovations in practice. Such activity involves making investments in objects of innovative activity. Methodological aspects of the study consider the concepts of identifying patterns of influence of the volume of expenditures on scientific, research, and design activities on the number of researchers involved in such activities, on the effectiveness of their research, and therefore on the state of innovative development of the state. The change in the positions of Ukraine in the rating evaluations regarding innovative development was investigated, a comparative analysis of the research and development costs of the leading countries of the world and Ukraine in 2020 was performed, the downward dynamics of changes in the number, organisations, and number of employees carrying out R&D, the costs of performing such works and the share were revealed of these costs in the gross domestic product of Ukraine during 2010-2020. The main factors inhibiting the process of intensification of innovative activity include a decrease in state funding of research and development, and therefore, a decrease in the number of organisations and researchers engaged in the creative activity of scientific research. Positive trends towards the formation of gender parity among the performers of scientific research work (47.6% are women), the growth of activity in the field of innovative activity and the increase in expenses of enterprises for innovative activity in 2020 have been revealed. It is proposed to start the development of an effective national innovation policy with the definition of the conceptual provisions of innovative development. The results of the study can be useful for a wide range of scientists who study issues of innovative development, specialists of management structures who analyse the state of innovative development and take care of issues of developing strategies for recovery and further development of the national economy

Keywords: innovation, innovative development, scientific research, investment, research activity, factors, trends, economy

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INTRODUCTION

The last decades of high competition, globalisation of economic relations, dynamic transformation of technologies, as well as the transitivity of the Ukrainian economy actualised the need to reorient the economy of Ukraine to an innovative model of development through the formation of a coherent national innovation system. Innovative activity, as a basic vector of the further development of the economy, and the foundation of the growth of the economic power of the state, and therefore its competitiveness, is a basic factor of ensuring the sustainable development of the state.

Several institutions and organisations, including the UNESCO Institute for Statistics (UIS), the World Bank, and others, conduct research on indicators that characterise the development of scientific, namely innovative activity.

China's R&D investment was 1.96 trillion yuan ($298 billion) in 2019 and a record 2.44 trillion yuan in 2020, up more than 10% from 2019 (Jia & Li, 2022).

However, Ukraine is inferior to many countries in terms of the level of relevant expenses, namely R&D expenses in 2020 amounted to UAH 631.4 million, which is more than half as much as in 2013 and is 0.41% of GDP (State Statistics Service of Ukraine). During the period of the 2019 COVID-19 pandemic, R&D spending in 2020 decreased by almost 5.4% compared to 2019.

As D. Toma and E. Gons (2022) emphasise, it is worth considering that each know-how, each patent, contributing to the provision of opportunities for personal professional or economic growth, only with bringing the achievement to the market, introducing it into the practice of production or use, ensures the development of innovative spheres (Toma & Gons, 2022).

According to a group of scientists (Makarenko *et al.*, 2019), in the conditions of the current economic crisis, the relevance of developing an investment strategy of an enterprise is primarily dictated by the need to modernise the endogenous environment and the need to consider exogenous prerequisites, threats, and risks. Therefore, the development strategy must be developed based on adaptive management of the enterprise's innovative activities. E. Afonin *et al.* (2021) emphasise that today, the enterprise's investment strategy should be based on an innovative approach to information and analytical support.

O.E. Grechanyk *et al.* (2022) emphasises that the perspective model of the activity of innovative enterprises should include a combination of such components as the use of additive, adaptive technologies; increasing the role of the creative personnel factor; forecasting prospects for the development of innovative products and services; client-oriented logistics, e-commerce, marketing, creative management, implementation of modern information and communication technologies; cloud services. According to T. Yatsenko (2021), the intensification of the innovative activity of enterprises will ensure the development of their economic stability, which will contribute to the transition of the Ukrainian economy into the "ascending phase of the sixth economic cycle."

That is why the purpose of this study is to analyse the current state of innovative activity in Ukraine, to find the factors affecting it, and modern trends in innovative activity to ensure the growth and sustainable development of the Ukrainian economy.

MATERIALS AND METHODS

The general methodical approach of this study is dictated by the trend of influence of the results of scientific research, efficiency of transformation of scientific inventions into objects of know-how (goods or services) and innovative activities of enterprises on the state of economic development of the state, confirmed by world economic development.

Methodological aspects of the research consider the concepts of identifying patterns of influence of research and development costs on the number of researchers involved in such activities and on the effectiveness of their research.

The used methods of this intelligence are based on the well-known dialectical approach to the study of economic phenomena, namely general methods (analysis and synthesis with methods of abstraction and generalisation are used in researching the current state of innovative activity and in formulating conclusions; inductive forecasting – during formulating prospects development) and special economic and statistical methods (analysis of dynamic series when identifying existing trends and identifying the dynamics of their changes, indices for comparing the values of relevant indicators, comparison for identifying trends).

The materials used in the study were obtained mainly from information sources that published information about the state of innovative activity, namely the State Statistics Service of Ukraine (hereinafter – the State Statistics Service of Ukraine), the World Intellectual Property Organisation, an American company, a provider of financial information, Bloomberg, statistical organisation of the European Commission (Eurostat). The research used sources that mostly hold information starting from 2010 and limited to 2020 (official data for 2021 has not been made public by the State Statistics Service of Ukraine at this time).

During the analysis of the state of innovative activity in Ukraine, methodological explanations of the State Statistics Service of Ukraine regarding official data published by it were also considered.

RESULTS AND DISCUSSION

An inherent feature of the process of innovative activity is that it directly involves:

– transformation of creative search results into a modernised product or service;

– updating and improving technological processes;

– an updated approach to offering and providing social services, considering the current and urgent needs of society;

– use of intellectual property objects in one's personal economic activity as an intangible asset.

Notably, in Ukraine, the regulatory foundations of innovative activity have been formed, namely:

– it is determined that innovative activity involves obtaining a social or commercial effect, which determines the need to attract investments in objects of innovative activity (Law of Ukraine "On Investment Activity", 1991);

– the organisational, legal, and other aspects of the state policy in the sphere of innovative activity of Ukraine are outlined and the instruments of its support are defined (Law of Ukraine "On Innovative Activity", 2002);

– the basic vectors of the systematic formation of the priorities of innovative activity in Ukraine are outlined (Law of Ukraine "On the Priority Directions…", 2011);

– provisions are made for full or partial interest-free lending of innovative projects of production-oriented scientific institutions and stipulates the procedure for their use of budget program funds (Law of Ukraine "On Scientific and Scientific and Technical Activity", 2015);

– the procedure for carrying out expertise of innovative projects is prescribed (Law of Ukraine "On Scientific and Scientific and Technical Expertise", 1995);

– the economic and legal principles of the introduction and operation of the special regime of innovative activity of technology parks in Ukraine were determined (Law of Ukraine "On the Special Regime…", 1991);

– mechanisms for activating communication links of technological platforms are foreseen, where business and the state can become potential customers of innovations, and "scientists, students, inventors will offer innovative solutions that will further scale and become the basis for their innovative business" ("Strategy for the development…", 2019). However, for the year 2021, according to the international ratings of the European Innovation Scoreboard (European Innovation Scoreboard, 2021), in the field of innovative activity, Ukraine lost the position of the previous year (Table 1).

***Table 1**. Indicators of Ukraine in rating assessments regarding innovative development*

Innovation index	2015	2016	2017	2018	2019	2020	2021
European Innovation Scoreboard 2021	35	35	35	36	36	33	34
Bloomberg Innovation Index 2021	33	41	42	46	53	56	58
Global Innovation Index 2021, WIPO	64	56	50	43	47	45	49

***Source:** generalised based on (European Innovation Scoreboard, 2021; Bloomberg Innovation Index, 2021; Global Innovation Index, 2021)*

In the conditions of martial law, 85% of Ukrainian companies slowed down or suspended their activities, among which 1% do not plan further activities, and 35% are waiting for better times.

Among the basic obstacles are a decrease in orders by 50%, problems with logistics (29%), lack of raw materials (21%), not enough workers (17%) (Tarasovsky, 2022).

The main concerns for business since the beginning of a full-scale invasion are the occupation of territories, the loss of stores or warehouses, disruptions in the work of logistics services, delays in transportation, etc.

That is why the national economy, according to the modern conditions of martial law and considering the priorities of post-war reconstruction, should be based on the development of innovative industries, the implementation of innovative projects, which will contribute to the development of an innovative model of the economy of Ukraine, the dynamic formation of the business environment and create the basis for further sustainable economic development.

Therewith, during the period of martial law, R&D activity requires special attention, since the temporary relocation of scientists and researchers, the limitation of their access to the necessary equipment allowed fully performing the scientific research.

Thus, in Ukraine, as of May 23, 2022, almost 70 scientific institutions were partially damaged, 2 were destroyed, there is no information about the state of institutions located in the occupied territories (Science during the war, 2022).

At the same time, despite the mentioned difficulties, innovative projects are being developed in several higher education institutions, namely the M.E. Zhukovsky National Aerospace University introduced innovative developments in the field of aviation, which will contribute to the formation of prerequisites for victory (Science in wartime, 2022).

Considering the fact that an essential factor in ensuring sustainable economic national development is the innovative activity of enterprises, on February 1, 2022, with the assistance of the Ministry of Education and Science, the project "Science and Business" (An online platform for scientists…, 2022) was launched as an online platform for communication and effective communication of scientists, entrepreneurs, and innovators should give scientists and researchers the opportunity to fulfil their potential, promote the commercialisation of the results of their scientific research, and entrepreneurs – to activate the innovative activities of enterprises.

Currently, the "Science and Business" platform is launching a business support project for internally displaced persons.The key parameters for evaluating the quantitative characteristics of the effectiveness of innovative activity are the costs of carrying out scientific research or development and the profit from their commercialisation (Diachenko & Diachenko, 2021).

The dominant global modern trends are the combination of the processes of transnationalisation of the economy with transformation of innovations into a basic factor of international economic interaction. Considering such trends, countries with developed economies pay considerable attention and funding to support research and development work (Fig. 1).

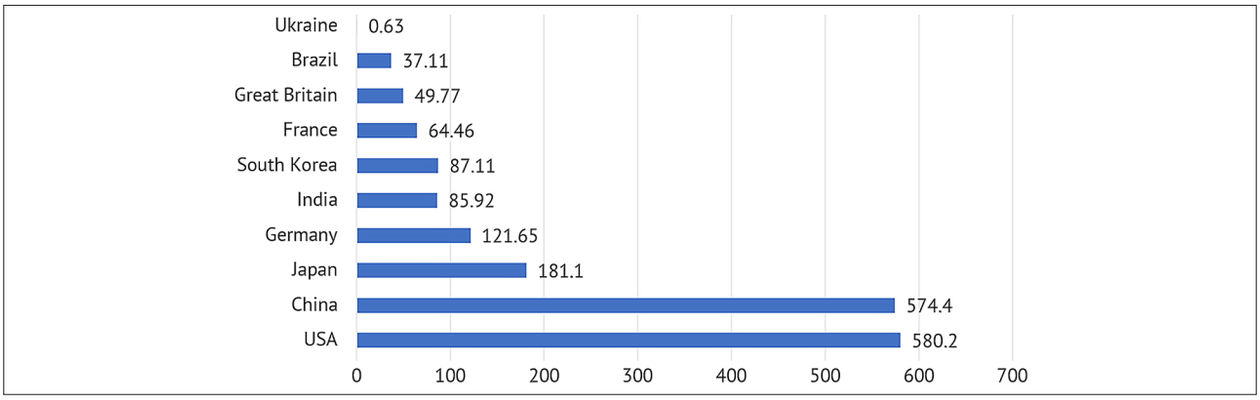

***Figure 1**. Spending on research and development in 2020, billion dollars*
***Source:** (Global R&D Funding Forecast, 2021)*

In 2021, China increased R&D spending by $47.1 billion and surpassed the USA, where spending increased by 18.5 billion dollars.

The top 5 leading countries in terms of the share of R&D expenditures in GDP – a basic indicator of the level of innovative activity — South Korea, Israel, Japan, Finland, and Switzerland (Fig. 2).

In Ukraine, R&D expenditures in recent years, as well as their share in GDP (Fig. 3), show a tendency to decrease.

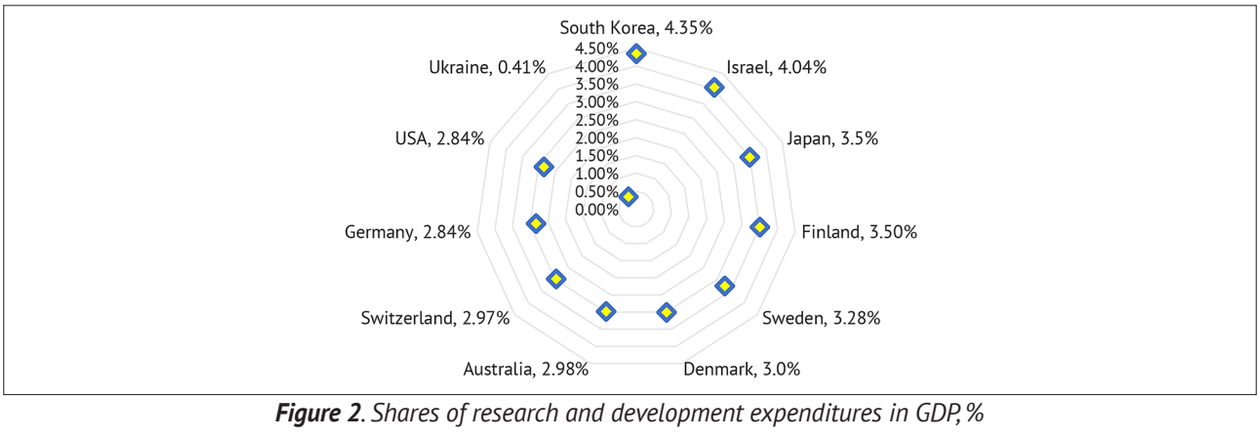

***Figure 2**. Shares of research and development expenditures in GDP, %*
***Source:** (Global R&D Funding Forecast, 2021)*

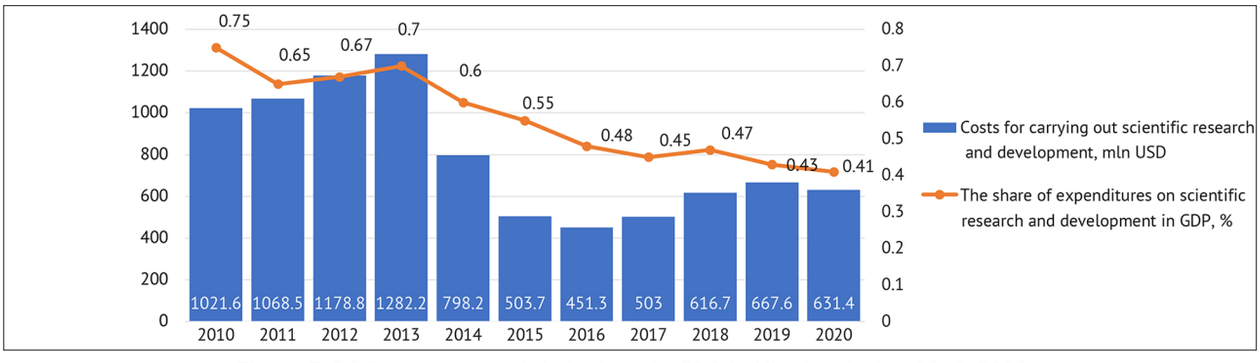

***Figure 3**. R&D expenses and their share in GDP in Ukraine during 2010-2020*
***Source:** (State Statistics Service, 2022)*

In 2020, despite the encouraging growth of spending during 2016-2019, there was a decrease again: compared to 2019 by 5.4% and more than double compared to 2013.

In the current conditions of martial law, Ukraine has limited financial capabilities and institutional capacity. The prerequisite for the effective recovery of Ukraine in the post-war period is the formation of the foundations of an innovative economy. A prerequisite for ensuring the growth of innovative potential is the support of scientific research, the creation of an effective infrastructure that will form the conditions for the commercialisation of intellectual property objects.

According to the State Statistics Service of Ukraine, during this period the number of scientific institutions and educational institutions that carried out research and development work considerably decreased (Fig. 4).

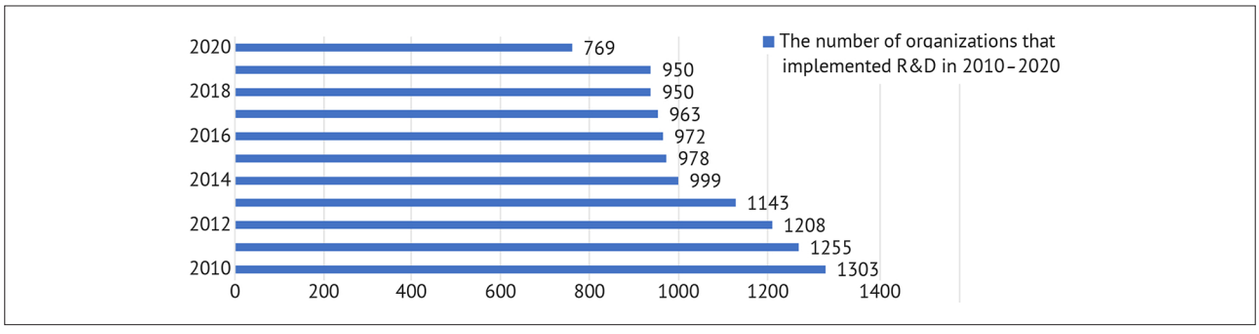

***Figure 4**. The number of organisations that implemented R&D during 2010-2020, units*
***Source:** (State Statistics Service, 2022)*

On July 10, 2019, the Resolution of the Cabinet of Ministers of Ukraine (Resolution of the Cabinet of Ministers of Ukraine, 2019) adopted the Strategy for the Development of the Sphere of Innovative Activity for the Period Until 2030, which makes provision for the tasks of the transition to innovative growth. The strategy provides as follows:

– development of three-year plans and monitoring of their implementation;

– introduction of deductions when transferring technologies abroad.

The implementation of the measures envisaged by the Strategy contributed to the stabilisation of the situation according to the results of 2019: the number of organisations that carried out scientific research activities was preserved, the number of whose executors decreased by 0.5%.

In 2020, there was another decrease in the number of organisations, by 19% compared to 2019, and by almost 41% compared to 2010. Without positive changes, by 2025, according to the trend line, there will be less than 600 research and development organisations (Fig. 5).

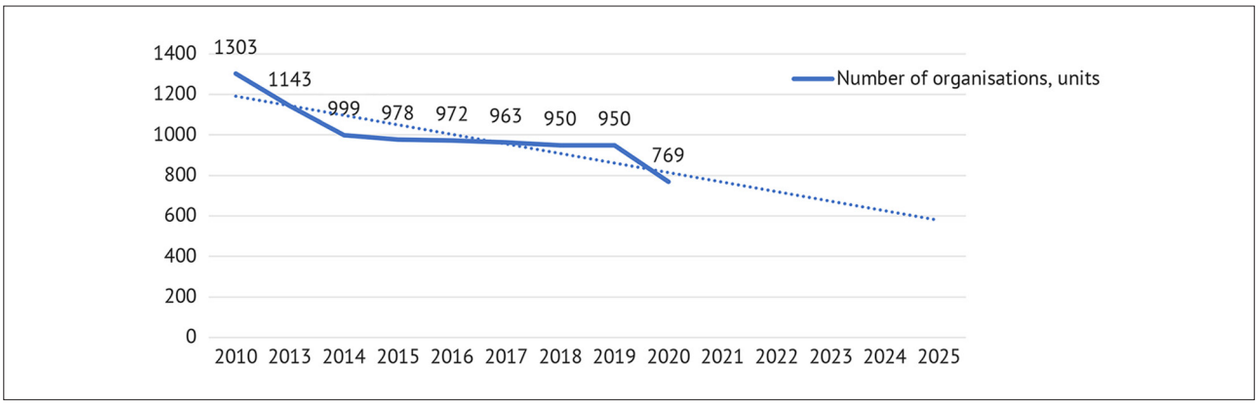

***Figure 5**. The number of organisations involved in R&D (2010-2020) and the trend*
***Source:** (State Statistics Service, 2022)*

The decrease in funding and the number of organisations was also determined by the corresponding trends in the number of employees involved in the implementation of the R&D (Fig. 6): compared to 2010, in 2020 there was a decrease of almost 57%.

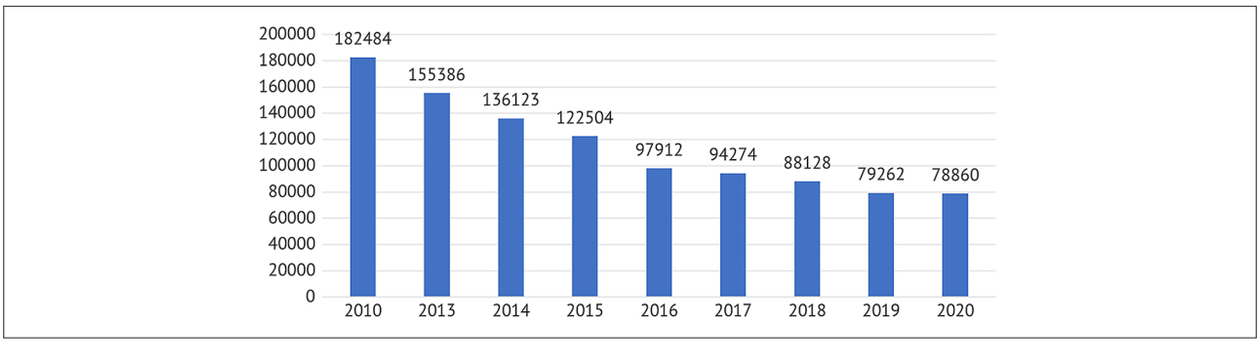

***Figure 6**. The number of employees (people) involved in the implementation of research and development works*
***Source:** (State Statistics Service, 2022)*

With the general state tendency to decrease the number of employees involved in the implementation of scientific and research work, in several regions their number, compared to 2019, has increased. In Sumy Oblast – by 25.7%, in Mykolaiv Oblast – by 19.4%, in Kyiv – by 4.1%. A considerable increase took place in the Ternopil Oblast because, despite the powerful scientific potential, in 2019 there were only 135 people performing the R&D, and in 2020 there was an increase in their number by 2.4 times (327 people).

The undisputed leader in terms of the number of employees involved in the implementation of research and development work in 2020 (Table 2) is the capital – Kyiv, Kharkiv and Dnipropetrovsk Oblasts. The smallest number of researchers is in Khmelnytskyi Oblast – 44 people.

***Table 2**. The number of performers of R&D work in 2020, by region (people)*

Region	City of Kyiv	Kharkiv Oblast	Dnipropetrovsk Oblast	Zaporizhzhia Oblast	Lviv Oblast	Odesa Oblast	Kyiv Oblast	Kirovohrad Oblast	Volyn Oblast	Khmelnytskyi Oblast
Number	28,768	8,089	4,738	2,645	2,579	1,694	1,248	67	61	44

***Source:** (State Statistics Service, 2022)*

The tendency to decrease the total number of employees involved in the implementation of scientific research work during 2010-2020 (by more than 2 times in 2019 compared to 2010), leads to a gradual degradation of scientific potential. In 2020, despite the decrease, compared to 2019, of the total number of research workers by 402 people, the number of researchers increased by 306 people, while the number of technicians and support staff decreased by 353 and 355 people, respectively (Fig. 7).

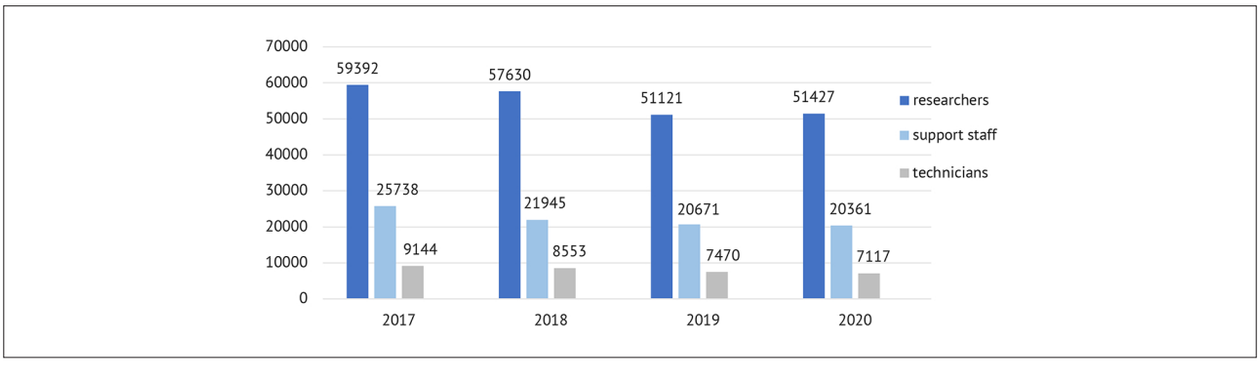

***Figure 7**. Dynamics of changes in the structure of employees involved in the implementation of R&D work*
***Source:** (State Statistics Service, 2022)*

In 2020, the number of researchers aged 15 to 70 was 3.2 (3.1 in 2019) per 1,000 working population (State Statistics Service, 2022), the highest values of this indicator according to Eurostat was in Luxembourg – 40.9; Finland – 34.1, Belgium – 31.0 (European Innovation Scoreboard, 2021).

Of the 55,136 employees performing research work, 85.3% have higher education (Table 3).

***Table 3**. The number of employees involved in the implementation of the R&D, by level of education, in the equivalent of full-time employment in 2020*

Total	Including education degree					
	Higher education	Among which				Other than the higher one
		Doctor of Science	Doctor of Philosophy / Candidates of Sciences	Masters	Bachelors	
55,136	47,037	4,564	12,067	26,427	3,980	8,100

***Source:** (State Statistics Service, 2022)*

8.3% of the total number of researchers are Doctors of Science, 21.9% are candidates of science/doctors of philosophy, 47.9% are masters, 7.2% are bachelors, 14.7% have other levels of education apart from the higher one (Fig. 8).

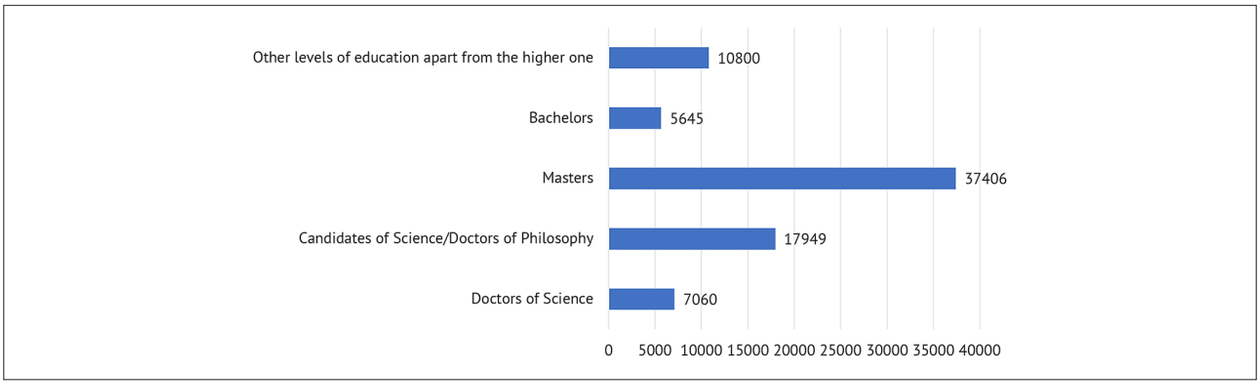

***Figure 8**. The structure of employees involved in the implementation of R&D work, in the equivalent of full-time employment by education level in 2020, people*

***Source:** (State Statistics Service, 2022)*

Characteristic of modern scientists is their approach to innovative activity: with a conventional decrease in the number of employees involved in the implementation of scientific research work, in 2020, compared to 2019, there was an increase in the number of women by 512 people (Fig. 9).

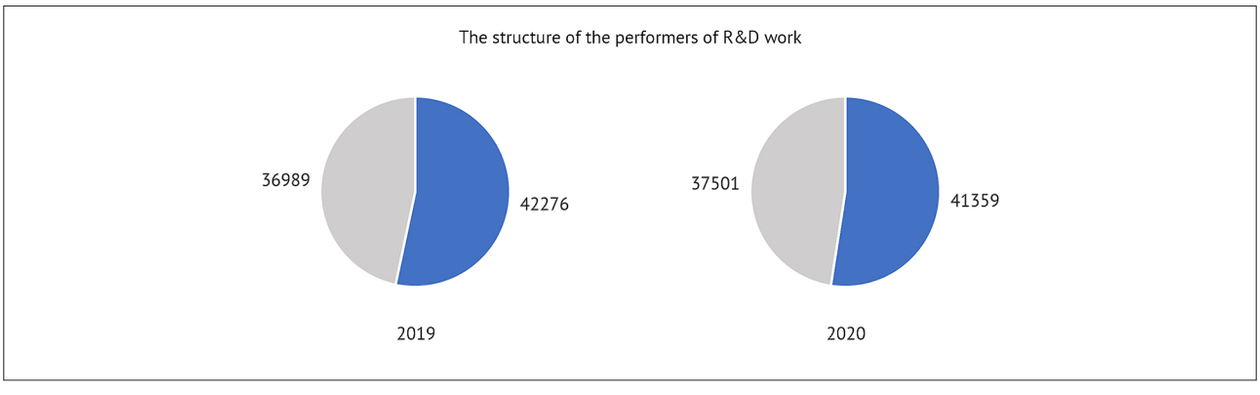

***Figure 9**. Trends of changes in the structure of the performers of R&D work in 2020*

***Source:** (State Statistics Service, 2022)*

Accordingly, in 2019, among the performers of research work, women accounted for 46.7%, and in 2020-47.6%, and therefore, a trend towards the formation of gender parity is observed.

At the same time, among the performers of research work in 2020, there are 2.5 times fewer female doctors of science than men, and 1.13 times more among bachelors (Fig. 10).

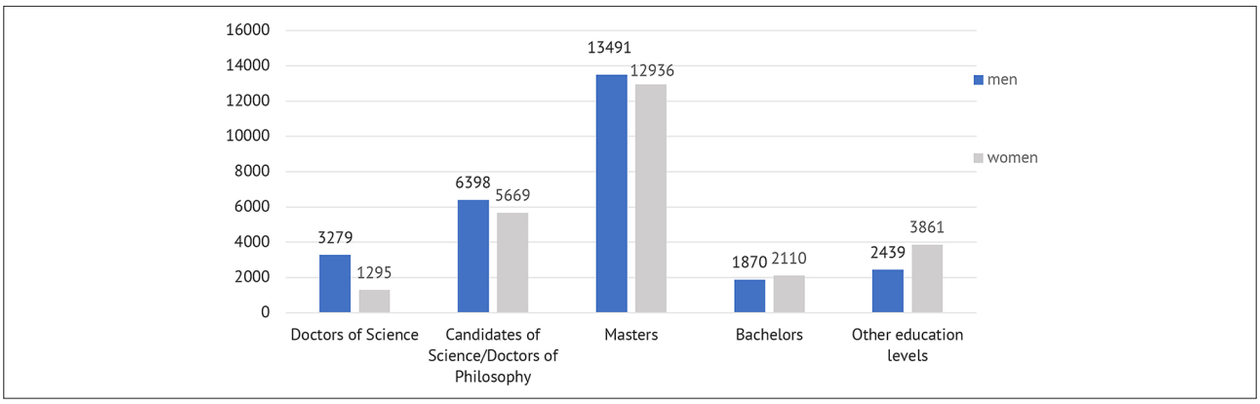

***Figure 10**. The structure of the performers of R&D work in 2020*
***Source:** (State Statistics Service, 2022)*

Conventionally, the scientific potential is characterised by the age structure of researchers involved in the implementation of R&D work: in 2020, 19.5% of researchers are aged "65 years and older" (Fig. 11).

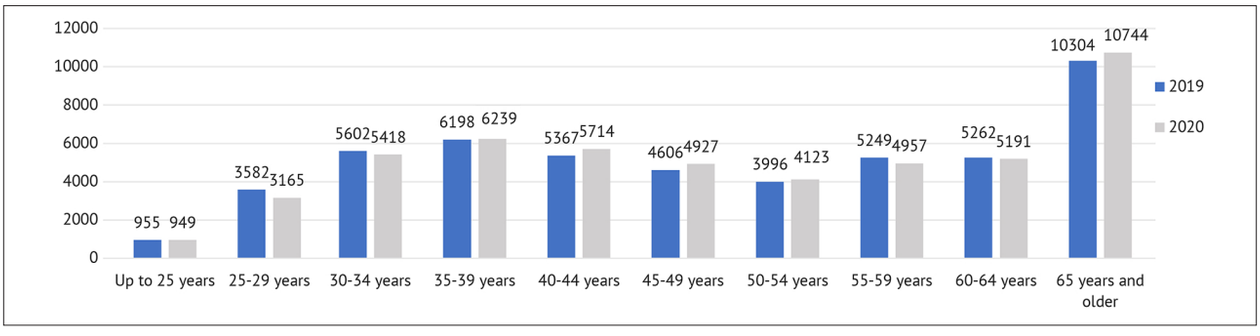

***Figure 11**. Dynamics of changes in the structure of R&D work performers in 2019–2020, people*
***Source:** (State Statistics Service, 2022)*

With a general decrease in the number of performers of the R&D, compared to 2019, their number increased in some age categories: by almost 7% (45-49 years old), by 6.5% (40-44 years old), by 4.2% (65 years and older), by 3.2% (50-54 years), 0.6% (35-39 years).

A reduction in R&D spending helps to reduce the attractiveness of such activities for young scientists.

More than 44% of workers involved in the implementation of R&D work in Ukraine in 2020 developed topics in the field of technical sciences (Table 4), among them 36.5% were women.

***Table 4**. The number of R&D workers in 2020, equivalent to full-time employment by field of science*

Total	Including					
	Natural sciences	Technical sciences	Medical sciences	Agricultural sciences	Social sciences	Humanities
55,136	16,587	24,349	3,641	4,591	4,090	1,879

***Source:** (State Statistics Service, 2022)*

The largest percentage of women is 62.5% among the performers of R&D works in the field of humanitarian sciences.

According to the information presented in the report World Intellectual Property Indicator 2021 of the World Intellectual Property Organisation (hereinafter referred to as WIPO), in 2020 the trend of increasing the activity of filing applications for patents on a global scale resumed again in 2020, namely the number of applications for registration of trademarks increased by more than 13% brands, for 1.6% of patent applications; for industrial samples – by 2%. China's intellectual property office received nearly 2.9 million applications in 2020, followed by Germany (12,318), the Russian Federation (9,195), Japan (6,018) and Ukraine (5,281) in fifth place (WIPI, 2021). Furthermore, in 2022,

the Ukrainian ecosystem of startups is the regional leader in innovation, occupying the 50th position in the world ranking, although it shows negative dynamics – by 16 positions compared to 2021. Ukraine also ranks 12th among startups in Eastern Europe (StartupBlink, 2022).

Such indicators are evidence that, despite the economic downturn, despite the decrease in research and development costs, in Ukraine there is an inherent increase in the field of innovative activity and an increase in the costs of enterprises for innovative activity. The outlined dynamics are trending in the future as well (Fig. 12).

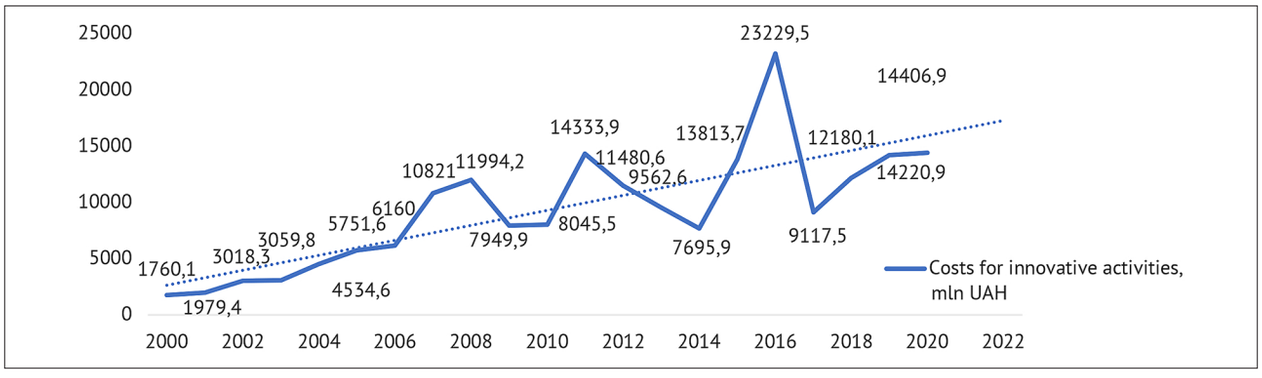

***Figure 12**. The dynamics of changes in the costs of enterprises for innovative activities and the trend of the trend*
***Source:** (State Statistics Service, 2022)*

And yet, the reduction of R&D spending contributes to the insufficient level of innovation infrastructure development, the limitation of tools to support innovators, etc. Even though "the importance of innovation for the manufacturer means the conformity of the product to its innovative development strategy, determining its place on the market and prospects for further activity" (Fedulova *et al.*, 2021), the indicated trends are also observed in the dynamics of changes in the number of innovative enterprises, which during 2016 – in 2018 they were 28.1%, and from 2018 to 2020 – 8.5%, in the city of Kyiv there was a considerable reduction in their number – from 387 to 233 units. During this period, among innovative enterprises, a slight decrease occurred precisely among enterprises introducing new or significantly improved products, 1,899 and 1,832, respectively (State Statistics Service, 2022).

A decreasing trend in the number of industrial enterprises implementing innovations during 2010-2017 is observed. In 2018-2019, although there was an increase in their number, they were more than twice as small as in 2012, and in 2020 there was a decrease again compared to 2019 by 8.2% (Fig. 13).

The recession of the world economy, which occurred as a result of the adverse impact of pandemic restrictions, contributed to the emergence of new risks and threats to the efficiency of enterprises (Patyka *et al.*, 2021). Considering these trends and the modern conditions of operation of enterprises under martial law, the need for the development of an innovative personnel component of enterprises has intensified, which is conditioned upon the need to foresee risks, identify threats, and eliminate or neutralise adverse consequences of their influence.

Improving methods of using solar energy can become an essential vector of innovative activity of enterprises in modern conditions of limiting conventional energy resources (Hongyue *et al.*, 2022).

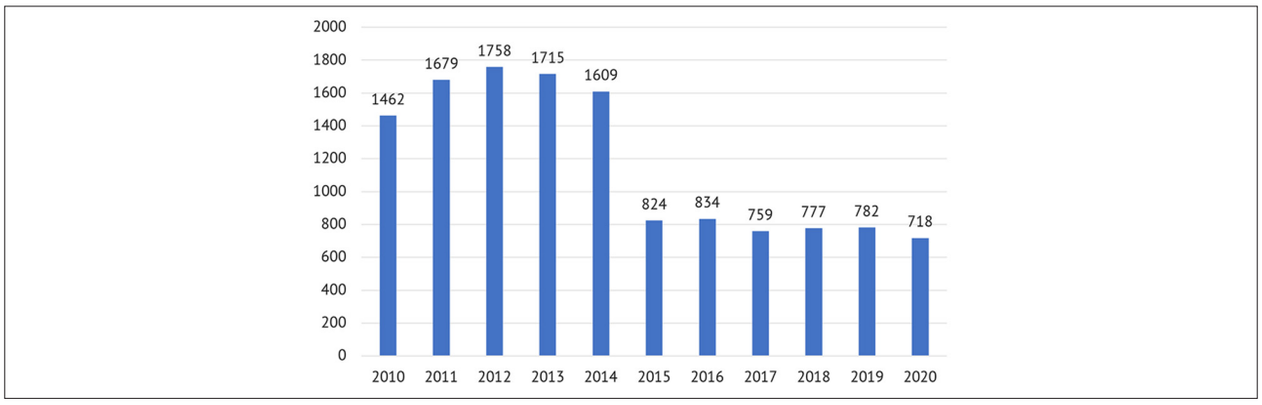

***Figure 13**. Dynamics of changes in the number of industrial enterprises implementing innovations during 2010-2020*
***Source:** (State Statistics Service, 2022)*

The main problems for business entrepreneurs are the occupation of territories, the loss of stores or warehouses, disruptions in the work of logistics service departments, long delivery, which definitely affects the efficiency of operations and the desire/need to implement innovations.

Considering present-day challenges, several regulations have been adopted in Ukraine to support the national economy in general and small and medium-sized businesses in particular. An essential step was the reduction of the tax burden during the period of martial law (Law of Ukraine "On Introducing Changes to the Tax Code…", 2022). It is provided that business entities of groups I and II have the right not to pay the single tax.

Institutions of higher education and R&D institutions got accustomed to working under martial law: researchers and scientists are invited to take part in three free webinars held by Clarivate (Scientific…, 2022) in Ukrainian during July-August, during which will consider the issues of familiarisation with the possibilities of the "Web of Science" platform and the methods of their use in the R&D activities of scientists and institutions, the establishment of international scientific cooperation, and the search for sources of funding for scientific research, including alternative ones.

CONCLUSIONS

As a result of the conducted research, the modern trends of innovative activities to ensure the growth and sustainable development of the economy of Ukraine were determined as follows:

– the formation of legal frameworks for supporting the national economy in general, and small and medium-sized businesses in particular;

– promotion of the national innovation policy to direct scientists, designers, and entrepreneurs to interaction in the field of innovative activity, to the realisation of personal potential and commercialisation of intellectual property objects;

– activation of Ukrainian scientists in the field of innovative activity, as well as an increase in the costs of enterprises for innovative activity;

– increasing efficiency of the impact of scientific research results on the transformation of scientific inventions into objects of know-how;

– modernisation of mechanisms for establishing international scientific cooperation, finding sources of funding for scientific research, including alternative ones.

The post-war recovery of Ukraine's economy will also confirm modern global trends in innovative activities to ensure growth and sustainable development, which mostly concern countries with developed economies – the USA, China, Japan, Germany, South Korea, etc. – a combination of the process of transnationalisation of the economy with innovative activities, which is the basic factor of international economic interaction.

Therewith, the factors for the deterioration of the ratings of innovative activity in Ukraine were identified, which is confirmed by the information of the State Statistics Service of Ukraine, which states that during 2010-2020, the number of scientific institutions and institutions of higher education that carried out R&D work significantly decreased. The main factor slowing down the of intensification of innovative activity was the decrease in national support for R&D. There is a decrease in the number of employees engaged in R&D work; however, the achievement of gender parity is determined for the period from 2019 to 2020. The largest number of employees involved in the implementation of the R&D is observed in technical and scientific areas.

The implementation of an effective model of innovative development, which involves the introduction of innovations, modernisation of production processes, goods and services, increasing their competitiveness, requires the development of a new Concept of Innovative Development of Ukraine because the current Concept, approved on July 13, 1999, does not correspond to the present-day realities. In the new Concept, it is necessary to make provision for urgent effective measures to preserve and multiply the scientific and technical potential, to form the market for the commercialisation of intellectual property objects, to attract investments in the field of innovation implementation.

Upon developing the Concept, it is necessary to involve scientists, innovators-practitioners, civil servants, independent experts who, in cooperation, could consider all the features of the modern state of innovative activity in Ukraine, consider the risks arising in connection with the challenges of martial law, and identify vectors post-war recovery by creating the foundations of an innovative economy.

Since, according to the forecast of the World Bank, it is assumed that by the end of 2022, the economy in Ukraine will shrink by 45.1%, and therefore the priority conditions for the effectiveness of the post-war recovery and modernisation of the economy are Ukraine's receipt of reliable security guarantees and credit and financial support, as well as personnel provision of enterprises, which is determined by the need to predict risks, identify threats and eliminate or neutralise adverse consequences of their impact. Therewith, ensuring the growth and sustainable development of Ukraine's economy in the post-war transformation will be determined by public administration, which is developed and implemented based on a dual approach, namely: a harmonious combination of current practices of priority state support of budget-forming and export-oriented industries, which determine the raw nature of Ukrainian economy and supporting innovative activities of small and medium-sized businesses in the field of processing industry, in particular agricultural products. Thus, Ukraine, from a country that exports raw materials for the processing industries of other countries, will turn into a country that exports products, goods and services, which will contribute to the creation of new jobs, specifically in rural areas, and therefore, the growth and sustainable development of the country's economy.

Further research should consider modern trends in innovative activity, factors affecting it, and contain specific proposals for the new Concept of Innovative Development of Ukraine.

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Сучасні тенденції інноваційної діяльності забезпечення зростання та сталого розвитку економіки України

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Анотація. Актуальність пошуку шляхів та можливостей інтенсифікації інноваційної практики сучасності, зумовила мету цієї публікації, що полягає у висвітленні результатів дослідження тенденцій інноваційної діяльності забезпечення зростання та сталого розвитку економіки України, а також виявленні чинників, що гальмують цей процес. Дослідження базується на тезі, що у сучасних реаліях для отримання комерційного чи соціального ефекту необхідно інтенсифікувати інноваційну діяльність, як сукупності процесів, що спрямовані на творчий пошук, формування, оприлюднення та впровадження в практику інновацій. Така діяльність передбачає вкладення інвестицій в об'єкти інноваційної діяльності. Методологічні аспекти дослідження враховують концепції виявлення закономірностей впливу обсягу витрат на наукову, дослідну та конструкторську діяльність на кількість залучених до такої діяльності дослідників, на результативність їхніх досліджень, а відтак, на стан інноваційного розвитку держави. Досліджено зміну позицій України у рейтингових оцінках щодо інноваційного розвитку, здійснено порівняльний аналіз витрат на дослідження та розробки передових країн світу та України у 2020 році, виявлено низхідну динаміку змін кількості, організацій та чисельності працівників, що здійснювали НДР, витрат на виконання таких робіт та частки цих витрат у валовому внутрішньому продукті України впродовж 2010–2020 років. З-поміж основних чинників, що гальмують процес інтенсифікації інноваційної діяльності є зменшення державного фінансування науково-дослідних та дослідно-конструкторських робіт, а відтак, зменшення кількості організацій та дослідників, які займаються творчою діяльністю наукового пошуку. Виявлено позитивні тенденції до формування ґендерного паритету у середовищі виконавців науково-дослідної роботи (47,6 % – жінки), зростання активності у сфері інноваційної діяльності та збільшення витрат підприємств на інноваційну діяльність у 2020 році. Запропоновано формування ефективної державної інноваційної політики розпочати з визначення концептуальних положень інноваційного розвитку. Результати дослідження можуть бути корисними для широкого кола науковців, які вивчають питання інноваційного розвитку, фахівців управлінських структур, які аналізують стан інноваційного розвитку та опікуються питаннями розробки стратегій відновлення та подальшого розвитку національної економіки

Ключові слова: інновації, інноваційний розвиток, наукові дослідження, інвестиції, науково-дослідна діяльність, чинники, тенденції, економіка