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# ECONOMICS AND BUSINESS MANAGEMENT

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## ENERGY TRANSITION IN THE UKRAINIAN POWER INDUSTRY – NO TIME TO DELAY

**Kucheriavyi R.M.***Zaporizhzhia National University  
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energy transition,  
levelized cost of electricity,  
fossil fuel, carbon tax,  
recovery of Ukraine

The latest researches on the current development and prospects for the further spread of power technologies using renewable energy sources were analyzed. The trend of technology cost reducing due to an increase in production was traced. On the basis of the examined studies, conclusions regarding the economic impracticality of further developing of power generation capacities that use fossil fuels, primarily coal were drawn. An example of a planned conversion of an existing coal-fueled plant to a natural gas-fueled plant and solar photovoltaic installations plus storage capacities was given. The significant impact of the Inflation Reduction Act on the acceleration of energy transition in the United States was noted. Attention on a win-win-win scenario in which moving to clean energy as quickly as possible would lower the cost of the energy system compared to a fossil-fueled system, while providing more energy to the global economy and increasing energy access to more people all over the world was focused. The current state of thermal generation in Ukraine and the need for its post-war reconstruction in accordance with the requirements of the energy transition strategy were considered. Attention to the need to adjust the Recovery Plan of Ukraine proposed by the National Council for the Recovery of Ukraine from the Consequences of the War, in the part devoted to the recovery and development of heat generation, including its conversion to the use of biomass was paid. Proposals to create a level playing field by increasing the carbon tax rate for thermal generation along with tax incentives for the development of renewable energy sources have been made. The Carbon Border Adjustment Mechanism impact on companies selling goods within the EU was mentioned. Urgent actions to prepare a technical and economic justification for the reconstruction or new construction of capacities using renewable energy sources at existing sites of thermal power plants were proposed.

## ЕНЕРГЕТИЧНИЙ ПЕРЕХІД В УКРАЇНСЬКІЙ ЕЛЕКТРОЕНЕРГЕТИЦІ – ЗВОЛІКАТИ НЕ МОЖНА

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нормована вартість  
електроенергії,  
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оподаткування викидів вуглецю,  
відновлення України

Проаналізовано новітні дослідження присвячені поточному стану розвитку і перспективам подальшого розповсюдження технологій виробництва електроенергії, що використовують відновлювальні джерела енергії. Досліджено тенденцію до зниження вартості зелених технологій завдяки збільшенню обсягів їх виробництва. Обґрунтовано економічну недоцільність подальшого розвитку потужностей із виробництва електроенергії, що використовують викопне паливо, перш за все вугілля. Наведено світовий досвід заміщення існуючої вугільної електростанції на газову разом із встановленням сонячних фотоелектричних установок доповнених акумулюючими потужностями. Вказано на визначальну роль держави у стимулюванні пришвидшення процесу енергетичного переходу до використання відновлювальних джерел енергії, шляхом прийняття відповідних законодавчих актів, на прикладі схваленого у США «Закону про зниження інфляції». Сфокусовано увагу на запропонованому безпрограшному сценарії, відповідно до якого, прискорений перехід до використання чистої енергії дозволить: по перше, знизити витрати енергетичної системи

у порівнянні із поточними витратами системи, що базується на використанні викопного палива, по друге, забезпечити виробництво більших обсягів енергії для світової економіки, і по третє, збільшити доступність енергії для людей у світі загалом. Розглянуто сучасний стан теплової генерації України та необхідність проведення її післявоєнної відбудови відповідно до вимог стратегії енергетичного переходу до використання відновлювальних джерел енергії. Доведено необхідність корегування Плану відновлення України запропонованого Національною радою з відновлення України від наслідків війни, у частині присвяченій відновленню та розвитку теплової генерації, у тому числі, щодо її переведення на використання біомаси. Внесено пропозиції щодо створення рівних конкурентних умов шляхом підвищення ставки податку на викиди вуглецю для теплової генерації, разом із податковим стимулюванням розвитку відновлювальних джерел енергії. Зазначено вплив, який має завдати на компанії, що продають товари у ЄС механізм вуглецевого регулювання імпорту (СВАМ), та необхідність приведення екологічних податкових норм у відповідність до критеріїв ЄС. Запропоновано заходи щодо невідкладної підготовки техніко-економічного обґрунтування реконструкції або нового будівництва потужностей, що використовують відновлювальні джерела енергії на існуючих майданчиках теплових електростанцій, з метою забезпечення наявності, одразу після закінчення бойових дій та здобуття перемоги, готових проектів для залучення фінансування з боку європейських донорів.

### Statement of the problem

Currently, in the world in general and in Ukraine in particular, there is an opinion that Renewable Energy Sources (RES) are technologies, in general, extremely important for ecology and the global future, but economically unreasonable and ineffective, at least for now, and that they cannot develop without external support. This opinion did not occur in a vacuum; indeed until recently the cost of construction of power plants using renewables was quite high.

There were the Legislative acts adopted in Ukraine, which were aimed at stimulating investment in the renewable energy sources, specifically the construction of wind or solar power plants. In other words the state guaranteed investors the purchase of electricity at a fixed tariff, which would allow predicting profits and guarantee investors a return on investments.

Then the state realized that it is not able to fully meet its obligations, and the investor was asked to agree to a reduction in tariffs. This led to the fact that some investors sued the state in courts with the demand to fulfill their obligations, in accordance with the previously adopted legislative acts.

Companies that invest in renewable energy sources and with them some researchers in this field, continue to demand financial support from the state, and threaten to stop investing in the absence of it.

But, such a path is not rational. Of course, the state must fulfill its obligations under projects that were developed in accordance with previously adopted legislative acts. But in relation to new RES projects, the approach should be changed.

The state should definitely support the development of RES, for example, by providing preferential tax conditions along with interest compensation on loans. However, for new projects, the concept of "green tariff" in its current form should not be applied at all. The sale of electricity by RES producers must be carried out on the Wholesale Electricity

Market at market prices. That is, renewable energy sources should compete on equal terms with electricity from other sources and there is every reason to believe that renewable energy sources will emerge victorious in this competition.

The article sets out its goals to bring to light the economic expediency of energy transition in the power production and to designate the steps needed to use the Recovery of Ukraine from the Consequences of the War as a transition of Ukrainian fossil-fuel power industry into the renewable energy sources.

### Analysis of recent research and publications

**When constructing new generating capacities, there is no other economically feasible alternative to Renewable Energy Sources.**

First of all, in order to compare on a consistent basis the most economically expedient source of energy for the construction of a power plant, energy prices are expressed in levelized cost of electricity (LCOE) that represents the average revenue per unit of electricity generated that would be required to recover the costs of building and operating a generating plant during an assumed financial life and duty cycle [1].

LCOE helps to determine the minimum price at which electricity must be sold so that the power plant is break-even throughout its lifetime. If, during the construction of a power plant, an energy source is chosen with a levelized cost of electricity that is higher than that of alternatives, the price of the generated electricity will be uncompetitive and it will be difficult to sell it to the consumer.

The study "Why did renewables become so cheap so fast?" by Dr. Max Roser, director of the Oxford Martin Program in Global Development at the University of Oxford, published in December 2020, proves the advantages of green energy to fossil fuel technologies. The study provides the graphs of change in the cost of electricity between 2009 and 2019 (Fig. 1) [2].

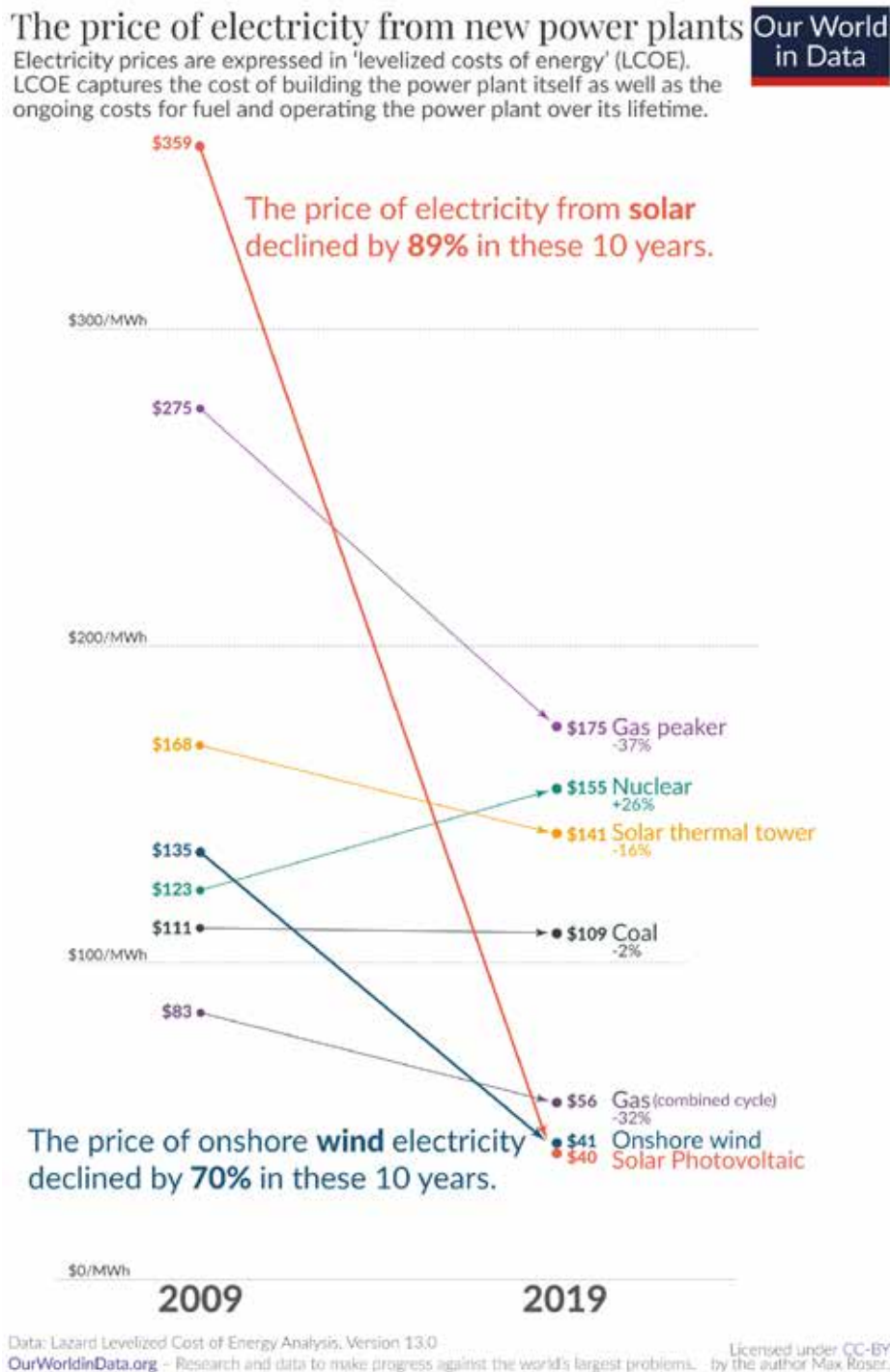


Fig. 1 – The price of electricity from new power plants

Note: all prices shown in the graphs are without subsidies

In 2009 the cost of electricity produced from utility-scale solar PV was \$359 per MWh. In 2019 the price became \$40 per MWh. The relative price has reversed: the price of electricity you need to recover expense with a new average coal plant is now much higher than the breakeven price by building a wind farm or a solar power plant.

The price of the fuel and the operating expenses of the power plant are the main costs of electricity produced from fossil fuels or nuclear energy. The operating costs of renewable energy plants are relatively low because they do not include the fuel expenses as their fuel does not have to be extracted. Renewable energy plants use as a fuel the sunlight and wind power and they get it for free.

What determines the cost of renewable energy is the power plant constructing and operating cost, in other words the cost of the technology, and it is through the technology cheapening that has caused the cost of renewable energy continue to fall so rapidly. The cost of technology is reduced due to an increase in production. More production means falling prices, which means more production, and so on in a circle. Statistics from past periods prove that each doubling of the installed cumulative capacity leads to a decrease of the solar modules price by 20.2% [2].

Coal-fired electricity has historically been cheap and remains relatively cheap, but it is not getting cheaper and has no chance of getting cheaper. There are two reasons why we should not expect significant changes in the future:

- firstly, conventional coal-fired power plants have globally average efficiencies of around 34%, the world's most efficient coal-fired steam power plant RDK8 (Germany) has 47.5% net thermal efficiency and there is little scope for it significantly improvements (e. g. steam turbines manufacturer GE Steam Power is testing the ultra-supercritical technology with 50% efficiency) [3];

- secondly, for all non-renewable power plants there is a lower bound of possible electricity cost decreasing. Even if the power plant operating expenses would decline, the price of the fuel means that there is a floor below which the price of electricity cannot slip.

Gas energy is more efficient than coal, and despite the cost reduction restrictions also related to the price of fuel would play a rather important role in balancing the energy system.

Nuclear power will continue to be important during the transition period as it can be complementary to renewables where these energy sources have their weaknesses: firstly, the intermittency of electricity from renewable sources remains a problem, and nuclear power with gas power must provide stable performance of energy systems. And secondly, the installation of renewable energy sources requires large areas, and the great environmental advantage of nuclear power plant is that it uses not so much land.

Thus, it is clear that the building of coal-fired power plants from scratch under current conditions is wasteful. However, all over the world there are coal-fired power plants that can continue to operate. **Following study is proving that the extension of the exploitation of coal capacities, in comparison with the construction of new RES capacities, is economically unfeasible.**

In January 2023 was published a joint study by ENERGY INNOVATION specialists and scientists from the University of California called "Coal Cost Crossover 3.0", devoted to the transition in the United States of America from coal generation to renewable energy sources. The study analyzed the costs of operating all existing US coal-fired power plants with a total installed capacity of 220 GW, compared with the costs of building wind and solar power plants that could replace them. This study finds that 99 percent of all coal-fired power plants in the U.S. are more expensive to operate on a forward-looking basis than the all-in cost of replacement renewable energy projects [4].

It should be noted that in a similar study, which was published in 2019, as of 2018 the continued operation of

only 62% of coal-fired power plants was economically unfeasible. Such dynamics are associated with a constant increase in production costs at coal-fired power plants and their decrease at RES power plants.

A clear confirmation of the validity of the research conclusions is the Integrated Resource Plan of NV Energy from Nevada, which includes converting the existing coal-fueled plant at the North Valmy Generating Station to a cleaner natural gas-fueled plant and the purchase, installation and operation of a company-owned 400 megawatt solar plant along with a 400 megawatt, four-hour battery storage system in Northern Nevada [5].

This project will create several hundred jobs in construction, and by accumulating capacity will help shift the produced energy to the times of day when it is most needed, serving the reliability needs of the area.

It should be noted the Inflation Reduction Act (IRA) signed on August 16, 2022 by President Joe Biden, which will have a very significant impact on the acceleration of the energy transition in the United States. The Production Tax Credit and the Investment Tax Credit are the two key tax credits provided by the IRA for new clean electricity resources. They put RES generation in more favorable conditions compared to other electricity producers.

However, despite the understanding of the energy transition inevitability the thermal power generation use is going on. One of the factors that slowing the energy transition process is a fear to lost profits giving up the steady business, but **acceleration of the energy transition process will bring additional profit.**

According to the study by a group of Oxford University scientists "Empirically grounded technology forecasts and the energy transition", published in the journal Joule on September 13, 2022, a transition to a carbon-free energy system by around 2050 would save at least \$12 trillion worldwide, compared to continuing to use fossil fuels at current levels. The study presents a win-win-win scenario in which moving to clean energy as quickly as possible would lower the cost of the energy system compared to a fossil-fueled system, while providing more energy to the global economy and increasing energy access to more people all over the world.

The "Rapid Transition" scenario proposed in the study shows a realistic future for a fossil-fuel-free energy system by around 2050 that would provide 55% more energy services worldwide than today, thanks to increased solar, wind, batteries, electric vehicles and clean fuels such as green hydrogen (produced from renewable electricity). In addition, the study shows that costs for key storage technologies such as batteries and hydrogen electrolysis are also likely to drop drastically [6].

This study has been conducted before Russia's invasion of Ukraine that caused the inflation surge around the world and revealed all risks of continuing to rely on expensive, insecure fossil fuels. The current energy crisis underscores the vulnerability of world economy confronted by the growing fossil fuels prices. The research confirms that the accelerating transition to clean energy as soon as possible will bring benefits both for the economy and the ecology.

As said mathematics professor Doyne Farmer, who led the research team: "There is a pervasive misconception that

switching to clean, green energy will be painful, costly and mean sacrifices for us all – but that’s just wrong. Renewable costs have been trending down for decades. They are already cheaper than fossil fuels in many situations, and our research shows they will become cheaper than fossil fuels across almost all applications in the years to come. And, if we accelerate the transition, they will become cheaper faster. Completely replacing fossil fuels with clean energy by 2050 will save us trillions” [7].

### **Current status of Ukrainian thermal power generation and recovery plans**

According to Draft Ukraine Recovery Plan, as of late 2021, about 20% of Ukrainian thermal power plants have been reconstructed, but the issue of bringing their environmental characteristics to modern requirements remains unresolved, and flexibility characteristics though slightly improved still remain inadequate for the current needs of the Integrated Power System (IPS) of Ukraine. The remaining units are maintained in working condition due to overhauls and current repairs, but their deterioration is constantly increasing and reaches the threatening limit in terms of the possibility of their further operation without reconstruction [8].

The recent studies prove that the reconstruction and extension of operation, as well as the construction of new capacities using fossil fuels, including natural gas, do not make economic sense.

Nevertheless, the Draft Plan for the Recovery of Ukraine proposed by the National Council for the Recovery of Ukraine from the Consequences of the War, on the contrary, envisages the ecological modernization of coal-fired power units and the commissioning of gas-fired power units. But it still contains a caveat that the expediency of ecological modernization, relative to alternative options (reconstruction or new construction on the existing site), is determined for each power unit during the preparation of the corresponding feasibility study.

In my opinion, wasting time, effort and money on the reconstruction or construction of coal-fired power plants in Ukraine is impractical. The only goal we should strive for can only be a full and accelerated transition to renewables, certainly taking into account the need to maintain the stable operation of the energy system.

In addition, the Head of the Permanent Representation of the European Investment Bank (EIB) in Ukraine, Jean-Eric de Zagon, in his speech during the 13th Energy Day of the European-Ukrainian Energy Agency (EUEA), dedicated to the prospects for the development of the Ukrainian energy industry, held in Vienna on October 14, 2022, noted that Ukraine should ensure a green transition within the framework of the National Recovery Plan of Ukraine in order to successfully integrate into the European economy. He also emphasized that the EIB will not consider new investments in projects related to fossil resources. The EIB aims to support projects on the development of green energy, the strengthening of Ukrainian power transmission capacities to the EU, and the reconstruction of energy infrastructure. The same approach will be taken by a number of large development banks and

financial funds, such as the IFU of Denmark or the FMO of the Netherlands [9].

In my view, in the Recovery Plan of Ukraine rather little attention is paid to the use of biomass, although, according to the data of the European Commission, biomass continues to be the main source of renewable energy in the EU, with a share of almost 60% [10].

In the Recovery Plan of Ukraine, biomass is supposed to be used only as a fuel for cogeneration. However, there is an experience of converting coal-fired thermal power plants units to use biomass. The DRAX GROUP North Yorkshire power station (Great Britain) is a case in point [11].

According to the Bioenergy Association of Ukraine, as of 2021, the energy potential of biomass in Ukraine was 24.87 million tons of oil equivalent per year – this is 29% of the total energy supply in Ukraine (86.36 million tons of oil equivalent in 2020). And what is important, as Ukraine is an agrarian state, this potential consists mainly of biomass of agrarian origin [12].

Currently, 12 GW of the installed capacity of Ukraine’s fossil fuel power plants are located in the occupied territory, that is, they are currently excluded from the formation of the country’s overall energy balance, and it is these capacities that can most painlessly be used as a basis for the post-war transition of Ukraine’s electricity industry to renewable energy sources.

To my mind, during the recovery of Ukraine from the consequences of the war, it is the state that should become a driving force and an example of abandoning coal in electricity production.

The majority of shares of PJSC “Centrenerg”, which includes three coal-fired power plants, are exactly state-owned. The activity of PJSC “Centrenerg” is and has been unprofitable, despite the fact that coal was purchased from state mines at below-market prices. In turn most of the state mines, work only through the support from the state, because the cost price of mined coal is much higher than market prices.

On the basis of the Secretariat of the Cabinet of Ministers of Ukraine, as of 2018, the state owned 102 mines, most of which were located in uncontrolled territories. Among the 33 mines controlled by the government, only 4 were profitable. According to the data of the study of the Secretariat of the Energy Community entitled “Investments into the past” published in May 2022, for the period from 2016 to 2020, the amount of state subsidies aimed at supporting Ukrainian mines totaled to 1,640.63 million euros [13].

If the state really wants to prove that it is an effective owner, it should close unprofitable mines, and direct the freed funds to social support for laid-off workers and the transfer of generating capacity to technologies without the use of coal, and with an appropriately prepared investment projects, the funds of the NextGenerationEU European Fund should be attracted. There is another way – privatization, but with a mandatory condition for the investor regarding the transfer of generating capacities to “green” production technologies. But in any case, the closure of state mines cannot be avoided. The idea of privatizing PJSC “Centrenerg” in a package with unprofitable mines should be forgotten forever – in today’s world, no one can be interested in it.

Furthermore, to stimulate investment in the Renewable Energy Sources the state should use the tax incentives, instead of the obligation to buy “green” electricity at a fixed rate. Thus, the state does not directly finance the development of RES, but only refuses additional revenues to the budget, and stimulates investors to develop business and increase their own profits.

On the other hand, the state must stop the fossil fuel technologies support. By “support” I mean the low Carbon Tax Rate. It should be aligned with the average European level. Of course, the increase of the Carbon Tax Rate will meet fierce opposition from the “coal” lobby, and their main argument will be the soaring cost of electricity for the final consumer and the decrease in the competitiveness of Ukrainian goods on world markets. But we must finally realize that Ukrainian enterprises must play on equal terms with foreign companies – learn to optimize production and energy consumption. There is no other way, Ukrainians should not forget how precious for the state and each of us turned out the “cheap”, initially gas from Russia, and then fuel and electricity from Belarus.

In addition, as of 1 October 2023 in the European Union will enter into force in its transitional phase the Carbon Border Adjustment Mechanism (CBAM). Starting from 01 January 2026, a tax on direct carbon emissions from the

production of goods will be gradually introduced. Thus, both foreign and local companies selling goods within the EU must play by the same rules and pay the same [14].

A tax on direct carbon emissions will be required to pay anyway. But if enterprises are paying to the Ukrainian budget taxes that meet all EU criteria, it will allow them to import goods without additional fees at all.

### Conclusions

- The myth about the high cost and economic unattractiveness of “green technologies” should not only be destroyed, but on the contrary, evidence should be spread as much as possible that the faster the energy transition takes place, the greater the economic profit it will bring.
- Ukraine should urgently prepare a program to get rid of outdated and unprofitable energy technologies and replace them with RES technologies.
- Also, immediately, without waiting for the end of the war, it is necessary to begin the development of a technical and economic justification for the reconstruction or new construction of RES capacities at the existing thermal power plants sites, in order to be able to offer ready-made projects for receiving financing from European donors by the time the hostilities end and victory is achieved.

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## STUDY OF THE COMPETITIVENESS OF UKRAINIAN ENTERPRISES IN COMPARISON WITH ENGLISH ENTERPRISES ON THE EXAMPLE OF PJSC “ZAPORIZHZHIA ABRASIVE PLANT”

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### Key words:

competitiveness, competition,  
factors, competitive advantages

The article examines the concept of “competitiveness” and provides the author’s own definition of this economic definition. The factors of internal and external influence on competitiveness are expanded. The dynamics of changes in the number of Ukrainian enterprises in 2012–2022 is analyzed. The activities of PJSC “Zaporizhzhia Abrasive Plant”, production volumes of the main types of products and competitiveness indicators are studied. The strengths and weaknesses of the enterprise, as well as the problems it faces, and the actions it takes to modernize are considered. The reserves for improving the competitiveness of the enterprise PJSC “Zaporizhzhia Abrasive Plant” are identified. The place of Ukraine and the United Kingdom in the global competitiveness index is analyzed. The advantages of doing business in the UK are identified and the main factors affecting the competitiveness of enterprises in both countries are highlighted. Actions to improve the competitiveness of Ukrainian enterprises are proposed.

## ДОСЛІДЖЕННЯ КОНКУРЕНТОСПРОМОЖНОСТІ УКРАЇНСЬКИХ ПІДПРИЄМСТВ ПОРІВНЯНО З АНГЛІЙСЬКИМИ ПІДПРИЄМСТВАМИ НА ПРИКЛАДІ ПРАТ «ЗАПОРІЗЬКИЙ АБРАЗИВНИЙ КОМБІНАТ»

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### Ключові слова:

конкурентоспроможність,  
конкуренція, фактори,  
конкурентні переваги

У статті досліджено поняття «конкурентоспроможність» та надано власне визначення даної економічної дефініції. Розширено фактори внутрішнього та зовнішнього впливу на конкурентоспроможність. Проаналізовано динаміку зміни кількості українських підприємств за 2012–2022 рр. Досліджено діяльність ПрАТ «Запорізький абразивний комбінат», обсяги виробництва основних видів продукції та показників конкурентоспроможності. Розглянуто сильні та слабкі сторони підприємства, а також проблеми з якими воно стикається, а також дії які воно проводить задля модернізації. Визначено резерви підвищення конкурентоспроможності підприємства ПрАТ «Запорізький абразивний комбінат». Проаналізовано місце України та Великої Британії в глобальному індексі конкурентоспроможності. Визначено переваги ведення бізнесу у Великій Британії та виділено основні фактори, що впливають на конкурентоспроможність підприємств обох країни. Запропоновано дії для підвищення конкурентоспроможності українських підприємств.

### Problem statement

It is quite difficult for Ukrainian enterprises to compete with global leaders, in particular with British enterprises, which are highly competitive in the international market.

Ukrainian enterprises face difficult conditions in the domestic market, such as an unstable political situation, underdeveloped infrastructure, complex procedures and a large number of taxes, which complicate the business process and limit the ability of enterprises to achieve

competitive advantages. The study of these problems will help to identify the main challenges and obstacles facing Ukrainian enterprises and to identify effective strategies and solutions to improve their competitiveness in the international market.

### Analysis of recent research

Back in 1776, the English scientist Adam Smith formed his own definition of the concept of competition, after which many scientists studied this concept, including D. Ricardo

and J. Keynes. The main criterion of competitiveness was defined by A. Marshall, but M. Porter formed the definition of competitiveness in his work “The Theory of Competitive Advantage”. Many scholars pay attention to the problems of competitiveness of Ukrainian enterprises. Among the researchers whose works can be distinguished are Bugay V. [1], Kuznetsova K. [2], Matvienko-Bilyaeva H. [3], Melnyk O. [4], Putsentylo P. [5], Reznikova O. [6], Sydorenko V. [1], Khomenko Y. [6].

In their works, the researchers investigated the theoretical aspects of the concepts of “enterprise competitiveness” and “competitiveness”, the competitiveness of an enterprise based on its resource potential and the factors that ensure it.

**Goal setting**

The purpose of the article is to study the level of competitiveness of Ukrainian enterprises on the example of Zaporizhzhya Abrasive Plant PJSC and to compare it with English enterprises.

**Presentation of the main material**

The competitiveness of Ukrainian enterprises is one of the factors of stable development of the country’s economy. At present, enterprises face a large number of challenges related to the difficult political and economic situation.

Scholars have different approaches to defining the concept of “enterprise competitiveness”. In order to formulate the concept of competitiveness in this paper, we have considered the opinions of various authors.

Bugay V.Z. and Sydorenko V.O. understand “the competitiveness of enterprises in the studied industry as the ability of an enterprise at the current moment of time to ensure effective operation, maintain sustainable development and stable market positions through flexible adaptation to changes in the marketing environment” [1].

Kuznetsova K.O. noted that “competitiveness is the presence of certain advantages (resources) and the ability and ability to use them correctly in competition with other “players” to achieve their goals” [2].

G.L. Matvienko-Bilyaeva in her scientific work noted that “the competitiveness of an enterprise is a characteristic that reflects the degree of advantages over competing enterprises in a set of certain performance indicators in certain markets, for a certain period of time, the competitiveness of an enterprise can be assessed by comparing the competitive positions of several enterprises in a particular market” [3].

Melnyk O.I. in his work gave the following definition of the concept “competitiveness of an enterprise is a set of the following characteristics: capture of market share by an enterprise; ability of an enterprise to produce, sell and develop; ability of senior management to achieve the set goal; ability of an enterprise to sell its own products at a price that ensures growth and fulfillment of obligations to third parties (ensuring a certain level of profitability, formation of fixed assets, return on investment capital)” [4].

According to P.R. Putsentylo, “competitiveness of an enterprise is the ability to use the internal potential of the enterprise, forming and developing competitive advantages in accordance with the conditions of the micro and macro environment” [5].

Summarizing the opinions of various authors, we believe that competitiveness is the ability of an enterprise to use its internal potential to gain an advantage over competing firms in order to increase the enterprise’s profit.

Competitiveness factors are divided into internal and external (Fig. 1).

During the formation of the Ukrainian economy, enterprises were influenced by external and internal factors, but despite this, they continued to develop and increase their number, as shown in Figure 1.

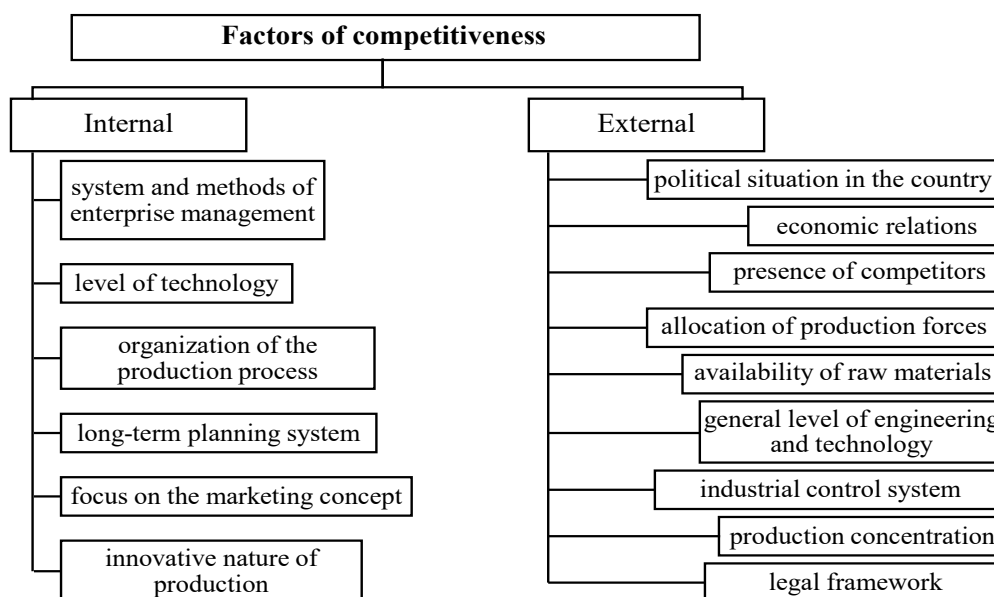


Fig. 1 – Factors of enterprise competitiveness

Source: compiled by the authors based on [6]



Thus, analyzing the dynamics of changes in the number of Ukrainian enterprises (Fig. 2), we can conclude that in 2013–2016 there was a sharp decline due to the beginning of Russian aggression in Donbas, as well as the annexation of Crimea and the unstable political situation. After 2016, there was a positive trend, in 2020, despite the onset of the coronavirus crisis, there was the largest number of Ukrainian enterprises, followed by a slight decrease in 2021. But in 2022, there was a sharp decrease in the number of enterprises, due to the full-scale Russian invasion, Ukrainian enterprises came under occupation, were destroyed and closed due to large losses.

In this paper, we would like to consider Zaporizhzhia Abrasive Plant PJSC, which is located on the frontline territory, and at the beginning of the Russian invasion, the company had to completely rebuild its supplier system, change logistics, and look for new export routes.

Private Joint Stock Company Zaporizhzhia Abrasive Plant is the only manufacturer of abrasives in Ukraine

and one of the largest producers of abrasives in Eastern Europe. The company’s products are characterized by the production of abrasives of consistently high quality [8].

In Ukraine, there are no analogues to ZAK PJSC for the production of normal aluminium oxide, silicon carbide and boron carbide (Table 1).

According to the table, it can be concluded that the company has increased the production of normal aluminium oxide, which has led to a significant increase in its revenues. The production of silicon carbide (an abrasive material that is the main product of Zaporizhzhia Abrasive Plant PJSC) decreased, but revenues from it increased, which is most likely due to the increase in its price. Ceramic- and bakelite-bonded abrasives also experienced a decline during the period under review.

Analyzing Fig. 3, it should be noted that the largest production volumes of normal aluminium oxide were in 2021, while the production volumes of silicon carbide and ceramic and bakelite-bonded abrasives decreased during 2018–2020, but in 2021 there was a slight increase.

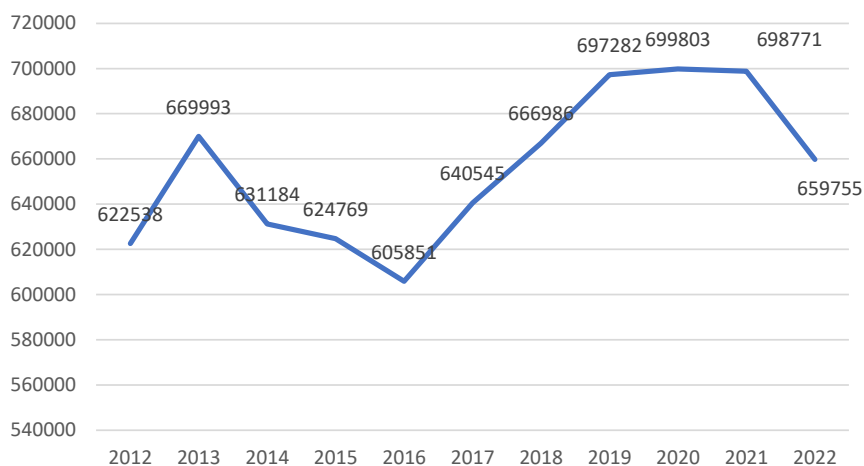


Fig. 2 – Number of Ukrainian enterprises in 2012–2022 in mln.

Source: compiled by the authors based on [7]

Table 1 – Production volumes of the main types of products of PJSC “ZAK” for 2018–2022

Main product type	Production volume in 2022		Production volume in 2021		Production volume in 2020		Production volume in 2019		Production volume in 2018	
	in kind (physical unit of measurement)	in monetary form (UAH thousand)	in kind (physical unit of measurement)	in monetary form (UAH thousand)	in kind (physical unit of measurement)	in monetary form (UAH thousand)	in kind (physical unit of measurement)	in monetary form (UAH thousand)	in kind (physical unit of measurement)	in monetary form (UAH thousand)
Electro-corundum normal	70797.7 T.	711180.7	37013.4 T.	821950.90	27795.4 T.	586668.50	33196.5 T.	630527.50	34344.48 T.	703975.00
Silicon carbide	48203 T.	821847.7	18344.975 T.	512064.00	6832.355 T.	169108.00	16006.8 T.	388675.30	21309.76 T.	507898.00
Abrasive tools with ceramic and bakelite bond	1983.44 T.	195260	3653.966 T.	236917.10	2825.5 T.	190406.10	4036.658 T.	247839.50	4522.51 T.	242523.00

Source: compiled by the authors based on [8]

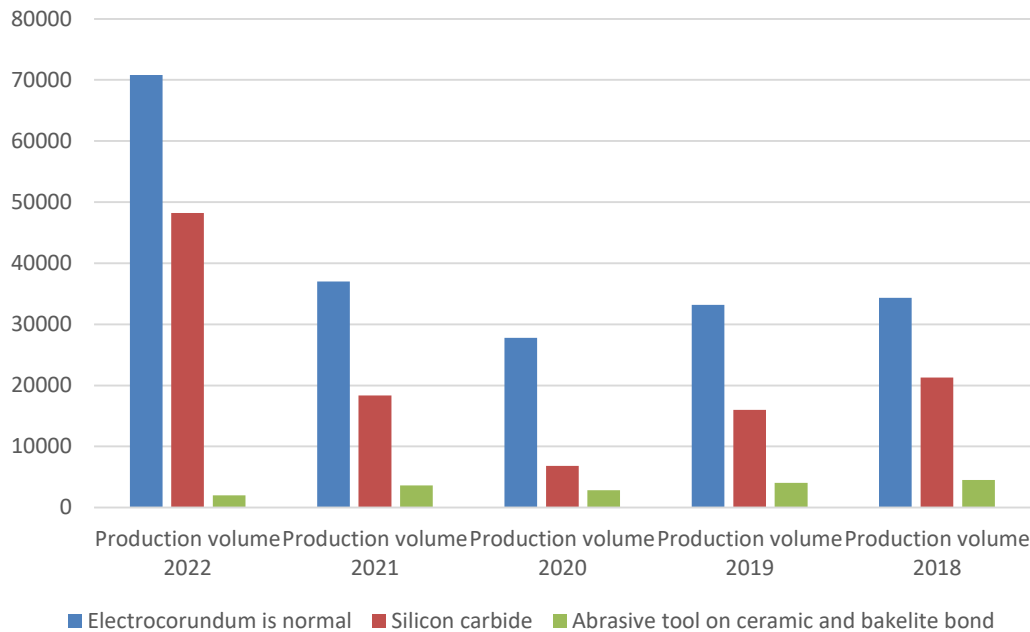


Fig. 3 – Dynamics of production volumes of the main types of products of PJSC “ZAK” for 2018–2021, in tons  
Source: compiled by the authors based on [8]

In 2022, the production of silicon carbide and ordinary aluminium oxide increased significantly, with an increase in revenue from silicon carbide and a decrease in revenue from aluminium oxide, indicating a decrease in price, while the production of abrasive tools almost halved.

To determine the level of competitiveness of Zaporizhzhia Abrasive Plant PJSC, we analyze the indicators that characterize it (Table 2).

The indicator of unit production costs had insignificant changes during 2020–2022, which indicates that the company focuses on optimizing production processes.

The capital efficiency decreased significantly in 2022 compared to 2021, indicating a decrease in the efficiency of the use of fixed assets.

Product profitability was the highest in 2022 at 1.33, indicating an increase in production and sales efficiency.

Labor productivity decreased significantly in 2021 compared to 2020, and the decline also occurred in 2022, which may be due to a decrease in employee motivation, insufficient qualifications of employees, and a decrease

in the number of employees, as 1500 employees were mobilized in 2022 (Table 2).

The autonomy ratio gradually decreased from 1.81 to 0.93 in 2020 to 2022, indicating an increase in the company’s dependence on external financing. The solvency ratio, according to the table, indicates the financial stability of the company, it remained at the level of 0.01.

The absolute liquidity ratio decreased by 0.16 during 2020–2022, indicating a decrease in cash and securities compared to short-term liabilities. The working capital turnover ratio also decreased by 0.83 in 2022, indicating a decrease in the efficiency of current asset management. According to the analysis, the indicators of the enterprise’s competitiveness have quite different values; profitability and labor productivity, as well as the solvency ratio, indicate the effective operation of the enterprise. However, other indicators indicate the problems that exist at the enterprise, to solve which it is worth paying attention to the optimization of production processes, financial management and efficient use of resources (Table 3).

Table 2 – Indicators of competitiveness of the enterprise “ZAK” PJSC for 2020–2022, UAH

Indicator	Formula	2020	2021	2022
<i>1. Efficiency of the company's production activities</i>				
Unit production costs	Gross costs / Output volume	1,06	0,98	1,03
Return on equity	Production volume / average annual cost of fixed assets	3,70	6,40	4,70
Product profitability	Profit from sales / cost of production	1,20	1,23	1,33
Labor productivity	Production volume / Average number of employees of employees	23,94	8,21	8,05
<i>2. Financial position of the company</i>				
Coefficient of autonomy	Own assets of the enterprise / Total amount of funding sources	1,81	1,62	0,93
Solvency ratio	Equity capital / General obligations	0,01	0,01	0,01
Absolute liquidity ratio	Cash and marketable securities / Short-term liabilities	0,26	0,09	0,08
Working capital turnover ratio	Revenue from sales of products / Average annual working capital balance	1,70	2,54	1,71

Source: compiled by the authors based on [8]

Table 3 – SWOT analysis of Zaporizhzhya Abrasive Plant PJSC

Strengths	Weaknesses
<ol style="list-style-type: none"> <li>1. The company has several production facilities, which are different in their importance and technology.</li> <li>2. The company exports approximately 90% of its products to European countries.</li> <li>3. The sphere of application of the products manufactured at the enterprise is quite wide, ranging from nuclear energy, machine and aircraft construction to dentistry and cosmetology.</li> <li>4. The company carries out a full production cycle (from raw materials to materials and products from them)</li> <li>5. Wide range of products</li> </ol>	<ol style="list-style-type: none"> <li>1. Low level of introduction of new technologies and new products</li> <li>2. The volume of production of all types of products is significantly affected by competition from Chinese manufacturers</li> </ol>
Features	Threats
<ol style="list-style-type: none"> <li>1. Production of finished products</li> <li>2. Entering new sales markets</li> <li>3. Implementation of innovative production methods</li> </ol>	<ol style="list-style-type: none"> <li>1. Unpredictability of hostilities on the territory of the state;</li> <li>2. The consequences of the introduction of martial law, the sales market has shrunk, and European partners, given the company's close proximity to the war zone, prefer Chinese and Russian manufacturers and suppliers.</li> <li>3. The economic downturn in the economy as a whole;</li> <li>4. A significant level of inflation;</li> <li>5. Instability of the financial and currency markets;</li> <li>6. High interest rates for obtaining credit resources, high competition in the industry, frequent changes and unresolved basic legislation of Ukraine;</li> <li>7. Increase in energy prices;</li> <li>8. Lack of working capital.</li> <li>9. High degree of dependence on legislative or economic restrictions</li> </ol>

Source: compiled by the authors based on [8–9]

To assess the company's competitiveness, it is also necessary to consider the company's competitors, its strengths and weaknesses, as well as problems that may hinder its development.

In the world, the main competitors of PJSC "ZAK" are: normal aluminium oxide – manufacturers of China; black silicon carbide – OJSC "Volzhsky Abrasive Plant", Russia; boron carbide – manufacturers of China; cutting wheels – KLINGSPOR LLC, Germany, manufacturers of China.

Despite all the problems the company is currently facing, it continues to develop. In 2020–2021, Zaporizhzhia Abrasive Plant modernized the production of normal and abrasive aluminium oxide grinding materials with the installation of the latest European furnace and introduced automated control of melting furnaces.

From 2022 to 2023, the following were reconstructed: hot water supply and heating systems with the installation of electric boilers, a silicon carbide grinding section, a dosing and mixing system for raw materials for the silicon carbide smelting production, and aspiration units for the main production facilities. It is also planned to install European equipment, increase capacity and reduce energy costs.

Thus, based on the example of Zaporizhzhia Abrasive Plant, we can conclude that it is currently quite difficult for Ukrainian enterprises to carry out their activities due to a number of obstacles they face, including the occupation or destruction of

warehouses and equipment, lack of electricity, loss of suppliers and customers, distrust on the part of customers, etc.

However, Ukraine has plans to join the EU in the near future and needs to reorient enterprises and increase competitiveness. In this article, we would like to compare the competitiveness of Ukrainian enterprises with that of the UK.

It is worth comparing the Global Competitiveness Index for Ukraine and the UK (Table 4). According to the table, the UK is always in the top twenty, while Ukraine, although it has increased its place in the ranking over the study period, is still 34 positions below the UK.

The advantages of doing business in England are:

- 1) economic and social stability in the country, although the economic situation in the country was disrupted by Brexit
- 2) developed market
- 3) legislation is conducive to doing business, there are relevant laws that facilitate the opening and development of small and medium-sized businesses;
- 4) progressive taxation (in the current period, the level of taxes has all the prerequisites for reduction)
- 5) relatively low interest rates on loans;
- 6) high level of asset security;
- 7) established trade relations with European markets and the United States (England is a few steps away

Table 4 – Rankings of the UK and Ukraine in the Global Competitiveness Index for 2018–2022

Country	2018	2019	2020	2021	2022
United Kingdom	20	23	19	18	23
Ukraine	83	85	85	54	57

Source: compiled by the authors based on [10]

from signing an agreement on free economic space and cooperation with the United States).

We highlight the main factors that affect the competitiveness of enterprises in both countries:

1. The overall economic stability and growth rates of the countries are quite different, a stable and growing economy provides companies with more opportunities for development.

2. The quality and efficiency of infrastructure, including transportation, communications and utilities, currently in Ukraine, logistics is completely destroyed, unlike in the UK.

3. Ukrainian companies are quite technologically advanced, unlike the UK, where entrepreneurs are more conservative.

4. The UK has greater access to international markets, while Ukraine is currently losing its main customers due to their distrust of suppliers from a country where military operations are taking place.

Thus, both countries have their strengths, but doing business in England currently has significant advantages, including stable economic and social conditions, a developed market, favorable business legislation, progressive taxation, access to international markets, and established trade relations.

To increase the competitiveness of Ukrainian enterprises, it is advisable to establish ties with foreign countries, open new markets, for example, enter the markets of Asia and Africa. They should also improve the quality of their products in line with international standards and introduce new technologies. In addition to the actions taken by the companies themselves, the state should also create a legislative framework to improve the competitiveness of enterprises, as well as create laws that would provide for

the sale of domestic products first and foreign ones second. Similar laws are in place in the European Union.

### Conclusions

Thus, we can conclude that competitiveness is the ability of an enterprise to use its internal potential to gain an advantage over competing firms in order to increase the enterprise's profit.

It is currently quite difficult for Ukrainian enterprises to compete in the international market, according to our research, in 2022 there was a sharp decline in enterprises, which was caused by Russian aggression and the coronavirus crisis that took place during 2020–2021.

Considering Zaporizhzhia Abrasive Plant PJSC, we came to the conclusion that despite the proximity of the enterprise to the front line and constant shelling of the city, the company continues to operate and develop. Analyzing its competitiveness indicators, we identified a number of problems faced by the company, including dependence on external sources of financing, inefficient management of working capital and financial assets. In addition, the company suffers from distrust of European partners and a high level of competition from Chinese manufacturers, so it is advisable for the company to introduce new technologies that would simplify the production process and reduce the cost of products and make them competitive.

Analyzing the Global Competitiveness Index, we concluded that Ukrainian enterprises are gradually continuing to develop and move up the ranking, but it is currently difficult to compete with British enterprises, so it is advisable to open new markets and increase production innovation.

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## CREATION OF MECHANISM FOR INTENSIFICATION OF INDUSTRIAL ENTERPRISES' EFFECTIVE INNOVATIVE DEVELOPMENT

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### Key words:

intensification,  
innovative development,  
economic mechanism,  
elements, innovations,  
management, effect, areas,  
efficiency

In the article, the components of the organizational and economic mechanism for intensification of industrial enterprises' innovative development are suggested. The model of creation of the economic mechanism for industrial enterprises' innovation activity (IA) is improved. It is established that the difference between the economic mechanism (EM) and the organizational mechanism (OM) lies in the fact that the former aims to achieve goals by regulation of financial, production, technological, innovation and marketing activities, management of enterprise's development, but it does not involve planning, organization, causes, IA strategy development, ownership form determination, implementation of measures to improve enterprise's resource availability, methods and techniques of IA decisions-making and implementation.

## ФОРМУВАННЯ МЕХАНІЗМУ АКТИВІЗАЦІЇ ЕФЕКТИВНОГО ІННОВАЦІЙНОГО РОЗВИТКУ ПРОМИСЛОВИХ ПІДПРИЄМСТВ

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### Ключові слова:

активізація,  
інноваційний розвиток,  
економічний механізм,  
елементи, інновації, управління,  
ефект, напрями, ефективність

Метою статті є розробка складових організаційно-економічного механізму активізації інноваційного розвитку промислових підприємств та удосконалення моделі побудови економічного механізму інноваційної діяльності (ІД) промислових підприємств. Об'єктом дослідження є механізму активізації ефективного інноваційного розвитку промислових підприємств. Запропоновано складові організаційно-економічного механізму активізації інноваційного розвитку промислових підприємств. Удосконалено модель побудови економічного механізму інноваційної діяльності (ІД) промислових підприємств. Встановлено, що відмінністю економічного механізму (ЕМ) від організаційного (ОМ) є те, що від спрямований на досягнення цілей шляхом регулювання фінансової, виробничої, технологічної, інноваційної, маркетингової діяльності, управління розвитком підприємства та не охоплює планування, організацію, мотивацію, розробку стратегій ІД, визначення форм власності, здійснення заходів щодо покращення забезпеченості підприємства ресурсами, методи і способи прийняття рішень ІД та їх реалізації.

### Purpose of the article

To suggest the components of the organizational and economic mechanism for intensification of industrial enterprises' innovative development.

### Problem statement

The relevance of studying this issue is explained by the fact that most enterprises strive to achieve high indices of economic development, which is possible provided that

the credit system, financial security and organization of the production process are effective. However, introduction of innovations at enterprises is rather slow due to a lack of knowledge on application of innovations, lack of financial resources and failure to meet the goals set. The main way to develop an enterprise's IA is to use a mechanism to manage this activity, which will enable achievement of goals and control over the process of strategy implementation.

**Analysis of the sources used**

Quite an interesting approach to the development of the IA economic mechanism was used by O.A. Kyryk [1, p. 39–43; 2, p. 75–76], who considered it as a set of methods, principles and means to be applied in implementation of innovation activities, which enables improvement of innovative development, introduction of innovative technologies in order to meet consumer needs and strengthen competitive positions on the market. S.O. Tyvonchuk and Ya.O. Tyvonchuk [3, p. 101–104] developed the approaches to formation of an intensification mechanism for enterprise's innovative development, which will help to overcome a technological gap, introduce innovations in production and organize innovation activities. The authors considered the stages of increasing the innovations application efficiency as the premises for innovative development improvement, including feasibility of innovations involvement; collection and processing of information on the existing innovations; analysis of the resources availability, identification of environmental factors' impact and definition of product markets; innovation strategy implementation, application of innovations; monitoring, evaluation of results.

**Results**

S.O. Tyvonchuk and Ya.O. Tyvonchuk determined the following elements of the mechanism (Fig. 1): objects, subjects; public administration; business structures; partnership; functions (planning, organization, motivation, control); methods (insurance, crediting, price adjustment,

state control, tax pressure); factors that contribute to innovative development; areas of the mechanism application; legislative framework; tools for the mechanism adoption. The mechanism adoption will promote innovation activities, production of innovation products in accordance with consumer needs, establishment of partnership enterprises, but the authors did not address the issues of innovation strategies selection, their implementation and feasibility of forecasting the innovative development results.

The components of the economic mechanism suggested by O.A. Kyryk are as follows: functions, principles, methods, interests and elements. The elements of the IA economic mechanism are as follows (Fig. 2): financing of innovative development; innovation management; marketing; government assistance; search for innovations; application of innovations; development of innovation projects. We should note that the economic mechanism application will assist with the IA adaption to environmental factors' variability, satisfaction of the company owners' needs, application of innovation strategy and making effective innovative decisions. The disadvantage of the analysed approach consists in non-consideration of the stages of innovative development forecast, implementation of IA public administration and application of tools for the mechanism implementation when building the mechanism.

Another scholar, I.M. Kipiuro, suggested a model for building the organizational and economic mechanism for investment and innovation development, which is based on application of methods, levers, tools, organizational and economic principles, and adjustment of development areas in order to obtain positive results [4, p. 46–48]. The organizational and economic mechanism is based on four blocks, namely: assessment of the prospects for IA development (analysis of the level of the enterprise's investment activity, research of the impact of external environment on IA, assessment of resource availability, establishment of prospects for innovative development, calculation of IA efficiency); application of tools (insurance, tax obligations, legislation, causes, marketing, pricing,

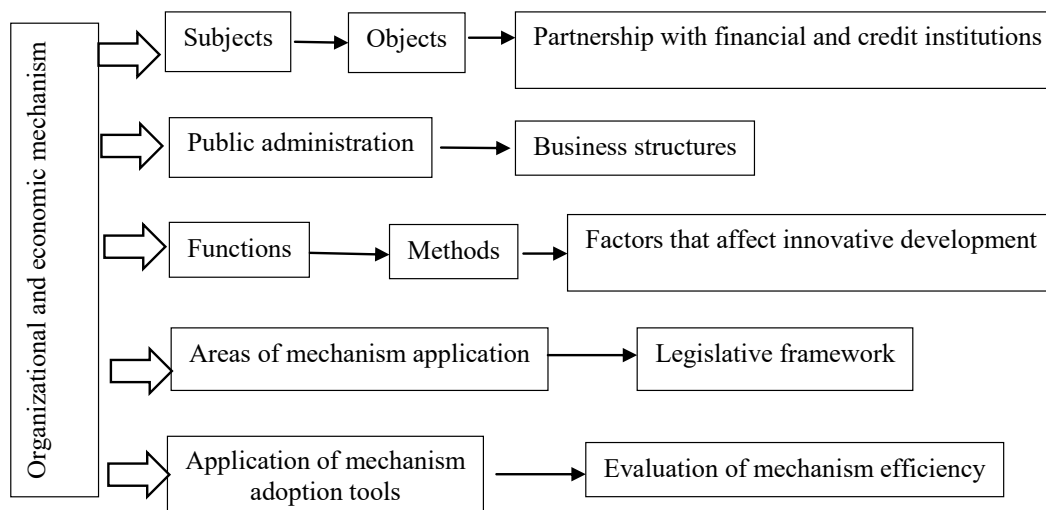


Fig. 1 – The components of the organizational and economic mechanism for innovative development intensification  
Source: developed by the author on the basis of the [3, p. 101–104]

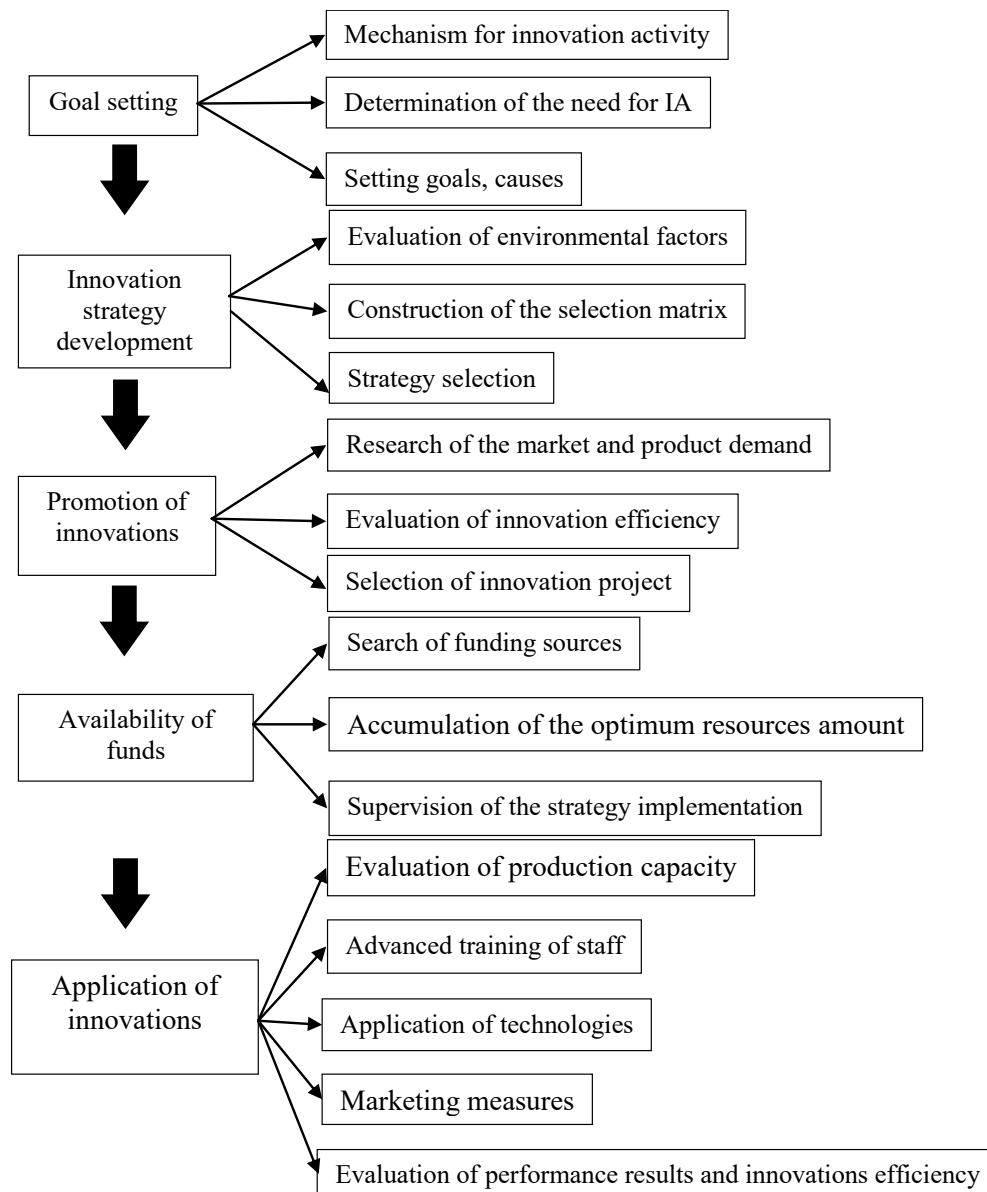


Fig. 2 – The model of building the economic mechanism for innovation activity

Source: developed by the author on the basis of the [2, p. 75–76]

forecasting, financial assistance); investment security (borrowed funds, investment resources, own resources, subsidies); functional purpose (mechanism adjustment, supervision of innovative development, application of principles, analysis of the dynamics of investment and innovation activities). The advantage of this approach lies in the ability to increase the enterprise’s competitiveness, modernize production and improve IA development.

Based on the generalization of the scientists’ approaches, it was established that there is no effective mechanism for IA development. Consequently, the existing mechanisms are ineffective for industrial enterprises. The IA organizational and economic mechanisms under analysis do not determine the expediency of constructing economic mechanism as a separate component of business mechanism, of distinguishing organizational and economic

mechanisms, target orientation of the mechanism and expected economic effect to be obtained with the EM application. The subsystem of mechanism development and application, investment orientation and sequence of implementation in practice of industrial enterprises are not covered as well. Therefore, we considered it necessary to make additions to the economic mechanism of innovation activity [5, p. 6–7].

### Conclusions

Thus, we have improved the economic mechanism of the industrial enterprise’s innovation activity, which, unlike the existing ones, is a complex separate, adjusted, dynamic system based on economic, financial, technological, production, marketing, and legislative tools that affect IA implementation. The mechanism includes

information, social, and environmental components, contains functions, principles and methods, depends on implementation of the enterprise's management process and application of technological developments and innovation; it enables regulation of economic relations between business entities provided that IA subjects and objects interact, the influence of factors on EM development and IA improvement is considered; it permits creation, application and distribution of innovative developments, improvement of innovation activity as well as obtaining total economic effect. The mechanism is a regulated and developed tool for carrying out innovation activities, which is aimed at achieving the goal set on the basis of IA

strategy implementation in accordance with the specified conditions for activities and innovative development both of enterprise and society; it takes into account the impact of competitive environment and interacts with the methods of innovation management; it is an integral part of the enterprise's economic mechanism.

The advantage of the improved economic mechanism of IA is that it uses methods, principles and standards of activity, identifies areas of innovation and takes into account the possibility of changing the activity goals in order to obtain the expected results, encourage employees and raising interest in goods production and business process organization.

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# NATIONAL ECONOMY'S MARKET MECHANISMS OF ACCOUNTING, ANALYSIS AND AUDIT

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## FEATURES OF FORMATION, ACCOUNTING AND ANALYSIS OF FINANCIAL RESULTS AT DOMESTIC AGRICULTURAL ENTERPRISES

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### Key words:

financial results, profit, loss,  
income, expenses,  
agricultural enterprise

The article defines and summarizes the modern interpretation of the essence of financial results in regulatory and legal acts and scientific publications. The peculiarities of agricultural production, which affect the accounting process of financial results, have been studied. The theoretical foundations of the essence, formation and use of the company's profit were considered and studied. In order to have a deeper and correct understanding of the profit, it was classified according to the main classification features. Profit functions are analyzed and distinguished: valuation function, distribution function and incentive function. The methodological and organizational principles of accounting for the formation and distribution of financial results of agricultural enterprises have been studied. The principles of accounting were studied according to national standards, applying the standards of P(S)BO 15 "Income" and P(S)BO 16 "Expenses" and according to international standards – standards of IAS18 "Income". The procedure for forming the financial result of the enterprise is given. Management of profitability (break-even) of activities is the primary task of the enterprise, therefore the article pays great attention to the analysis of financial results and factors of their formation. Taking into account the fact that the activity of a business entity can be not only profitable, but also unprofitable, and is formed under the influence of internal and external environmental factors, the accounting and analysis provides a general assessment of financial results, which are characterized by a system of absolute and relative indicators. In the course of the study, the system of evaluation indicators, their meaning, tasks and sources of information for the analysis of financial results of agricultural enterprises were investigated. It has been found that the financial results of enterprises have a multifaceted nature and are a synthesized reflection of the interrelationships and interdependence of all components of activity. It was determined that the analysis of financial results should be carried out within the framework of a systematic approach, which involves the study of a complex of absolute and relative indicators and factors of financial results at all stages of their substantiation, formation and receipt, distribution and use.

## ОСОБЛИВОСТІ ФОРМУВАННЯ, ОБЛІКУ ТА АНАЛІЗУ ФІНАНСОВИХ РЕЗУЛЬТАТІВ НА ВІТЧИЗНЯНИХ АГРАРНИХ ПІДПРИЄМСТВАХ

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### Ключові слова:

фінансові результати, прибуток,  
збиток, доходи, витрати,  
сільськогосподарське  
підприємство

У статті визначено і узагальнено сучасне тлумачення сутності фінансових результатів у нормативно-правових актах та наукових публікаціях. Досліджено особливості сільськогосподарського виробництва, які впливають на процес бухгалтерського обліку фінансових результатів. Розглянуто та вивчено теоретичні основи сутності, формування і використання прибутку підприємства. З метою більш глибокого та правильного розуміння прибутку проведено його класифікацію за основними класифікаційними ознаками.

Проаналізовано та виділено функції прибутку: функція оцінки, розподільча функція та стимулююча функція. Досліджено методологічні та організаційні засади обліку формування і розподілу фінансових результатів діяльності аграрних підприємств. Досліджено принципи ведення обліку за національними стандартами, застосовуючи норми П(С)БО 15 «Дохід» і П(С)БО 16 «Витрати» та за міжнародними – норми МСБО 18 «Дохід». Наведено порядок формування фінансового результату підприємства. Управління прибутковістю (беззбитковістю) діяльності є першочерговим завданням підприємства, тому аналізу фінансових результатів та факторам їх формування в статті приділена велика увага. Враховуючи те, що діяльність суб'єкта господарювання може бути не тільки прибутковою, а й збитковою, і формується під впливом факторів внутрішнього і зовнішнього середовища, в обліку і аналізі надано загальну оцінку фінансових результатів, які характеризуються системою абсолютних і відносних показників. В процесі вивчення досліджено систему показників оцінки, значення, завдання та джерела інформації для аналізу фінансових результатів сільськогосподарських підприємств. З'ясовано, що фінансові результати діяльності підприємств мають багатогранний характер і є синтезованим відображенням взаємозв'язків і взаємообумовленості усіх складових діяльності. Визначено, що аналіз фінансових результатів повинен проводитися у рамках системного підходу, який передбачає вивчення комплексу абсолютних і відносних показників та факторів фінансових результатів на всіх стадіях їх обґрунтування, формування й отримання, розподілу і використання.

### Statement of the problem

The efficiency of the economy directly depends on the stable development of all its branches, and, in particular, the agricultural sector, the subjects of which are particularly acutely in need of attracting additional resources. The practical implementation of the above is based on the relevant information base, based on which is reliable and operational data, in particular regarding the financial results of the activity.

The specificity of economic activity by subjects of agriculture is determined by its features, various organizational forms and seasonality. This actualizes the need to solve problems related to the management of agricultural enterprises from the standpoint of ensuring their sustainable development and recognition by subjects of increased public interest. With such an approach, complex information produced by the accounting and analytical system and related to all aspects of enterprise activity, in particular, financial results, acquires special importance.

The relevance of the research topic lies in the fact that the effectiveness of the enterprise's activity is revealed in financial and economic indicators, which in a generalized form reflect the results of the activity and the economic development potential of the business entity. The main final indicator of the effectiveness of economic activity is profit, the value of which in the conditions of the difficult economic situation in the country, limited bank crediting of business entities, low level of competitiveness and innovative development of enterprises is difficult to overestimate.

### Analysis of recent studies and publications

The issue of theoretical research of financial results and their management was studied by many well-known foreign and domestic scientists: A. Babo, S.L. Bryu, I.O. Blank, O.S. Borodkin, F.F. Butynets, B.I. Valuev, Z.V. Gutsailyuk, A.M. Gerasimovych, M.Ya. Demyanenko,

P. Doyle, K. Druri, V.V. Kovalev, M.V. Kuzhelnyy, V.G. Linnyk, K.R. McConnell, N.M. Malyuga, V.O. Mets, M.F. Ohychuk, N.L. Pravdyuk, G.V. Savytska, V.K. Savchuk, P. Samuelson, Ya.V. Sokolov, V.V. Sopko, N.M. Tkachenko, E.S. Hendriksen, M.G. Chumachenko and others. However, the analysis of a number of literary sources in this area allowed us to conclude that the organization of accounting for financial results in agricultural enterprises requires more thorough further research.

### Objectives of the article

Determining the financial results of the activity of any enterprise depends on the methodology of their formation and accounting. The existing shortcomings of the accounting methodology of income and expenses cause the fact that neither the financial nor the tax statements reflect the real amount of profit or loss. After all, regulatory documents regarding their definition are developed by various state structures: regulatory documents regulating financial accounting are developed by the Ministry of Finance of Ukraine, and recommendations and instructions on the organization of tax accounting are developed by the State Tax Administration of Ukraine. The purpose of the article is to research and generalize the peculiarities of accounting of financial results in agricultural enterprises.

### The main material of the research

A characteristic feature of an enterprise in market economic conditions is its economic isolation and the organization of financial and economic activity on the basis of full self-financing and self-sufficiency. In this regard, the issue of clarifying the essence of financial results (profit or loss) is of particular importance. After all, profit is the main goal and motive of entrepreneurial activity, a material source of economic and social development, investment and innovation activity, and occupies a prominent place in the system of valuable tools of commodity production.

Profit is an important tool for the transfer of capital to industries that determine scientific and technological progress and the concentration of financial resources in enterprises whose administration and owners effectively manage them.

Profit is an economic category that is a set of economic relations that reflect the result of the interaction of all factors of production in the form of an additional product, and is a part of the company’s income that remains after covering the expenses incurred in the course of economic activity.

As an objective economic category, profit is created in the sphere of production and realized in the process of exchange. However, the absolute amount of profit cannot be a sufficient basis for characterizing the efficiency of the enterprise, because the amount of profit it receives depends (other things being equal) on the volume of production, which is determined by many other factors. Therefore, the efficiency of the business entity is determined by relative indicators that reflect the degree of profitability in relation to one or another factor of production.

The analysis of literary sources regarding the prerequisites for the formation and determination of financial results of activity shows the ambiguity of the concept of “profit”. In various interpretations, the causal connection of the origin of profit is often not so much proven as assumed.

For some scientists, profit is labor income, a reward for entrepreneurial activity, for others it is the additional value of a newly created product. It can be about the income received by the enterprise, as well as about the benefit that the consumer will receive, or about the profit (benefit) brought to the enterprise, the consumer, society from the implementation of this or that activity.

The generalization of the interpretation of “profit” by various authors made it possible to conclude that profit is a general economic category. It represents a part of the income of a specific operating enterprise, obtained under the influence of the internal and external environment and the level of development of entrepreneurship, it is the difference between the income that was received from all types of activities and the expenses of the enterprise that were incurred in the process of obtaining these incomes, and is used for implementation of the process of extended reproduction and satisfaction of the interests of enterprise owners, employees, investors and the state.

Profit is one of the main economic categories, which reflects the relations that are formed in the production process. This is a generalizing indicator that synthesizes all parties, all aspects of business entities and ensures their stable functioning.

Profit is the result of an entrepreneur on invested capital expressed in monetary terms, which characterizes his reward for the risk of entrepreneurial activity, and expresses the difference between the total income and the total costs incurred in the process of carrying out this activity [2].

In order to have a deeper and correct understanding of profit, it is important to pay attention to approaches to classifying profit according to different criteria. In this regard, according to some authors [3], there are now more than 20 classification signs of profit, which in itself eloquently demonstrates the state of the problem and calls into question the possibility of its unambiguous solution (table 1).

Profit performs a number of functions:

**Evaluation function.** Profit is an important comprehensive indicator that reflects the final result of the enterprise’s work in a cost form. It accumulates the results of all aspects of its activity: the growth of production and its implementation, the effectiveness of the use of material, labor and financial results available at its disposal.

The financial condition of the enterprise, the fulfillment of its obligations to the budget, banks, suppliers of material resources depends on the level of implementation of the profit plan. The full use of this function is possible only in the conditions of a market economy, which provides for the freedom to set prices, choose the supplier and the buyer [5].

**Distribution function.** Its meaning is that the profit is used as a tool for dividing the net income of society into a part that accumulates in the budgets of different levels and remains at the disposal of the enterprise and is a source of its extended reproduction. The object of the state’s economic interests is the part of the profit that is paid in the form of taxes and mandatory payments.

The economic interest of the enterprise as a producer finds its generalization in the amount of profit that remains at the disposal of the enterprise and is used to solve the production and social tasks of its development.

The economic interest of workers is primarily related to the amount of profit that is directed to social development. The owner of the enterprise is primarily interested in the

Table 1 – Classification of income by main features

<b>Classification sign</b>	<b>Types of profit</b>
Depending on the calculation method	Accounting, economic
Depending on the purpose of accounting	Accounting, tax
Depending on the type of activity	Operational, investment, financial
Depending on inflationary processes	Real, nominal
Depending on the intended use	Reinvested, consumed
Depending on the calculation algorithm	Gross, operating, before tax, after tax (net)
By definition objects	Profit for the enterprise as a whole, in terms of spheres of activity, by structural subdivisions, by individual operations, in terms of individual types of products
According to the regularity of formation	Profit from ordinary activities generated regularly, profit generated episodically from extraordinary events (charity for the benefit of the enterprise, etc.)
By the period of formation	Profit of the reporting period, profit of past periods

size of the dividend payment fund and that part of the profit that is related to production development, reconstruction and technical rearmament of production, improvement of technology, capital growth.

Stimulating function. Earning a profit stimulates the most effective use of economic resources, cost reduction, implementation of achievements of scientific and technical progress, development of new industries [2].

To determine financial results in accounting, a consistent comparison of income and expenses incurred to obtain these incomes from all types of activities is assumed [1].

In accounting, there are several methods of determining financial results: one of them is based on accounting with the deduction of the cost of production in large enterprises, and the second, which involves determining the results of activity as a whole, in enterprises that fall under the status of small. A separate method of calculations is provided for agricultural enterprises, in accordance with the requirements of P(S)BO 30 “Biological assets”.

After the end of the reporting financial year, the accounting department sums up the final results of the enterprise’s work for the year – compares the income of the reporting period and the expenses incurred to obtain them, and determines the financial result [7].

The methodology of forming information about income and expenses in accounting and its disclosure in financial reporting is established by accounting standards. So, enterprises that keep records: according to national standards – apply the norms of P(S)BO 15 “Income” and P(S)BO 16 “Expenses”; and according to international standards – standards of IAS18 “Income”. There is no special standard for recognizing and reflecting expenses in the IASB. Therefore, such enterprises should be guided by other IAS standards in order to generalize information about costs, which set out the criteria for recognizing assets and liabilities for certain business operations.

The financial result is determined in terms of each type of enterprise activity (operational, financial, other) with the periodicity established in the accounting policy of the enterprise (month, quarter, year) [10].

Account 79 of the same name, which has three sub-accounts, is assigned to generalize information about financial results in accounting:

– 791 “Result of operating activities”. Income from the sale of finished products, goods, works, services and

other operating activities is reflected in the credit of the subaccount in the order of closing the accounts (accounts 70 “Revenue from sales”, 71 “Other operating income”), in the debit – in the order of closing the accounting accounts, the cost of sales of finished products, goods, works and services, administrative, sales, other operating costs (90 “Cost of sale”, 92 “Administrative costs”, 93 “Sales costs”, 94 “Other costs of operational activity”);

– 792 “Result of financial operations”. The credit of the subaccount shows the write-off in the order of closing accounts of income from equity participation and other financial income, the debit shows the write-off of financial expenses from accounts 95 “Financial expenses” and 96 “Loss from equity participation”;

– 793 “Result of other activity”. The credit of the subaccount shows the write-off in the order of closing accounts of income from investment and other activities of the enterprise, the debit shows the write-off of expenses from account 97 “Other expenses”. We note that for summarizing information on expenses, enterprises have the right to use only class 8 accounts “Expenses by elements” (without using class 9 accounts). They debit the sub-accounts of account 79 with amounts from the credit of accounts 23 “Production” and accounts of class 8 in the order of closing these accounts.

We present the above in Table 2.

After determining the financial result before taxation, the accountant must calculate and close the amount of income tax on account 79.

Enterprises that adjust the financial result for taxation purposes must show the income tax on account 98, taking into account the provisions of P(S)BO 17 “Income Tax” or IAS12 “Income Taxes” [4].

At the same time, temporary differences between the valuation of the asset or liability according to the financial statements and the tax base should be taken into account and at the end of the year, deferred tax assets (identical account 17) or deferred tax liabilities (identical account 54) should be calculated.

Taking into account the current income tax, the amount of which is determined in line 17 of the income tax declaration (form approved by Order No. 897), as well as adjustments on account 17 or 54, account 98 can be closed by debiting both the debit and credit of the account 79:

Dt 98 – Ct 17, 48, 54, 64, 79;

Table 2 – The order of formation of the financial result of the enterprise

Activities	Display on accounting accounts	
	Debit	Credit
Operational	70, 71	791
	791	90-94
	791*	70-84
Financial	72, 73	792
	792	95, 96
	792*	85 (in terms of financial costs)
Another one	74	793
	793	97
	793*	85 (in terms of expenses related to investment and other activities)

\* For businesses that use only class 8 accounts.

Dt 17, 54, 64, 79 – Ct 98.

The financial result finally formed on account 79 is debited to account 44 “Retained earnings (uncovered losses)” with the entry:

- Dt 791–793 – Ct 441 – upon receipt of profit;
- Dt 442 – Ct 791–793 – upon receipt of loss.

Let’s schematically depict the closing of account 79 “Financial results” and the write-off of financial results to account 44 “Retained earnings” (uncovered losses) in Figure 1.

The method of accounting for the use of the obtained net profit is shown in Table 3.

The formation of financial results is reflected in the financial statements.

As you know, the general criteria for recognizing an item in financial statements are the probability of an increase or decrease in future economic benefits associated with this

item and the ability to reliably determine the value of the item. They are established by NP(S)BO 1. NP(S)BO 1 details these criteria regarding income and expenses. More precisely, income should be reflected in the statement of financial results when, as a result of a business transaction, economic benefits in the form of inflow of assets increase or liabilities decrease, leading to an increase in equity (except for an increase in capital at the expense of owners’ contributions). Expenses are defined in the “Report on financial results”:

- at the moment of the decrease of the asset or the increase of liabilities, which leads to a decrease in the equity capital of enterprises (with the exception of a decrease in capital due to its withdrawal or distribution to owners), provided that the cost estimate can be reliably determined;
- on the basis of a systematic and rational distribution (for example, in the form of depreciation) during those

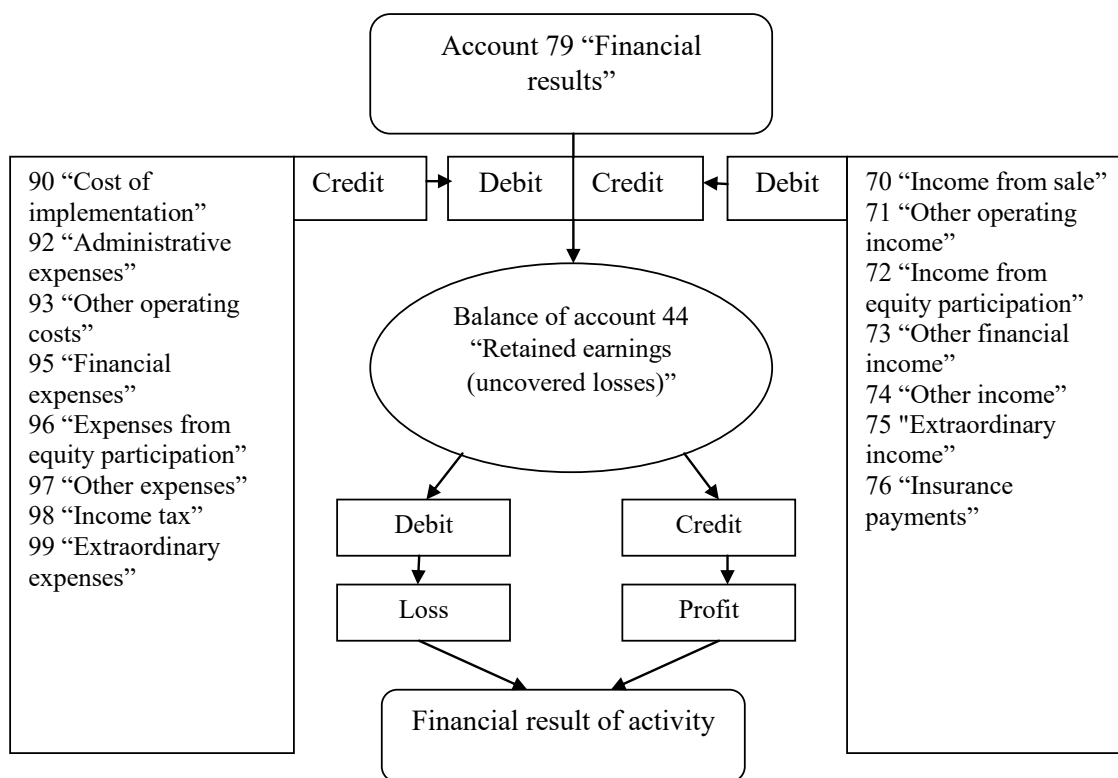


Fig. 1 – Determination of the financial result of the activity

Table 3 – Methodology of accounting for the use of the received profit

#	The content of the business transaction	Correspondence of accounts	
		Dt	Ct
1	The balance of account 79 “Financial results” was debited, profit was received	79	441
2	Part of the obtained net profit is directed for use	441	443
3	Accumulation of the planned amounts of profit for the payment of dividends, replenishment of reserve capital	443	444
4	The amount of dividends was calculated, reserve capital was formed, losses of past periods were repaid	444	671, 43, 442
5	Display of retained earnings on the accounts	441	445
6	The amount of retained earnings is increased by the amount of the balance of unused net income	444	445
7	Amount of dividends paid	671	311

reporting periods when the relevant economic benefits associated with the use of the relevant asset are received;

- immediately, if the economic benefits do not correspond or cease to correspond to their recognition as an asset of the balance sheet.

Therefore, the financial result of the company's activity is not only the final indicator of the company's performance for the year, but also information for making further management decisions. Therefore, it is important for users of financial statements to know not only the amount of profit or loss, but also from which activity (operational, financial, investment) the results were obtained [10].

As a rule, the enterprise receives a significant part of its profit from operational (main) activities, and not every enterprise carries out financial and investment operations. But if they are available in the company's activities, the circle of sources of profit generation expands.

Management of the profitability (breakeven) of the activity is the primary task of the enterprise, therefore much attention is paid to the analysis of financial results and the factors of their formation.

Taking into account the fact that the activity of a business entity can be not only profitable, but also unprofitable, and is formed under the influence of internal and external environmental factors, accounting and analysis provide a general assessment of financial results, which are characterized by a system of absolute and relative indicators.

Absolute indicators are the amount of profit (or loss) according to the structure of its formation or distribution and use. To date, according to NPSBI "General requirements for financial reporting", the following indicators of financial results are distinguished:

- gross profit (loss), as the difference between the amount of income (revenue) from the sale of products and the production cost of the products sold;
- financial result from operating activities (profit or loss), as the difference between the sum of operating income and operating expenses;
- financial result before taxation (profit / loss);
- net profit (loss).

In addition, it is appropriate to mention the legality of calculating such indicators of financial results, such as: financial result from a single economic transaction, and financial result (profit/loss) of a separate type of product or product.

In addition to absolute indicators of financial results, relative indicators of profitability (profitability) are widely used in the analysis [9].

If the amount of profit shows the absolute effect, then the profitability indicator characterizes the measure of this efficiency, that is, the relative degree of profitability. In general, the profitability ratio is calculated as the ratio of profit to costs or used resources (capital). Profitability is measured in%. For this, the profitability ratio is multiplied by 100%.

Its economic meaning, interpretation and application depend on the internal construction of the coefficient (combination of indicators in the numerator and denominator). The most used indicators of profitability

are: profitability of assets (economic profitability), total profitability (profitability of production capital); return on equity (financial return); profitability of implementation (commercial profitability); profitability of a particular type of product or product [9].

The purpose of the analysis of financial results is to determine the completeness and quality of their receipt, to evaluate the dynamics of absolute and relative indicators, to find out the direction, degree and share of the influence of individual factors on changes in profit and profitability, to identify and evaluate possible reserves of their growth.

The profit earned by the company according to the results of the year is subject to certain distribution.

Some part of the profit is used to pay dividends to the owners, the formation of reserve capital, and the other is a source of expanded activity reproduction.

The profit distribution mechanism should contribute to the further development of the enterprise, the growth of its economic potential, ensuring the fulfillment of statutory requirements and satisfying the interests of the owners and founders of the enterprise.

When analyzing the distribution of profits, it should be borne in mind that the ratio of the net profit of the company in the form of dividends, the reinvested part of the profit and the free balance from the undistributed profit depend on a number of factors: the nature of the formation of the company, the period of its operation, industry affiliation, the amount of financial results obtained, shares founders and the amount of income on invested capital, considerations for reinvestment [9].

During the analysis of financial results, the following tasks are solved:

1. Assess the level of financial results in general and the relationship between individual indicators.
2. To study the dynamics of the company's financial results over a number of periods and to identify the main trends in their changes.
3. Assess the quality of financial results.
4. Identify the influence of factors on changes in operating profit and gross profit from the sale of goods.
5. Carry out an analysis of break-even activity and identify the degree of operational risk of the enterprise.
6. Analyze indicators of use (distribution) of profit.
7. To assess the level, dynamics and factors of change in indicators of profitability of activity.
8. Identify the reserves of growth of financial results and profitability of the enterprise and develop a system of measures aimed at their mobilization [10].

During the analysis of financial results, research is carried out in two aspects.

In the first, the financial result is evaluated as the degree of achievement of the final goal and determination of the efficiency of production and financial activity. Here, the priority is to assess the level of use of favorable opportunities and lost benefits.

The second aspect involves determining the priorities of capital investment by types of activities, by scale, in strategic and tactical dimensions, which give the maximum increase in financial results.

For external analysis, such sources of information are used as: annual financial statements, namely: “Report on financial results (Total income)” in form No. 2; “Balance Sheet (Report on Financial Status)” in form No. 1; “Report on equity” in form No. 3, and “Notes to the annual financial statements” in form No. 5. If the analysis is carried out within the enterprise (the so-called internal analysis), then, in addition to the above information, for an in-depth analysis it is appropriate to involve: registers of synthetic and analytical accounting (Journal 6), data on accounts of the 7th, 8th, 9th classes of the Chart of accounts of accounting and individual accounts of the 2nd class (account 23 “Production”) primary documents; order on the accounting policy at the enterprise; financial plan or business plan; non-system information (materials of oral surveys, questionnaires, observations, audit reports, conclusions of auditing and consulting firms, tax declarations, etc. [10].

The most comprehensive information on the financial results of the enterprise is displayed in the special form of financial reporting for No. 2 “Report on financial results (Report on total income)”.

Section 1 of the “Statement of financial results (Statement of comprehensive income)” is structured according to the classification of income and expenses by types of activities and functions, which ensures their consistent comparison to determine the net profit (loss) of the reporting period (table 4).

It should be noted that there are no articles in the “Report on financial results” that would directly reflect the effectiveness of investment and financial activities based on the comparison of income and expenses for these activities.

The content of the figures and tables shows that the financial results of enterprises have a multifaceted nature and are a synthesized reflection of the interrelationships and interdependence of all components of activity.

This means that the analysis of financial results should be carried out within the framework of a systematic approach, which involves the study of a complex of absolute and relative indicators and factors of financial results at all stages of their justification, formation and receipt, distribution and use.

Table 4 – Correspondence of income and expenses in the statement of financial results

<b>Articles of income</b>	<b>Articles of expenditure</b>
Income from the sale of products (goods, works, services).	Cost of sales of products (goods, works, services).
Gross profit (loss)	Administrative expenses
	Selling expenses
Other operating income	Other operating expenses
	Expenses for intelligence work
Realization of foreign currency	Cost of realized foreign currency
Realization of other current assets (except financial investments)	The cost of realized production stocks
Operating lease of assets (income)	Operating lease of assets (expenses)
Operating exchange rate difference (positive)	Expenses from the operational exchange rate difference
Penalties, fines, penalties received	Recognized penalties, fines, penalties
Reimbursement of previously written off assets	Inventory impairment losses
Write-off of accounts payable	Shortages and losses from deterioration of values
Received grants and subsidies	Doubtful and bad debts
Other operations	Other operating expenses
<b>Financial results from operating activities</b>	
Income from equity participation	Losses from equity participation:
Investments in associated enterprises	from investments in associated enterprises
Common activity	from joint activities
Investments in subsidiaries	from investments in subsidiaries
Other financial income	Financial expenses
Dividends received	Loan interest
Interest received	Other financial expenses
Other income from financial transactions	
Other income	Other expenses
Implementation of financial investments	Cost of realized financial investments
Realization of property complexes	Cost of realized property complexes
Non-operational exchange rate difference	Losses from non-operational exchange rate differences
Free asset acquisition	Depreciation of fixed assets and financial investments
Other activity income	Write-off of non-current assets
	Other operating expenses
<b>Financial result before taxation</b>	
Expenses (income) from income tax	
Profit (loss) from discontinued operations after taxation	
<b>Net financial result – profit (loss)</b>	

### Conclusions

At the current stage of development of the national economy, the activity of agricultural enterprises takes place in dynamic, often changing conditions, which negatively affects the general indicators of their production and economic activity. The strategic development of agrarian enterprises should be focused on increasing the financial results of economic activity due to the growth of production volumes and the improvement of product quality at optimal production costs, which in turn will ensure a high level of their efficiency.

In order to ensure the stable development of agricultural enterprises, the main priorities in the financial results management system should be the implementation of management measures aimed at optimizing the amount of financial results, namely:

– planning and forecasting the company's profit based on the optimal ratio of fixed and variable costs, prices and production volumes;

– development of an optimal program for the production of the main types of products in accordance with market requirements and consumer needs, taking into account the internal possibilities of using the available resource potential, which will allow optimizing profits per unit of land and other resources involved in production;

– development of one's own development strategy, taking into account the experience of a specific enterprise and the peculiarities of its activity, the implementation of which will ensure the formation of a stable competitive position on the market.

The entrepreneurial strategy of the development of agricultural enterprises in the process of managing financial results has a significant practical significance, which determines the direction of further research.

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DOI <https://doi.org/10.26661/2414-0287-2023-3-59-05>**PRODUCTION COST PLANNING: PROBLEMS OF THEORY AND PRACTICE****O.M. Rybalko, Pavlova I.Yu.***Zaporizhzhia National University  
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ORCID: 0009-0001-8204-0027***Key words:**cost price, calculation costs,  
product cost calculation,  
production enterprise,  
calculation methods

The article examines approaches to planning production costs and ways to reduce them. The main methods of cost calculation are considered. One of the main issues covered in this article is the choice of an appropriate method of calculating the cost price at the enterprise. Every business entity is faced with the issue of cost reduction, as it makes up more than 70% of the price of sold goods, works and services. Since the final result depends on the choice of the method of calculating the cost of the production facility, therefore, this article considers the methods of calculation by each specified method. Each of the above methods has an appropriate number of advantages and disadvantages, taking into account the production features of each business entity. Another aspect that should be paid attention to is that the methods given in the article may be technologically appropriate for a certain production, but from an economic perspective have certain limitations.

**ПЛАНУВАННЯ СОБІВАРТОСТІ ВИРОБНИЦТВА: ПРОБЛЕМИ ТЕОРІЇ І ПРАКТИКИ****Рибалко О.М., Павлова І.Ю.***Запорізький національний університет  
Україна, 69600, м. Запоріжжя, вул. Жуковського, 66***Ключові слова:**собівартість,  
витрати на калькулювання,  
калькулювання собівартості  
продукції,  
виробниче підприємство,  
методи калькулювання

У статті досліджуються підходи планування собівартості продукції та шляхи її зниження. Розглянуті основні методи калькулювання собівартості. Одним з основних питань, які висвітлені в цій статті є вибір доцільного методу розрахунку собівартості на підприємстві. Кожен господарюючий суб'єкт стикається з питанням зниження собівартості, оскільки вона складає більше 70% ціни реалізуємих товарів, робіт та послуг. Оскільки від вибору методу розрахунку собівартості виробничого об'єкта залежить кінцевий результат, тому в даній статті розглянуті методи розрахунку кожним зазначеним методом. Кожний з наведених методів має відповідну кількість переваг та недоліків, зважаючи на виробничі особливості кожного суб'єкта господарювання. Ще одним аспектом на який слід звернути увагу, що наведені методи в статті можуть бути технологічно доцільними для певного виробництва, однак з економічного ракурсу мати певні обмеження.

**Formulation of the problem**

Modern economic realities testify to the need to identify and eliminate deficiencies in the activities of enterprises, search for and involve in production reserves that are not used or not fully used. The efficiency of the enterprise and obtaining the maximum result depends on this. Those who receive the highest economic result from it have the strongest «immunity»; the same enterprises that work inefficiently, are unsustainable and cannot withstand tough competition. In the system of indicators characterizing the efficiency of production, one of the leading places belongs to the cost of production. It, as a synthetic indicator, reflects all aspects of the enterprise's production and financial and economic activities: the level of use of material, labor

and financial resources, the quality of work of individual employees and management as a whole.

Determining the cost of production is one of the main accounting tasks. The basis for solving a significant number of management tasks is precisely the estimation of the cost price. Information on the formation of the cost price should be used to determine its impact on the efficiency of the enterprise, and production costs are the basis for setting the selling price, and information on the cost price is the basis for forecasting and production management.

**Analysis of latest research and publications**

A significant number of works by foreign and Ukrainian scientists testify to the significant interest of scientists in the issues of theoretical substantiation of the cost of production and methods of its planning.

Among the foreign scientists researching the problems of cost accounting and cost planning, Drury K., Upchurch A., Scone T., Foster J., Horngren C. and others should be singled out. Scientists considered the cost of production from the point of view of management accounting. Ukrainian scientists made a significant contribution to the development of the theoretical and practical principles of the process of planning the cost of production. Among them, we can highlight such as: Cherep A., Butynets F., Vasyuk G., Ivanyuta P., Orlov O., Sopko V., Tsai Tsalko Y. and others.

### Formulation of the purposes of the article

The purpose of the work is to study the concept of cost of production as an indicator of the effective operation of the enterprise, planning of cost of production; consider the importance and ways of reducing the cost of production; determination of ways to reduce the cost of production.

### Outline of the main material of the research

The study of theoretical and practical aspects of determining the cost of production allows us to understand that the cost reflects in monetary form the individual costs of the enterprise for the production and sale of a unit or a certain volume of products in the conditions of the established economic environment.

In the amount of the cost price, the costs of production resources involved in the production of products in the specifically defined conditions of operation of a specific enterprise are reimbursed at current market prices. At domestic enterprises, it is customary to distinguish the following types of cost of production: production, industry, commercial, workshop and technological cost of the product, as well as finished products and other types thereof.

This type of classification distinguishes types of costs not only by their structure and composition, but also by certain methods of planning both individual costs and the general cost level[1].

Quantification of costs for the production of certain types of work and products is generally called costing or cost accounting. Three costing methods are used to plan the cost of the company's products:

- normative – on the basis of currently active progressive standards and norms of spending of economic resources per unit of production and other market indicators;
- planned – on the basis of planned indicators of direct costs and comprehensive cost estimates developed for a certain period (year, quarter, month);
- reporting – on the basis of actual (accounting) production costs in the reporting period.

Planned costings, as a rule, are formed for all types of products provided for in the annual production and sales plan of the enterprise. Given the wide assortment and nomenclature of manufactured goods, planned cost calculations can be carried out on the basis of division into so-called parts representing homogeneous groups of products or works. Let's consider in more detail the normative method of calculating costs for the production of goods and services in the conditions of market relations[2].

In modern conditions, the structure of planned production costing includes the following typical cost items: raw materials and materials; returnable waste (excluded); purchased component products, semi-finished products and services of cooperative enterprises; fuel and energy for technological purposes; total material costs; basic salary of production workers; additional wages of production workers; deduction for social insurance; costs for preparation and mastering the production of new products; manufacture of tools and devices for the purpose; equipment maintenance and operation costs; shop expenses; losses due to failure; other production costs; workshop cost price; general economic expenses; production cost; non-production costs; commercial cost.

The development of planned cost estimates for individual types of products involves the use of progressive cost standards for such production resources as raw materials and materials, fuel and energy for technological purposes, labor costs and tariff rates, etc. In particular, the standards of indirect general workshop or general production, general factory or general economic, non-production or commercial and other costs are also necessary, for example, for the maintenance of technological equipment, payment of administrative and management personnel.

The full (planned) cost of a product unit is determined by the sum of direct and indirect costs according to formula 1:

$$C_i = \left[ M + 3_o \left( 1 + \frac{K_1 + K_2}{100} \right) + 3_o \frac{\alpha}{100} + (3_o + 3_a) \frac{\beta}{100} \right] \left( 1 + \frac{K_3}{100} \right), \quad (1)$$

where  $C_i$  and – unit cost of production, hryvnias. / pcs.;  $M$  – direct costs for materials and components, hryvnias;  $3_o$  – basic salary, hryvnias;  $K_1$  – general indirect production costs for equipment maintenance and workshop costs, %;  $K_2$  – general factory (general economic) costs, %;  $\alpha$  – percentage of additional payment and bonuses to workers;  $3_a$  – additional salary, hryvnias;  $\beta$  – percentage of deductions for social insurance;  $K_3$  – non-production costs, %.

On the basis of the planned costings of individual products, a cost plan for the manufactured products is developed. In general, the cost price of the enterprise's finished products can be determined by formula 2:

$$C_n = \sum_1^n C_n N_r, \quad (2)$$

where  $N_r$  – annual volume of production;  $n$  – the number of species (nomenclature) produced[3].

In the process of developing a production cost plan, it is advisable to first identify reserves for reducing production costs due to technical, organizational and other factors. Planning to reduce the cost of production can be carried out with the help of refined and consolidated methods of calculation. Refined calculations are based on a comparison of indicators of the planned and basic unit cost of production. In this case, the total annual savings can be calculated as the difference between the reported and new planned cost values for the entire product range according to formula 3:

$$\Delta C = \sum_1^n (C_1 - C_2) N_r, \quad (3)$$

where  $C_1$  – basic unit cost of production;  $C_2$  – the planned cost of one part.

Planning to reduce the cost of production based on consolidated calculations, as a rule, involves preliminary justification of the percentage reduction of individual costs at the expense of relevant factors.

In the process of planning the cost of production by the normative method, the accuracy of calculations is determined by the selected methods of distribution of complex costs per unit of manufactured goods or service [4].

In the course of cost planning, the components of its costs are included in the period to which they belong, regardless of the time of payment. Non-production costs are recorded in the reporting month when they are discovered. Expenses in foreign currency are converted at the current exchange rate on the date of transactions.

In the theory and practice of product cost planning, indirect costs are distributed mainly in proportion to the wage rate of production personnel. However, given the presence of a diverse range and the quality and quantity of goods produced, this method does not provide the necessary level of accuracy in planning the cost of products in market conditions. Therefore, under the condition of limited resources in market conditions, a more justified and acceptable way of transferring complex costs for the products produced, in particular for the maintenance of technological equipment, can be the use of indicators of worked machine-hours or machine-hours. The essence of this method is that the total amount of indirect costs associated with the operation of the equipment is set at the rate of 1 hour or 1 minute. his works, with the help of which are subsequently determined in monetary terms and the corresponding costs per unit of production [5].

The experience of American companies working in the industry shows that costs, as a rule, should be divided into two main categories depending on the functional types of activity: production and non-production. In turn, the detailed division of production costs is represented by three categories: direct costs of material resources, direct costs of labor and firm (corporate) overhead costs. Direct material costs include all costs for materials that are components of the final product; to direct labor costs – wages of production workers who directly participate in the process of manufacturing the product.

Company-wide overhead costs include costs for auxiliary (expendable) materials, as well as salaries of management and service personnel, depreciation costs, rent, tax deductions, insurance premiums, additional salary payments, and downtime payments. Company-wide overhead costs are called both in foreign companies and in Ukrainian enterprises, general economic overhead costs or indirect costs for the production of products [6].

The total amount of direct material and labor costs forms the main cost. Direct labor costs, along with manufacturing overhead costs, are called conversion costs or conversion costs. This term reflects in foreign economic science the fact that the accounting of these costs allows transferring

the cost of raw materials and materials to finished products. At the same time, it should be borne in mind that in the process of production activity, a significant number of types of costs overlap within their economic categories.

The main method of determining various types of costs for the production of products in foreign parks is normative. Regulatory costs in leading American companies are the yardstick against which actual costs of economic resources are compared. Therefore, all regulatory costs reflect the optimal methods and conditions of work, and are also the basis for planning production costs per unit of production. In general, production costs represent the sum of standard costs of materials, labor and overhead costs. Regulatory costs can be calculated using formula 4:

$$I = MB + TB + HB, \quad (4)$$

where  $I$  – standard production costs per unit of production;  $MB$  – regulatory material costs;  $TB$  – regulatory labor costs;  $HB$  – regulatory overhead costs.

Standard overhead costs are determined as a percentage of standard direct labor costs. Normative labor costs are used to plan labor costs, the value of which is calculated according to formula 5:

$$PC = T3 \cdot U_c, \quad (5)$$

where  $PC$  – planned labor costs;  $U_c$  – hourly wage rates (without bonuses).

As a rule, in the planning of the cost price of the company's products, there is a need to determine the total and specific costs. In this regard, it is customary to divide all costs into fixed and variable. The full cost includes the total costs for the production of the total volume of products, the specific cost – for the production of a unit of goods and services. Specific cost is the average value of costs, which is determined by the ratio of total costs to the number of common units of production that make up the annual production plan [7]. Analytically, the relationship between total and specific cost and their components – constant and variable costs is expressed by formulas 6–7:

1) full cost price:

$$C_{nos} = S + V \cdot N_r; \quad (6)$$

2) unit cost:

$$C_{yo} = \frac{S}{N_r} + V, \quad (7)$$

where  $S$  – fixed costs;  $V$  – variable costs;  $N_r$  – annual output volume.

As can be seen from formulas (6) and (7), the total cost is the sum of fixed and variable costs for annual output, the specific cost is the sum of fixed and variable costs per unit of production [8]. It is important to keep in mind that the unit cost (7) decreases with an increase in the volume of production, since the amount of fixed costs that remain unchanged under the condition of performing a usual series of economic operations is detailed and distributed over a significant number of units of manufactured products.

### Conclusion

The article theoretically summarizes and proposes measures to solve an important scientific problem related to modern approaches to planning the cost of industrial

products. The research results made it possible to draw the following conclusions:

1. The essence of the production cost as an economic category is clarified. In the conditions of the transition to a market economy, the cost of production is the most important indicator of the production and economic activity of enterprises. The calculation of this indicator is necessary for evaluating the implementation of the plan for this indicator and its dynamics; determination of the profitability of production and certain types of products; implementation of intra-production budgeting; identification of reserves for reducing the cost of production; determination of product prices; calculation of national income on a country scale; calculating the economic efficiency of the introduction of new equipment, technology, organizational and technical measures; substantiation of the decision to produce new types of products and to withdraw obsolete ones from production.

2. Total costs and cost of production are characterized. The cost of production is interrelated with indicators of production efficiency. It reflects most of the cost of products and depends on changes in production conditions. Technical and economic factors of production have a significant impact on the level of costs. This influence will be manifested depending on changes in equipment, technology, organization of production, in the structure and quality of products, the amount of costs and its production. The correctness and timeliness of determining the actual cost of products produced by the enterprise directly depends on the timeliness and effectiveness of management decisions, the correctness of determining priorities for the further development of production. The financial condition of the enterprise may depend on how correctly the cost of production (works, services) is formed and the gross and taxable profit is determined.

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## TOPICAL ASPECTS OF IMPROVING THE ORGANIZATION OF PRODUCTION INVENTORY ACCOUNTING OF ENTERPRISES

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### Key words:

identification, accounting, valuation, production inventories, financial results, accounting policy, methods of inventory disposal valuation, transportation and procurement costs

The article studies some topical aspects of improving the organization of production inventory accounting, in particular, the issue of identification of this accounting category and the problems of accounting valuation of production inventories. The key components of the identification of the accounting category “production inventories” are determined. The author’s own definition is presented and substantiated, according to which production inventories are stocks (i. e., tangible current assets) held by an enterprise for the purpose of further one-time consumption (which will lead to a change in their natural and material form) in the process of production of products (works, services), maintenance of equipment, organization of management and marketing of products (goods). The article analyzes the issues of valuation of production inventories disposal. A comparison of the results of estimating the disposal of production inventories in the context of inflation using three main alternative methods of evaluation of disposal – the FIFO method, the weighted average cost method with price recalculation once a month and the weighted average cost method with price recalculation for each disposal. It is established that the use of the FIFO method in the context of inflation allows minimizing the accounting valuation of the disposal of production inventories, which in turn leads to maximizing the accounting valuation of the financial results of the reporting period and the value of inventory balances at the end of the period and, accordingly, improves the financial condition, increases the creditworthiness and investment attractiveness of the enterprise according to the financial statements. In terms of taxation, on the contrary, it is more attractive to use the weighted average cost method with prices recalculated once a month, since this method allows for a completely legal temporary optimization of the tax burden in terms of income tax in the conditions of inflation. The weighted average cost method with price recalculation for each disposal is recognized as a compromise option, the consensus of which is achieved by reducing the size of the effect. The issue of organizing the accounting and distribution of transportation and procurement costs by the methods of average percentage and direct distribution is studied. The disadvantages of the method of averaging transportation and procurement costs are identified and the expediency of direct distribution of transportation and procurement costs is substantiated, which allows improving the quality of accounting information on the movement of production inventories and the amount of costs generated as a result of their consumption.

## АКТУАЛЬНІ АСПЕКТИ ВДОСКОНАЛЕННЯ ОРГАНІЗАЦІЇ ОБЛІКУ ВИРОБНИЧИХ ЗАПАСІВ ПІДПРИЄМСТВ

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### Ключові слова:

ідентифікація, облік, оцінка, виробничі запаси, фінансові результати, облікова політика, методи оцінки вибуття запасів, транспортно-заготівельні витрати

У статті виконано дослідження деяких актуальних аспектів вдосконалення організації обліку виробничих запасів, зокрема питання ідентифікації даної облікової категорії та проблематики облікової оцінки виробничих запасів. Визначені ключові складові ідентифікації облікової категорії «виробничі запаси». Презентоване та обґрунтоване авторське визначення, відповідно до якого виробничими запасами є запаси (тобто матеріальні оборотні активи), які підприємство утримує з метою подальшого разового споживання (що призведе до зміни їх натурально-речової форми) в процесі виробництва продукції (робіт, послуг), утримання обладнання, організації процесів управління та збуту

продукції (товарів). Проаналізована проблематика оцінки вибуття виробничих запасів. Виконане порівняння результатів оцінки вибуття виробничих запасів в умовах інфляції із застосуванням трьох основних альтернативних методів оцінки вибуття – методу ФІФО, методу середньозваженої собівартості із перерахунком цін раз на місяць та методу середньозваженої собівартості із перерахунком цін за кожним вибуттям. Встановлено, що застосування методу ФІФО в умовах інфляції дозволяє мінімізувати облікову оцінку вибуття виробничих запасів, що в свою чергу призводить до максимізації облікової оцінки фінансових результатів звітного періоду і вартості залишків запасів на його кінець та відповідно покращує фінансовий стан, підвищує кредитоспроможність та інвестиційну привабливість підприємства за даними фінансової звітності. В площині оподаткування навпаки більш привабливим є застосування методу середньозваженої собівартості із перерахунком цін раз на місяць, адже саме цей метод в умовах інфляції дозволяє абсолютно законним чином тимчасово оптимізувати податкове навантаження в частині податку на прибуток. Метод середньозваженої собівартості із перерахунком цін за кожним вибуттям визнаний компромісним варіантом, консенсус якого досягається за рахунок зменшення розміру ефекту. Досліджене питання організації обліку та розподілу транспортно-заготівельних витрат за методиками середнього відсотка та прямого розподілу. Визначені недоліки метода усереднення транспортно-заготівельних витрат і обґрунтована доцільність прямого розподілу транспортно-заготівельних витрат, що дозволяє підвищити якість облікової інформації щодо руху виробничих запасів та сум витрат, що формуються в наслідок їх споживання.

### Statement of the problem

Production inventories are an important component of the business activities of the vast majority of modern enterprises. A significant portion of the company's financial resources is directed to their formation, and the speed of movement and efficiency of the use of production inventories fundamentally affects the profitability of the company's activities, financial condition and competitiveness as a whole. It is worth noting that a lack of the necessary production inventories may jeopardize the rhythmic operation of the company, lead to non-fulfillment of contractual obligations, loss of income and unreasonable expenses. On the other hand, the constant "freezing" of a substantial amount of funds in unused excess inventory leads to inefficient use of financial resources, loss of income and additional costs for the storage of such inventory, which in turn negatively affects the financial performance of the company.

Thus, the management of production inventories is an important component of business management, which actualizes the issue of organizing a high-quality accounting system for the availability and movement of production inventories, because making effective and operational management decisions requires high-quality information support.

### Analysis of recent studies and publications

Theoretical and practical aspects of the organization and methodology of inventory accounting have been studied by many economists. Given that the issues of improving the organization of inventory accounting are quite diverse, scientists naturally focus on its various aspects. So, in the scientific studies of M.S. Pushkar [1], O.M. Shpyrko and S.M. Semenova [2], O.V. Gamova, I.A. Kozachok, T. Yu. Ashifina [3], the issue of identifying the concept of "production inventories" is considered, since a clear definition of the essence of accounting categories is an

important prerequisite for the quality organization of their accounting. Another important and, accordingly, relevant issue in the organization of inventory accounting is its accounting valuation, including the initial valuation of production inventories, the issues of valuation of disposal of production inventories, the issues of accounting and distribution of transportation and procurement costs, as well as the procedure for valuation of production inventories at the balance sheet date at net realizable value, if applicable. These problematic aspects are studied in the scientific works of P.V. Pavlov [4], M.S. Pushkar [1], O.M. Shpyrko and S.M. Semenova [2], S.I. Begun [5] and many others. Promising areas for improving inventory accounting are also recognized as the areas of streamlining the document flow regarding the availability and movement of production inventories, automation and "electronization" of inventory accounting, as well as combining the functions of financial and management accounting and activating the inventory control system. These areas are actualized in the scientific articles of L.V. Bezkorovaina [6], O.V. Krukovskaya [7], V.A. Kononenko and Zh.P. Tsupalenko [8], I. Ya. Maksymenko and A.G. Ivanchenko [9], O.A. Odnoshevnaia [10] and many others. So, in particular, the question of the expediency of "ensuring electronic accounting of production inventories at the enterprise" is actualized [9], the thesis that ensuring the efficient use of production inventories at the enterprise is possible "only with a combination of financial and management accounting functions and their optimization" is substantiated [6], and the conclusion is formed that an important element of ensuring the functioning of a high-quality system of production inventories accounting is "independent control carried out either by external auditors or internal auditors under the condition of an appropriately organized internal control system" [7, p. 61].

Summarizing the above analysis of scientific research in the field of improving the organization of inventory

accounting, it should be noted that despite the extremely large number of available studies, the task is not completely solved. The identified issues are extremely multifaceted, and economic business practice constantly raises new questions and tasks, which justifies the expediency of further scientific research in the area of improving the organization of inventory accounting. In our opinion, special attention should be paid to the issues of identification of production inventories as an accounting category, as well as to the issues of initial valuation and valuation of disposal of production inventories, including the issues of accounting and distribution of transportation and procurement costs.

### Objectives of the article

The purpose of the study is to analyze the issue of accounting identification of production inventories and the problems of their initial valuation and valuation of disposal with a view to creating conditions for improving the quality level of organization of accounting for production inventories of enterprises.

### The main material of the research

The identification of production inventories as an accounting category is an important prerequisite for the quality organization of their accounting. It is the clear identification of each accounting category that allows us to identify problematic aspects of its reflection in accounting and financial statements, because despite the recognition of general accounting principles (such as prudence, consistency, continuity, etc.), the organization of accounting for specific accounting items – both assets and liabilities – fundamentally depends on the individual characteristics of each accounting category and the relevant tasks to be solved within the organization of their accounting.

The problem of identifying the category of “production inventories” for domestic enterprises is primarily due to the absence of a clear definition of this accounting category in the national regulatory documents governing accounting. Thus, the National regulation (standard) of accounting 9 “Inventories” contains a definition of only a broader accounting category – inventories, which are recognized as “assets that are:

- held for sale (distribution, transfer) in the ordinary course of business;
- are in the process of production for the purpose of further sale of the production product;
- held for consumption in the production of goods, performance of works and provision of services, as well as for the management of the enterprise” [11].

Among the components of inventories, clause 6 of NR(s) A9 “Inventories” provides for such an element of inventories as “raw materials, basic and auxiliary materials, components and other material assets intended for production, performance of works, provision of services, distribution, transfer, maintenance of production and administrative needs” [11]. However, the regulatory document does not use the phrase “production inventories” to identify this accounting category. At the same time, it is worth noting that in addition to the above-mentioned clause 6 of NR(s)A 9 “Inventories”, such inventory elements as work in progress,

finished goods, goods, low-value perishable items and current biological assets are also provided for.

The phrase “production inventories” is used as the name of synthetic account 20, and the Instruction on the Application of the Chart of Accounts for Accounting for Assets, Capital, Liabilities and Business Transactions of Enterprises and Organizations contains information that this account “is intended to summarize information on the availability and movement of stocks of raw materials (including raw materials in transit and in processing), construction materials, spare parts, agricultural materials, and other materials owned by the enterprise” [12]. At the same time, it is quite difficult to recognize the above thesis as a clear definition of the accounting category “production inventories”.

The scientific literature also actively studies the issue of identification of production inventories as an accounting category. So, M.S. Pushkar characterizes production inventories as “stocks of means of production that are in the warehouses of an economic entity and are necessary to ensure a continuous production process, and these are only those items of labor that are not yet involved in the production process and retain their natural and material form” [1, p. 74]. In the Explanatory Dictionary of Accounting and Related Terms by H.O. Korol, N.P. Potrus and A.O. Bezghodkova, production inventories are defined as “the totality of all materials, fuel, spare parts, etc. that the manufacturer has” [13, p. 16]. In the scientific monograph by O.M. Shpyrko and S.M. Semenova, the following definition of the category “production inventories” is proposed: “this is an integral part of labor items that are involved in the manufacture of products, but are not yet directly involved in the production process, are consumed during one production cycle and transfer their entire cost to the cost of the final product” [2, p. 82]. Analyzing the above definitions, it should be noted that production inventories are not an accounting category exclusively for production activities and production enterprises, such assets are objectively available at enterprises of other types of activities. For example, fuel for consumption by own vehicles or spare parts for maintenance of equipment in trade enterprises belong to the category of production inventories, which in turn further emphasizes the need to distinguish between such assets as “production inventories” and “goods”.

According to the results of the conducted scientific research, O.V. Gamova, I.A. Kozachok, T. Yu. Ashifina point out that “the essence of production inventories as accounting objects is that production inventories are a set of labor items that are part of current assets in the form of stocks of basic and auxiliary materials, as well as fuel, spare parts, return waste, containers and other materials that are intended for use both in the production process and for any other needs of the enterprise, in each operating cycle transferring their value to the cost of finished products, works, services, the accounting of which is kept on second-class accounts” [3, p. 34]. Commenting on the above definition, it should be noted that the identification of any accounting category through the principles of the existing organization of synthetic accounting (or accounting as such) is, in our opinion, a violation of logic, since it is identification that is the basis of the organization of accounting (i. e., accounting

should be organized in accordance with the essence of the objects of accounting), and not vice versa, when the existing accounting practice may be a component of identification.

Summarizing the existing approaches to the identification of the accounting category “production inventories”, it is first of all necessary to identify the main components of such identification, which, among other things, distinguish this type of assets from others. So, it should be clearly defined that production inventories include inventories (or tangible current assets) of one-time use, because it is necessary to distinguish between production inventories and low-value, rapidly depreciating items that also belong to inventories but are used repeatedly (and therefore lose their consumer qualities gradually), albeit for no more than one year or a normal operating cycle if it is more than one year. In addition, a clear distinction should be made between goods (i. e., assets acquired and held by an enterprise for resale in their existing physical form) and production inventories, which include assets held for subsequent consumption within the enterprise, which will lead to a change in their physical form. It is worth noting that despite the fact that the main source of production inventories is their purchase from suppliers, this is not a prerequisite for their identification, as production inventories can be obtained as a result of the liquidation of fixed assets, as returnable production waste, or as a result of contributions to the authorized capital or exchange for dissimilar assets. Thus, we propose the following definition of the accounting category “production inventories”: production inventories are stocks (i. e., tangible current assets) held by an enterprise for the purpose of further one-time consumption (which will lead to a change in their natural and material form) in the process of production of products (works, services), maintenance of equipment, organization of management and marketing of products (goods). The issue of identification can be further expanded in terms of classification by stating that the components of production inventories include raw materials, components, fuel, construction materials, spare parts, agricultural materials, etc. In addition, in furtherance of the identification issue, it may be worth noting that the consequence of a one-time consumption of production inventories in the context of management actions (planning, accounting) is the simultaneous inclusion of the cost of consumed production inventories in the costs of production (works, services) or in administrative or selling expenses, as opposed to the cost of, for example, fixed assets, which is depreciated, i. e., included in expenses gradually in parts.

A fundamental and at the same time problematic issue in the organization of production inventory accounting and presentation of relevant information in the reporting is inventory valuation. So, S. Maliutiak rightly notes that “an important prerequisite for inventory accounting is its valuation, which affects the determination of production costs. This issue is of particular importance in the current economic environment, when market prices are constantly changing. The methodology of inventory valuation is an effective tool for organizing effective financial and economic activities of an enterprise and is of great interest to accountants due to the need to determine the real value of inventories” [14, p. 51].

The issue of inventory valuation in the current accounting practice of domestic enterprises is multilevel. So, NR(s)A 9 “Inventories” provides for the principles of initial valuation of inventories, valuation of inventory disposal and valuation of inventories at the balance sheet date. At the same time, each company develops and implements its own accounting policy, certain elements of which should regulate the valuation and organization of inventory accounting. In this regard, the following elements of the accounting policy have a fundamental impact on the accounting valuation of production inventories: the choice of the method of disposal valuation, the choice of the method of distribution of transportation and procurement costs, as well as the procedure for valuation of production inventories at the balance sheet date at net realizable value, if applicable.

The need to streamline the valuation of production inventories at the time of disposal (i. e., use, consumption or sale) is actualized by the fact that the receipt of production inventories of the same type may occur at different prices. The valuation of disposal should arrange the process of determining the relevant costs of production inventories or their cost of sale. According to clause 16 of NR(s)A 9 “Inventories”, one of the following methods should be applied for this purpose: “the identified cost of the respective unit of inventories, the weighted average cost, the cost of first-in, first-out (FIFO), standardized costs, and the selling price” [11]. It is worth noting that the selling price method can only be used to value goods sold at retail, and therefore cannot be used to value the disposal of production inventories. In most cases, the use of the identified cost method to measure inventories is not justified, as it significantly complicates their initial accounting. In the case of standard cost accounting, the need to adjust to actual production cost will require the use of another method of valuation of disposal.

Hence, in the practice of organizing production inventory accounting, the issue usually comes down to the choice between the FIFO method, which “is based on the assumption that inventories are used in the sequence in which they were received by the enterprise (reflected in the accounting records)” [11] and the weighted average cost method. The latter method has two fundamental varieties, because the calculation of the average price can occur either once a month or for each of the disposal transactions. In the monograph of O.M. Shpyrko and S.M. Semenova, the first of the options is called the method of periodic accounting, and the second – the method of permanent accounting [2, p. 44–45].

A reasonable choice of the method for evaluating the disposal of production inventories requires a clear understanding of the impact of this element of accounting policy on the accounting and reporting data regarding the size of financial results and the value of inventory balances as a component of the company’s assets. Of course, it is worth noting that such an impact is subjective and is available only if inventory balances are formed at the end of the reporting period. If we consider the period at the end of which there are no inventory balances (not only production inventories, but also work in progress and finished goods, the cost of which will depend on the amount of material costs), the amount of financial results determined in the accounting will in no way depend on the chosen method



of valuation of the disposal of production inventories. On the other hand, it should be understood that the quantitative impact of the method of valuation of production inventory disposal on the accounting assessment of financial results and the value of inventory balances directly depends on the direction of price level changes.

Given that economic entities, including business entities, usually deal with inflation in practice, this issue should be analyzed in the context of a constant increase in the price level. Table 1 compares the use of the FIFO method, the weighted average cost method with monthly price revaluation, and the weighted average cost method with price revaluation for each disposal transaction to measure the disposal of production inventories.

Comparing the results of an alternative assessment, it is worth recognizing that in the event of a change in the price level, assessment by different methods forms different sums of the cost of disposal of production inventories, which in turn directly affects the size of the financial results of the corresponding reporting period and the value of the balance of stocks at its end.

So, in conditions of constant price growth due to inflationary processes, the minimum valuation is the

FIFO method of disposal, which maximizes the amount of financial results and the accounting value of balances. In inflationary conditions, the maximum valuation is the weighted average cost method with prices recalculated once a month, which minimizes the accounting estimate of financial results. The weighted average cost method with price revaluation for each disposal generates interim results compared to the other two methods.

Thus, the choice of a particular method of valuation of disposal of production inventories as an element of accounting policy allows to influence the amount of financial results of certain reporting periods. Accordingly, it is advisable to analyze the purpose of such influence. On the one hand, employees who manage the company are interested in increasing the accounting estimate of financial results (i. e., increasing profits or minimizing losses), especially if they receive bonuses from the amount of profit. In addition, an increase in the amount of profit (simultaneously with an increase in the estimated value of the company's assets), according to the financial statements, improves the financial condition, creditworthiness and investment attractiveness of the company, which is relevant in cases of lending, attracting additional investors and

Table 1 – Comparison of the results of production inventories disposal valuation using different methods

Data on the availability and movement of production inventories				
Receipts			Expenditure	
Date	Quantity, kg.	Price per unit, UAH/kg.	Date	Quantity, kg.
01.05.2023.	1000	100.00		
08.05.2023.	2500	105.00	11.05.2023.	3000
15.05.2023.	3500	115.00	18.05.2023.	2500
22.05.2023.	2500	120.00	25.05.2023.	2000
<b>Valuation of disposal using the FIFO method:</b>				
The cost of disposal is 11.05.2023. = 1000 * 100.00 + 2000 * 105.00 = 310000.00 UAH.				
The cost of disposal is 18.05.2023. = 500 * 105.00 + 2000 * 115.00 = 282500.00 UAH.				
The cost of disposal is 25.05.2023. = 1500 * 115.00 + 500 * 120.00 = 232500.00 UAH.				
<b>Total cost of disposal: UAH 825000.00.</b>				
<b>The balance of production inventories: 2000 kg. at a price of UAH 120.00/kg. valued at 240000.00. UAH.</b>				
<b>Valuation of disposals using the weighted average cost method with price recalculation for each disposal:</b>				
Average price as of 11.05.2023. = (1000 * 100.00 + 2500 * 105.00) / (1000 + 2500) = 103.5714286 UAH/kg				
The cost of disposal is 11.05.2023. = 3000 * 103.5714286 = 310714.29 UAH.				
Balance after disposal: 500 kg. worth 51785.71 UAH.				
Average price as of 18.05.2023. = (51785.71 + 3500 * 115.00) / (500 + 3500) = 113.5714275 UAH/kg				
The cost of disposal is 18.05.2023. = 2500 * 113.5714275 = 283928.57 UAH.				
Balance after disposal: 1500 kg. worth 170357.14 UAH.				
Average price as of 25.05.2023. = (170357.14 + 2500 * 120.00) / (1500 + 2500) = 117.5892850 UAH/kg				
The cost of disposal is 25.05.2023. = 2000 * 117.5892850 = 235178.57 UAH.				
<b>Total cost of disposal: 829821.43 UAH.</b>				
<b>The balance of production inventories: 2000 kg. at a price of UAH 117.59/kg. valued at 235178.57 UAH.</b>				
<b>Valuation of disposals using the weighted average cost method with price revaluation once a month:</b>				
Average price per month = (1000 * 100.00 + 2500 * 105.00 + 3500 * 115.00 + 2500 * 120.00) / (1000 + 2500 + 3500 + 2500) = 112.1052632 UAH/kg				
The cost of disposal is 11.05.2023. = 3000 * 112.1052632 = 336315.79 UAH.				
The cost of disposal is 18.05.2023. = 2500 * 112.1052632 = 280263.16 UAH.				
The cost of disposal is 25.05.2023. = 2000 * 112.1052632 = 224210.53 UAH.				
<b>Total cost of disposal: 840789.48 UAH.</b>				
<b>The balance of production inventories: 2000 kg. at a price of 112.11 UAH/kg. valued at of 224210.52 UAH.</b>				
<b>Comparison of evaluation results:</b>				
Indicator	FIFO method	Weighted average cost method with price restatement		
		for each disposal	once a month	
1. Cost of disposal of production inventories for the month, UAH.	825000.00	829821.43	840789.48	
2. The value of the inventory balance at the end of the month, UAH.	240000.00	235178.57	224210.52	

issuing shares. The FIFO method allows to maximize this effect in an inflationary environment. On the other hand, for companies that are income tax payers, an increase in the accounting estimate of profit under the existing tax legislation will lead to an increase in the tax burden in terms of income tax. Accordingly, the weighted average cost method with monthly price recalculation should be recognized as the most attractive in the tax area, since in the context of inflation it allows to legitimately optimize (minimize) the tax burden in the area of income tax. As for the weighted average cost method with price revaluation for each disposal, its application partially meets each of the above objectives, but the consensus is reached by reducing the size of the effect. Making the final decision on the choice of the method of valuation of production inventories disposal is a complex task and requires taking into account a wide range of factors and conditions, among which, for example, P.V. Pavlov notes such as “the level of inflation, the financial condition of the enterprise, the terms of sale, pricing, tax legislation requirements, etc.” [4, p. 218].

Another important issue in the valuation of production inventories is the organization of accounting and allocation of the so-called transportation and procurement costs. This issue is a component of the initial valuation of inventories, but at the next stage it has a fundamental impact on the valuation of their disposal.

Thus, in accordance with clause 9 of NR(s)A 9 “Inventories”, a component of the initial cost of production inventories (as inventories acquired for a fee) is “transportation and procurement costs (costs of procurement of inventories, payment of tariff (freight) for loading and unloading operations and transportation of inventories by all types of transport to the place of their use, including costs of insurance of risks of transportation of inventories)” [11]. At the same time, the inclusion of transportation and procurement costs in the initial cost of purchased inventories raises the issue of their distribution. The essence of the problem is that a certain amount of recognized expenses, for example, expenses for transportation of inventories, may be simultaneously associated with several different items of inventories if they were transported together. Accordingly, the question arises of allocating transportation and procurement costs between separate inventory units. This distribution can be organized either on the basis of direct distribution or using the average percentage of transportation and procurement costs.

The logic of the direct allocation method implies that, if necessary, transportation and procurement costs that are simultaneously associated with several accounting units of inventories are allocated among these units. Such allocation may involve the use of natural units as the allocation base (allocation in proportion to weight, volume or number of units) or, if it is not possible to use natural units as the allocation base, the use of the purchase cost as the allocation base (excluding value added tax if the relevant amounts are included in the buyer’s tax credit). Allocation of transportation and procurement costs in proportion to natural units, i. e., in proportion to weight or volume, is more accurate and allows for maximum approximation of the objective cost of each unit of purchased production

inventory. However, the application of this allocation basis is limited, as inventories may be measured in different physical units. In such cases, direct allocation can be performed in proportion to the accounting cost of the inventory.

An alternative method of allocating and accounting for transportation and procurement costs is the method based on the calculation and application of the so-called average percentage of transportation and procurement costs. In essence, this method involves the preliminary systematization of all transportation and procurement costs on a special subaccount (subaccount 200 “Transportation and procurement costs to the cost of production inventories” or subaccount 201.1 “Transportation and procurement costs to the cost of raw materials”) and the distribution of the accounted costs between the production inventories that have been disposed of and the balance of production inventories in proportion to the accounting cost. This means averaging transportation and procurement costs, which is actually a disadvantage of this accounting method, as averaging leads to a distortion of the initial cost of individual production inventories items, and at the next stage, to a distortion of the amount of expenses related to the use of such production inventories. When this method is applied, a certain amount of additional costs is added to the cost of inventories that did not require any additional transportation and procurement costs. It is also worth noting that if this method is applied, the initial cost of a single unit of inventory that has been purchased and stored for several months without change will change at the beginning of each month as a result of changes in the average percentage of transportation and procurement costs, which is difficult to recognize as entirely logical.

### Conclusions

Organizing a high-quality system of accounting for the availability and movement of production inventories at an enterprise is an important prerequisite for ensuring their effective use, since making effective and operational management decisions requires appropriate information support. Solving methodological problems in the organization of production inventory accounting requires, in turn, their clear identification. Given the absence of a direct definition of production inventories as an accounting category in domestic regulatory documents and the identified comments on the approaches to their identification in the scientific literature, based on the results of the study, the following definition of this accounting category is proposed: production inventories are stocks (i. e., tangible current assets) held by an enterprise for the purpose of further one-time consumption (which will lead to a change in their natural and material form) in the process of production of products (works, services), maintenance of equipment, organization of management processes and sales of products (goods).

A fundamental aspect of the organization of production inventory accounting should be recognized as the choice of a method for assessing their disposal as an element of the enterprise’s accounting policy. In the framework of the study, the author compares the effects of applying three main alternative methods of valuation of inventory disposal in the context of inflation – the FIFO method, the weighted average cost method with price recalculation once a month and the

weighted average cost method with price recalculation for each disposal. Thus, it was found that the application of the FIFO method, in comparison with other methods, allows to temporarily increase the accounting estimate of financial results, which in turn to some extent increases the investment attractiveness and competitiveness of the enterprise according to the financial statements. On the contrary, the application of the weighted average cost method with monthly price recalculation leads to minimization of the amount of accounting estimates of financial results, which allows optimizing the tax burden in terms of income tax. Applying the weighted average cost method with price recalculation for each disposal may be recognized as a compromise.

The organization of accounting for and allocation of transportation and procurement costs as a component of the

initial cost of production inventories also ultimately affects the cost of their disposal. The distribution of transportation and procurement costs can be organized either by using the average percentage of such costs or by the direct allocation method. The first option is less time-consuming, but taking into account the fundamental comments on its logic and operational in the context of accounting automation, it is more appropriate to recognize the use of the method of direct distribution of transportation and procurement costs, as this allows to increase the qualitative level of determining the cost of disposal of individual units of production inventories. Whenever possible, direct allocation should be made in proportion to the natural accounting units of production inventories and only when this is not possible, the accounting value should be used as the basis for allocation.

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## FINANCIAL REPORTING AS INFORMATION SUPPORT FOR MONITORING THE FINANCIAL STATE OF THE ENTERPRISE

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### Key words:

financial reporting,  
reporting forms, balance sheet,  
NP(S)BO, IFRS, accounting

Financial reporting is a mandatory component of the reporting of any modern enterprise, and its formation is a certain logical conclusion of accounting. It is established that “the main requirement for the information presented in the statements is that it should be informative for users, that is, that the information contained in the financial statements can be used to make informed decisions. The main criteria that information must meet are: relevance, comparability, reliability, comprehensibility, truthfulness, neutrality” [2]. It has been proven that the formation of financial statements based on accounting data is carried out to meet the information needs of users. The main indicators of financial reporting are compiled in accordance with the norms of NP(S)BO 1 “General requirements for financial reporting” [2]. It was concluded that the domestic reporting practice provides for the formation of financial statements both according to national provisions (standards) of accounting and according to international standards of financial statements. The main forms of financial reporting, which are the information support for the analysis of the financial state of the enterprise, are recognized as the Balance Sheet (Report on the financial state) and the Report on the financial results.

## ФІНАНСОВА ЗВІТНІСТЬ ЯК ІНФОРМАЦІЙНЕ ЗАБЕЗПЕЧЕННЯ МОНІТОРИНГУ ФІНАНСОВОГО СТАНУ ПІДПРИЄМСТВА

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### Ключові слова:

фінансова звітність,  
форми звітності, баланс,  
НП(С)БО, МСФЗ, облік

Фінансова звітність є обов'язковою складовою звітності будь-якого сучасного підприємства, а її формування є певним логічним підсумком ведення бухгалтерського обліку. Встановлено, що «основна вимога до інформації, представленій у звітності полягає в тому, щоб вона була інформативною для користувачів, тобто, щоб відомості, що містяться у фінансовій звітності, можна було використати для прийняття обґрунтованих рішень. Основні критерії, яким повинна відповідати інформація, це: доречність, порівнянність, вірогідність, зрозумілість, правдивість, нейтральність» [2]. Доведено, що формування фінансової звітності на підставі даних бухгалтерського обліку здійснюється для задоволення інформаційних потреб користувачів. Основні показники фінансової звітності складаються відповідно до норм НП(С)БО 1 «Загальні вимоги до фінансової звітності» [2]. Зроблено висновок, що вітчизняна звітна практика передбачає формування фінансової звітності як за національними положеннями (стандартами) бухгалтерського обліку, так і за міжнародними стандартами фінансової звітності. Основними формами фінансової звітності, що є інформаційним забезпеченням аналізу фінансового стану підприємства, визнано Баланс (Звіт про фінансовий стан) і Звіт про фінансові результати.

### Introduction

Assessment and analysis of the financial state of the enterprise require high-quality and unbiased information support, the source of which in modern conditions is the so-called financial reporting of enterprises, which is formed according to certain rules on the basis of accounting data.

Financial reporting is a mandatory component of the reporting of any modern enterprise, and its formation is a certain logical conclusion of accounting. On this issue, it is worth noting that the Law of Ukraine dated 07.16.1999. No. 996-XIV “On accounting and financial reporting in Ukraine” [1] actually perceives the formation of financial reporting in combination with accounting. Thus, according

to Article 3 of this regulatory document, “the purpose of accounting and financial reporting is to provide users with complete, true and unbiased information about the financial condition and results of the enterprise’s activities for decision-making” [4]. It is indicative that already at this stage of regulatory regulation, the purpose of both accounting and financial reporting is to provide users with high-quality information about the company’s financial condition.

### Analysis of recent research and publications

The concept of financial reporting is an important element of the organization and management of modern accounting. The study of the economic and accounting essence of the “financial reporting” category is relevant for many scientists. Thus, Table 1 systematizes the definitions presented in various scientific works.

### Setting objectives

The purpose of the article is to display financial statements as information support for monitoring the financial state of the enterprise.

### Presentation of the main research material

Considering the question of the place of international financial reporting standards in the genesis of financial reporting as such, it is also worth noting that “international financial reporting standards belong to the Anglo-Saxon tradition of financial accounting and are characterized as standards based on principles (principles based standards), unlike, for example, from the GAAP system adopted in the USA – rules-based standards. This means that IFRS do not detail all procedures and stages of financial accounting, preferring trust in the professional independence of accountants, official conscience and personal professional judgment” [4].

Standard financial reporting is almost the only source of information about the economic and financial activities of the enterprise for users who do not have access to other accounting information and internal reporting of the enterprise. That is why “financial reporting should satisfy the needs of those users who cannot require reports

compiled taking into account their specific informational requirements” [4].

It is worth noting that “in a market economy, all business entities are interested in receiving full and open information about each other’s actions. Market relations give rise to the interest of borrowers and creditors, issuers and investors, banks and depositors, directors and shareholders, the state in transparent financial reporting, where it is possible to reveal the effectiveness of decisions and determine the responsibility of those who make them” [4].

A mandatory condition for the formation of financial reporting is the provision of an adequate quality level, because otherwise the generated reporting will not be able to provide users with quality information for making informed and effective management decisions. “The main requirements for reporting are reality, clarity, timeliness, unity of methodology of reporting indicators, comparability of reporting indicators with past ones. The qualitative characteristics of financial reporting are as follows: the information provided in financial reports must be understandable and calculated for unambiguous interpretation by its users, provided that they have sufficient knowledge and are interested in perceiving this information” [3].

Chapter III “Qualitative characteristics of financial reporting and principles of its preparation” of the National regulation (standard) of accounting 1 “General requirements for financial reporting” [2] is devoted to the issue of ensuring a high-quality level of financial reporting. Figure 1 schematically presents the main qualitative requirements for financial reporting.

First of all, “the main requirement for the information presented in the statements is that it should be informative for users, that is, that the information contained in the financial statements can be used to make informed decisions. The main criteria that information must meet are: relevance, comparability, reliability, comprehensibility, truthfulness, neutrality” [2].

In accordance with the norms of NP(S)BO 1 “General requirements for financial reporting”, the financial reporting of the enterprise “is formed in compliance with

Table 1 – Identification of the category “financial reporting” in scientific research

Definition	Author and source
Financial reporting is a system of “generalized accounting indicators, structured in the form of reports, which provide users with information about the financial condition, results of operations, cash flows and changes in the company's equity during the reporting period for these users to make appropriate decisions” [3]	O.M. Andrienko
Financial reporting is a system of tables and indicators of reports that reflect the financial and property situation of the organization, the results of its economic activity for a certain period	A.K. Borisov, B.A. Reisberg
Financial reporting is a way of summarizing the monetary assessment of the state of economic assets, financial resources and the sources of their formation on a certain date in the form of reporting tables compiled for internal and external users with the aim of making managerial and investment decisions.	V.V. Kyrychenko, V.I. Safonova
Financial reporting – reporting based on the results of the enterprise's activities, which enables users of financial reporting to familiarize themselves with its property and financial condition.; financial reporting is a kind of information model of a business entity	A.I. Malyshekin
Financial reporting - “a set of registers of generalized (consolidated, grouped, generalized) indicators for a certain period, characterizing the statics and dynamics” of accounting objects [4]	M.S. Pushkar
Financial reporting – a collection of reporting forms compiled on the basis of accounting data with the aim of providing the user with generalized information about the enterprise	N.M. Tkachenko
Financial reporting is an independent system of presenting data necessary for information support of management, which is not a constituent element of accounting	P.Ya. Homin

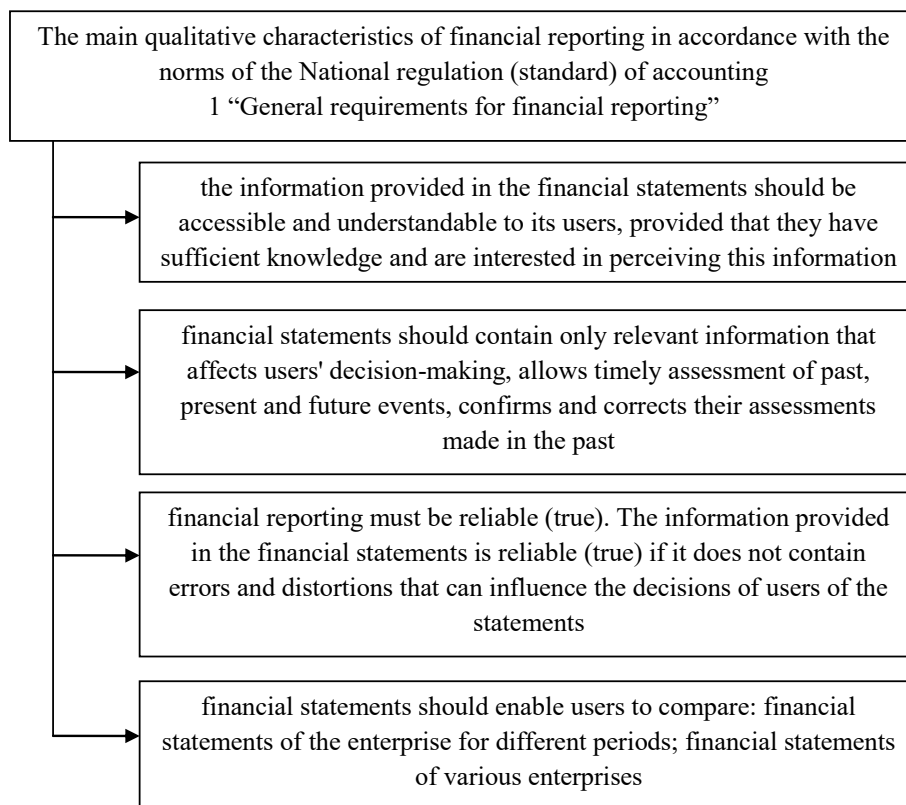


Fig. 1 – Basic qualitative requirements for financial reporting

the following principles: “autonomy of the enterprise; business continuity; periodicity; historical (actual) cost price; accrual, according to which income and expenses are reflected in accounting and financial reporting at the time of their occurrence, regardless of the time of receipt or payment of funds (money); full coverage; sequences; prudence; the predominance of essence over form; of a single monetary measure” [2].

Forming financial statements based on accounting data according to generally accepted practice is carried out

to meet the information needs of users, i. e. “natural or legal persons who need information about the company’s activities to make decisions” [4]. Understanding the composition of users – internal and external – of financial reporting data is important for the characterization of financial reporting as such. Table 2 presents the main groups of users of financial statements with an indication of their main information needs.

The formation of financial statements in domestic accounting practice is standardized by national accounting

Table 2 – Characteristics of the main users of financial statements

Users financial reporting	Characteristics of basic information needs
Existing owners (participants, shareholders) of the enterprise	Making decisions regarding the further ownership of property, making decisions regarding the payment of dividends (if there is a profit), evaluating the quality of management and, if necessary, making decisions about changing the management of the enterprise, making other strategic management decisions
Potential owners, investors	Making decisions about the expediency of acquiring shares or the share of the enterprise, making decisions about the expediency of investments
Enterprise management	Adoption of various operational and tactical management decisions to ensure the company's activities
State Tax Service	Verification of compliance of the recognized tax obligations of the enterprise with the results of its work, assessment of the prospects of the enterprise for the needs of tax forecasting and planning
State Statistics Service	Further systematization of information on the activities of enterprises at the branch, regional and national level
Private creditors – banks, suppliers, etc	Assessment of the company's ability to fulfill its obligations in a timely manner and in full
Buyers (customers)	Assessment of the company's ability to fulfill its obligations (including guarantees) in a timely manner and in full
Employees, trade union organizations	Assessment of the company's ability to timely and fully fulfill its obligations regarding labor remuneration; assessment of the stability of the employer from the point of view of further employment

regulations (standards), but it is worth paying attention to the fact that the composition and order of formation of financial statements depends on the size of the legal entity.

Thus, in accordance with the norms of Article 2 of the Law of Ukraine “On Accounting and Financial Reporting in Ukraine” for the settlement of issues related to the organization and maintenance of accounting and the formation of financial reporting, “enterprises (except budget institutions) may belong to micro-enterprises, small, medium or large enterprises” [1]. Table 3 presents the criteria for identifying enterprises by size in accordance with the specified law.

Legal entities belonging to large and medium-sized enterprises according to the above criteria, during the formation and submission of financial statements, are guided by the norms of the National Regulation (standard) of accounting 1 “General requirements for financial reporting” and prepare a complete package of financial reporting accordingly.

– The financial statements of large and medium-sized enterprises or the so-called complete package of financial statements, which is formed in accordance with the norms of NP(C)BO 1, consists of:

- balance sheet (financial statement);
- report on financial results (report on total income);
- cash flow report;
- report on equity;
- note to financial statements” [2].

The main indicators of the financial statements prepared in accordance with the norms of NP(S)BO 1 “General requirements for financial statements” are expressed in thousands of UAH without a decimal point. It is believed that in reporting as a source of aggregated information, users’ attention should not be drawn to small insignificant amounts.

Financial statements of micro-enterprises and small enterprises are formed according to separate rules as so-called simplified financial statements. Such simplified financial reporting is prepared in accordance with the norms of the National accounting regulation (standard) 25 “Simplified financial reporting”. This regulatory document provides for the formation of financial statements in the form of Financial Statements of a small enterprise (Forms 1, 2) and Financial Statements of a microenterprise (Forms 1, 2). Simplified financial statements are drawn up in thousands of UAH with one decimal place.

According to Art. 13 of the Law of Ukraine “On Accounting and Financial Reporting in Ukraine” “the reporting period for preparing financial statements is the calendar year” [1]. In addition, such a concept as interim financial reporting is provided, which “is compiled based

on the results of the first quarter, first half of the year, nine months” [1]. Interim financial statements are formed by large and medium-sized enterprises as part of the balance sheet (statement of financial position) and the statement of financial results (statement of total income).

Important users of financial reporting are state authorities, primarily the State Statistics Service and the State Tax Service.

In accordance with Clause 5 of the Resolution of the Cabinet of Ministers of Ukraine dated February 28, 2000. No. 419 “On approval of the procedure for submitting financial statements” to the authorities of the State Statistics Service, interim financial statements (I quarter, first half of the year, nine months) are submitted no later than the 30th of the month following the reporting quarter, and annual financial statements – no later than February 28 following the reporting year [1]. Only corporate income tax payers submit financial statements to the State Tax Service. Financial reporting in such cases is recognized as a mandatory appendix to the Tax Declaration on corporate income tax.

Regulation of confidentiality or publicity of financial reporting deserves special attention. Yes, Art. 14 of the Law of Ukraine “On Accounting and Financial Reporting in Ukraine” defines that “financial statements of enterprises do not constitute commercial secrets, are not confidential information and do not belong to information with limited access, except in cases provided for by law. The ban on the distribution of statistical information does not apply to financial reporting. Enterprises are obliged to provide copies of financial statements and consolidated financial statements at the request of legal entities and individuals in the manner prescribed by the Law of Ukraine “On Access to Public Information” [1].

The Law of Ukraine “On Accounting and Financial Reporting in Ukraine” provides that “enterprises of public interest (except for large enterprises that are not issuers of securities), public joint-stock companies, subjects of natural monopolies on the national market and subjects Business entities operating in extractive industries are required to publish annual financial statements and annual consolidated financial statements together with an audit report on their website (in full) no later than April 30 of the year following the reporting period and in another way in the cases specified by law. Large enterprises that are not issuers of securities and medium-sized enterprises are obliged to publish the annual financial statements together with the auditor’s report on their website (in full) no later than June 1 of the year following the reporting period” [11].

The domestic reporting practice provides for the formation of financial statements both according to national

Table 3 – Criteria for identification of enterprises by size according to the Law of Ukraine No. 996-XIV

Identification criteria		Types of enterprises			
		micro	small	average	big
indicators as of the date of drawing up the annual financial statements for the year preceding the reporting year must meet at least two of the specified criteria	book value of assets	up to 350.000 euros	up to 4 million euros	up to 20 million euros	more than 20 million euros
	net income from the sale of products (goods, works, services)	up to 700.000 euros	up to 8 million euros	up to 40 million euros	more than 40 million euros
	the average number of employees	up to 10 people	up to 50 people	up to 250 people	more than 250 people

provisions (standards) of accounting and according to international standards of financial reporting.

Yes, according to Art. 12 of the Law of Ukraine “On Accounting and Financial Reporting in Ukraine” “enterprises of public interest, public joint-stock companies, economic entities that carry out activities in the extractive industries, as well as enterprises that conduct economic activities by types, the list of which determined by the Cabinet of Ministers of Ukraine, prepare financial statements and consolidated financial statements according to international standards” [1]. It should be noted here that enterprises of public interest include, in particular, banks, insurers, non-state pension funds, other financial institutions (except for other financial institutions and non-state pension funds belonging to micro-enterprises and small enterprises) and enterprises belonging to large enterprises.

In accordance with Clause 5 of the Resolution of the Cabinet of Ministers of Ukraine dated February 28, 2000. No. 419 “On approval of the Procedure for submitting financial statements” “financial statements according to international standards of financial statements are formed by enterprises that conduct economic activities according to the following types:

- provision of financial services, except for insurance and pension provision (Chapter 64 SICDC009:2010);
- non-state pension provision (group 65.3 SICDC009:2010);
- auxiliary activities in the spheres of financial services and insurance (chapter 66 SICDC009:2010, with the exception of auxiliary activities in the field of insurance and pension provision (group 66.2009:2010)” [1].

It is also worth paying attention to the fact that enterprises, which are not subject to the requirement to prepare financial statements according to international standards, have the right to independently determine the

feasibility of applying international standards for the preparation of financial statements.

The main forms of financial reporting, which are the information support for the analysis of the financial condition of the enterprise, should be recognized as the Balance Sheet (Report on the financial condition) and the Report on the financial results.

The balance sheet of the enterprise traditionally displays information on the monetary valuation of the assets, equity and liabilities of the enterprise. It is the balance sheet that provides users with information and provides information on the property and financial condition of the enterprise.

According to the standard definition, the balance sheet is “the accounting method, which is a method of grouping and comparing the monetary value of economic assets and the sources of their formation on a certain date” [1]. By its accounting essence, the balance sheet is the result of observing the principle of double entry in accounting, and accordingly, the sum of the Assets of the balance sheet, where the monetary value of assets (business assets) is given, should be equal to the sum of the Liabilities of the balance sheet, where information is given about the company’s equity and liabilities.

As already noted above, according to domestic reporting practice, legal entities belonging to the category of large and medium-sized enterprises form a balance sheet as part of a complete package of financial reporting in accordance with the norms of the National Regulation (standard) of accounting 1 “General requirements for financial reporting”. Accordingly, we are talking about the so-called form 1 – Balance Sheet (Statement of Financial Status), the general structure of which, in accordance with the norms of NP(S)BO 1, is presented in Figure 2.

Next to the balance sheet, an important source of information support for the analysis of the financial state of the enterprise is reporting on income, expenses and

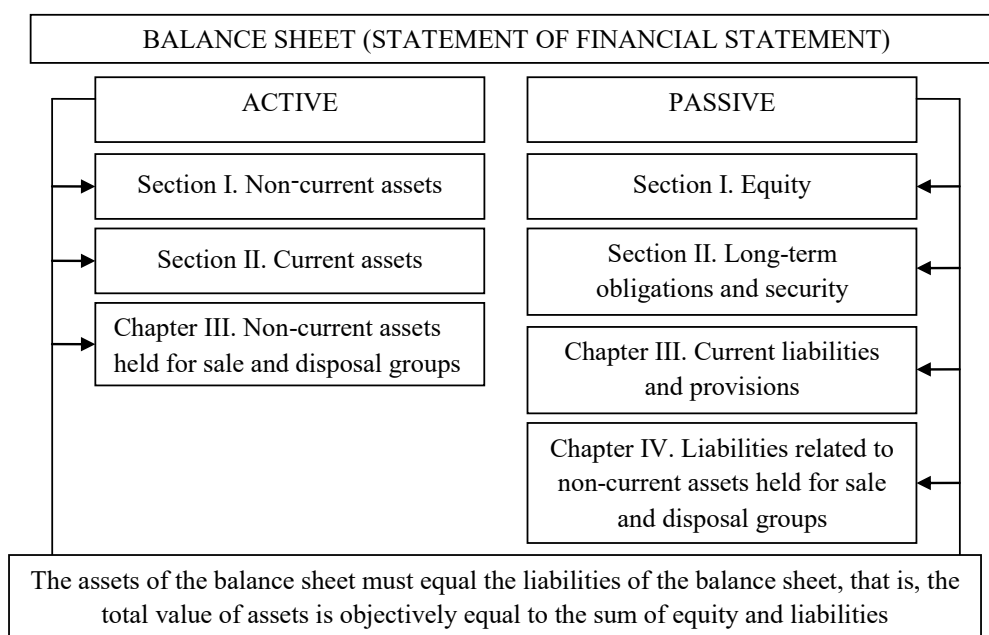


Fig. 2 – Structure of the Balance Sheet (Statement of Financial Status) according to the norms of NP(S)BO 1



financial results – the Report on financial results (Report on total income). It is about form 2 of the complete package of financial reporting, which is formed in accordance with the requirements of NP(S)BO 1 “General requirements for financial reporting” by large and medium-sized enterprises.

The report on financial results (Report on total income) consists of the following four information sections: “Financial results”, “Total income”, “Elements of operating expenses”, “Calculation of indicators of profitability of shares”.

The first section of the “Financial Results” report, the structure of which is presented in Figure 3, provides basic information about the company’s income, expenses, and financial results.

It is the information in the Report on financial results that allows you to assess the influence of such elements as profitability, profitability and the level of business activity on the formation of the financial result and to determine the trends of its change.

Summarizing, it should be noted that the information support for the analysis and, accordingly, monitoring of the financial state of the enterprise is not limited to financial reporting data, because separate accounting and statistical data are also involved for the analysis, but such data are available only to certain categories of users, in particular to the management and owners of the enterprise.

**Conclusions**

Assessment and analysis of the financial state of the enterprise require high-quality and unbiased information support, the source of which in modern conditions is financial reporting, which is formed according to clear standards on the basis of accounting data. Financial reporting makes it possible to assess profitability, profitability, development prospects and determine ways to coordinate management decisions.

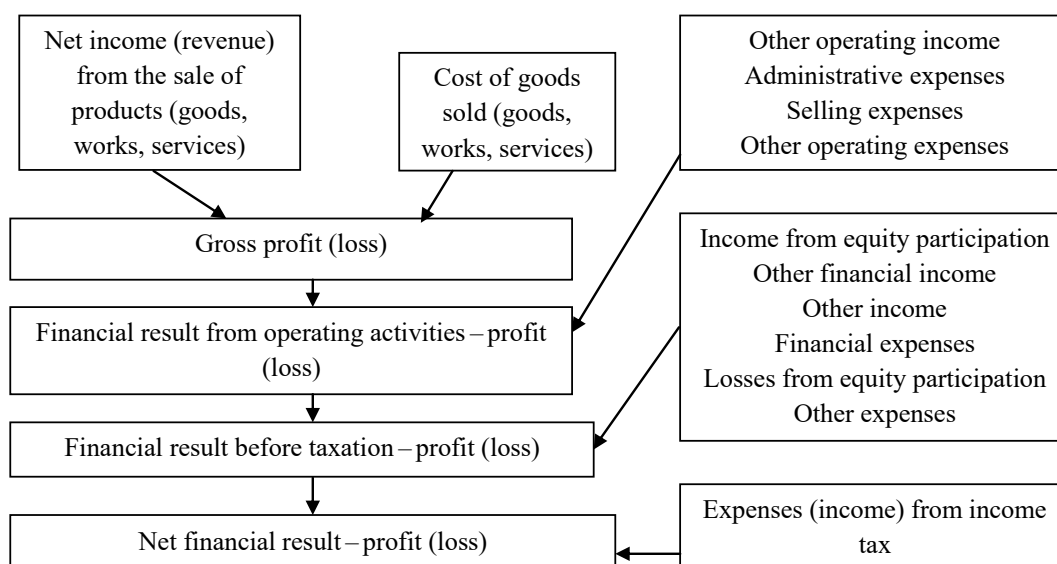


Fig. 3 – Scheme of Section I. “Report on financial results” in accordance with the norms of NP(S)BO 1 “General requirements for financial reporting”

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# THEORETICAL AND APPLIED ASPECTS OF ECONOMIC PROCESSES IN UKRAINE AND IN THE WORLD ECONOMY

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## LAND MARKET INFRASTRUCTURE

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### Key words:

land relations, land reform,  
land resources,  
land resource potential,  
rational land use,  
investment attractiveness,  
investment-attractive lands,  
investment-attractive sectors,  
forecasting, investment activity,  
land market infrastructure,  
support mechanisms,  
stimulation mechanisms,  
investments, institutions

This article is dedicated to the search for an effective model of environmentally friendly agricultural land use and the agricultural economy in Ukraine, taking into account the rating assessment of the investment attractiveness of administrative-territorial features of land resources and directions aimed at stimulating investment activities. The article conducts an analysis and researches the directions of utilization, development trends, and mechanisms of state support for stimulating the investment attractiveness of land resources. In the course of the research, a list of measures dedicated to the development of directions and mechanisms of support for stimulation, formed through investment attractiveness, is examined, considering the nature of their distribution and efficiency, taking into account eco-friendly technologies. The study explores the goals and objectives of eco-economic land use through the formation of investment attractiveness of land resource potential as a scientific prerequisite for the development of land relations in Ukraine. Priority sectors of the economy are highlighted, through which the potential of land use, land resources, and investment attractiveness is revealed. The article analyzes and outlines land relations and land use problems, proposing ways to address them. It identifies and proposes several significant mechanisms for supporting state incentives for investment attractiveness. A list of measures is proposed for the environmentally safe and dynamic development of market land relations in Ukraine. The directions for regulating environmental land use are identified as one of the most important and positive platforms for regional investment attractiveness development.

## ІНФРАСТРУКТУРА РИНКУ ЗЕМЛІ

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### Ключові слова:

земельні відносини,  
земельна реформа,  
земельні ресурси,  
земельно-ресурсний потенціал,  
раціональне землекористування,  
інвестиційна привабливість,  
інвестиційно привабливі землі,  
інвестиційно привабливі галузі,  
прогнозування,  
інвестиційна діяльність,  
інфраструктура ринку землі  
механізми підтримки,  
механізми стимулювання,  
інвестиції, інституції

Стаття присвячена пошуку ефективної моделі функціонування екологічнобезпечного сільськогосподарського землекористування та економіки сільського господарства України з урахуванням рейтингової оцінки інвестиційної привабливості адміністративно-територіальних особливостей земельних ресурсів та напрямів, направлених на стимулювання інвестиційної діяльності. В статті проведено аналіз та дослідження напрямів використання, тенденцій розвитку та механізмів підтримки державного стимулювання інвестиційної привабливості земельних ресурсів. В процесі дослідження розглянуто перелік заходів, які присвячені розвитку напрямів та механізмів підтримки стимулювання, які сформовані за рахунок інвестиційної привабливості, характеру їх розподілу та ефективності використання з урахуванням екологічнобезпечних технологій. Досліджено цілі та завдання еколого-економічного природокористування за рахунок формування інвестиційної привабливості земельно-ресурсного потенціалу як наукової передумови розвитку земельних відносин в Україні. Висвітлено пріоритетні галузі економіки, за рахунок яких розкривається потенціал природокористування, земельних ресурсів та стимулювання інвестиційної привабливості. Проведено аналіз та окреслено проблеми земельних відносин

і землекористування, запропоновано шляхи їх вирішення. Визначено та запропоновано декілька суттєвих механізмів підтримки державного стимулювання інвестиційної привабливості. Запропоновано перелік заходів для екологічнобезпечного динамічного розвитку ринкових земельних відносин в Україні. Визначено напрями регулювання екологічного землекористування, які є одними з найбільш важливих та найбільш позитивних платформ розвитку інвестиційної привабливості регіону.

### Statement of the problem

The purpose of an investor's activities is essentially to ensure economic balance during its development and functioning, its financial stability, as well as to provide the most effective ways of implementing its own investment strategy. For generations, economists have proven the fact that the attractiveness of land resource potential for investment contributes significantly to the initiation of investment processes at the regional level in the conditions of regulatory, managerial, and financial decentralization. A high level of investment attractiveness guarantees a stable inflow of investments into the country, additional revenues to the state budget, and the development and improvement of the social environment in the country [14]. Scientifically substantiated, attracting investments into the regional economy is a key task in modern economic conditions. The most rational way to solve it is to increase the investment attractiveness of Ukraine's regions for potential investors, so the main task should be the optimization of regulatory, financial, and managerial conditions for investment, which determine the investor's choice regarding a specific investment object, which can be a city, region, country, individual project, or corporation.

To create conditions for the development of rational land use and the stimulation of investment attractiveness in a region, country, or specific project, it is necessary to carry out relevant natural-agricultural zoning. The goal of natural-agricultural zoning is to identify specific regional units, which are represented by natural-agricultural regions that determine the directions of soil-forming processes. Depending on them, zonal types of agricultural production are formed, which constitute the natural-scientific basis aimed primarily at implementing the state's land relations policy.

In the search for an effective model of agricultural land use and the agricultural economy in Ukraine, there are no contradictions regarding their development's particularly important and strategic role for investments. However, the flow of investment capital into the agricultural sector is characterized by very low dynamics, despite the potential of resources being significantly higher compared to the potential of most European countries. Therefore, during the limited investment resources period, investment attractiveness of agricultural land use, as a category, becomes the main criterion on the basis of which an investment strategy and a mechanism for stimulating investments by both the investor and the state's investment agricultural policy are formed. In this regard, the issue of determining the rating assessment of the investment attractiveness of administrative-territorial features of land resources and stimulating investment activities becomes particularly relevant.

### Analysis of recent studies and publications

Land relations, land reform, the concept of an effective model for the functioning of agricultural land use and agriculture in Ukraine, as well as a wide range of issues related to land resources, are significant subjects of scientific discussions, research, and improvement among scholars, land managers, and land users. The creation of a land market is a strategic issue for Ukraine, which sparks many debates among scientists and experts in the field of land use. Among Ukrainian scientists, significant attention to this issue is given by researchers such as D.S. Dobryak, D.I. Babmindra, O.P. Kanash, I.A. Rozumny, and A.M. Tretyak. Through their works, they shed light on various aspects, including land resources and their utilization, the classification of agricultural lands as a scientific prerequisite for their environmentally friendly use, with a substantial focus on ecological research and the classification of land resources.

This classification is primarily aimed at implementing environmentally friendly land use systems, which, in turn, serve as the foundation for rational, progressive, and comprehensive land resource utilization. This will create conditions for an investment-friendly climate.

### Objectives of the article

The main objectives of the article are as follows: to identify an effective model for the operation and development of environmentally friendly agricultural land use and the agricultural economy of Ukraine, taking into account the rating assessment of the investment attractiveness of administrative-territorial features of land resources and directions aimed at stimulating investment activities; to propose mechanisms and ways to support state incentives for investment attractiveness and address issues that require special attention.

### The main material of the research

When you open the Land Code of Ukraine, the first thing that catches your eye is the definition of the concept of "land": "Land is the primary national wealth under the special protection of the state." Firstly, land is the territory of the state, delineated by borders from other states. All lands within the territory of Ukraine, including islands and lands occupied by water bodies, belong to Ukrainian lands, which are categorized according to their primary purposes [7]. A common characteristic of all lands is that they serve as objects of social relations regulated by land law norms. The value of land lies in its status as a natural resource, and its protection creates favorable conditions for the preservation of natural objects, forests, water bodies, plant and animal life, subsoil resources, and

atmospheric air. Land is a unique natural object because it provides a conducive environment for the life of all living organisms, including humans. The unique properties of land testify to its exceptional value for human existence, for the creation of society, and for the development of the economy and economic relations as a whole. Being a means of production and a means of creating conditions for the development of society, both socially and economically, land is used for locating and constructing objects of social and economic purposes, for agricultural production, and for the development and support of the national economy. Considering the importance and significance of land resources as a whole, the issue of determining the rating assessment of the investment attractiveness of administrative and territorial features of land resources and the issue of determining the investment attractiveness of environmentally friendly agricultural land use are particularly relevant as a means of defining the most promising capital attraction directions.

Today, Ukraine has a direct impact on the land market, including agricultural land. Changes are taking place at the state level. The Law on the Circulation of Agricultural Land has been adopted, which, accordingly, brings changes to the market for agricultural land.

The implementation of land reform has facilitated the emergence of market mechanisms for regulating land relations. The radical nature of these reforms has led to a transformation of the entire system of land relations, resulting in various issues, including reduced efficiency in the use of agricultural land, decreased soil fertility, disruption of scientifically-based agricultural systems, and more. Consequently, questions related to state regulation and mechanisms for the functioning of land relations and environmentally friendly land use in agriculture have become exceptionally relevant.

The state's land policy is formulated in the sphere of land market regulation, land use, land protection, land management, maintaining a state land cadastre, land lease payments, and monitoring and state control over land use and protection. The land policy of the state, at any given stage of its development, has been significantly influenced by the overall socio-economic policy and directly depends on the rules for the distribution and use of the land fund, as well as incentives and constraints for development in various sectors.

Currently, environmentally friendly agricultural land use should be regarded as the cornerstone of societal development and eco-economic nature management, which is a guarantee for creating attractive conditions for investment projects and is one of the key and substantial factors in the development of rational land use. In this regard, important directions for the regulation of environmental land use should include contour-melioration systems of organic land use, organizational measures, the agro-technical complex for cultivating crops, forest melioration measures, and a hydraulic-mechanical complex for regulating surface runoff.

The regulation of property relations in the land sector is necessary to create conditions for the rational use of society's primary resource – agricultural land

for agricultural production in the interests of society. It is essential to ensure that land is not depleted and that ecological balance is maintained. The term of landowner's authority is theoretically unlimited, and the potential of land may tend to increase.

We consider it necessary to establish an objective mechanism for land relations that will establish certain rules of conduct with regard to land, on land, and concerning land. In the case of unsatisfactory conditions in this area, the reasons should be sought in the actual land relations created; also, in the mechanism of rights and responsibilities regarding land ownership, use, and disposal, and consequently, in the methods of implementing this mechanism. Land should not become an ordinary commodity resource. Back in the early 20th century, the Russian Social Democratic Labour Party (Bolsheviks), led by Lenin, believed that landownership, regardless of its form (private, state, communal), should be a national asset, a single state fund managed on behalf of the state by various levels of Soviet authorities [12]. Land, more than any other property, is relevant to the interests of other territorial entities, land users, and lessees. Therefore, land relations require special regulation. Considering the basis for classifying the interests of property users, owners, hired workers, and society as a whole, methods of property relations regulation can be divided into legal, economic, and administrative.

The improvement of the mechanisms of state regulation of land relations in Ukraine should be based on adjusting the state's agrarian policy and further developing the legal framework at the state and municipal levels. This will facilitate its implementation and the creation of an appropriate organizational mechanism with its inherent infrastructure for implementing land relations development policies.

While enhancing legal methods, we deem it necessary to create conditions to satisfy the rational personal interests of all participants in the production process: business owners, direct managers of these businesses, lessees, and other users, directing them towards activities beneficial to both society and ecological balance.

It is also worth noting that land legislation and the regulation of land relations, aimed at ensuring the right to land for citizens, legal entities, territorial communities, and the state, as well as the rational use and protection of land, are among the most critical issues for regulating the market of agricultural land use [13].

We believe that the creation of sectors of the economy specializing in the utilization of accumulated waste and economically and ecologically regulating harmful emissions is significant and incredibly important.

Regarding the sustainable development of rational land use and the stimulation of investment activities, an important step is the implementation and utilization of certain mechanisms of state incentives. Firstly, this includes tax incentives. It directs investments towards priority sectors of the national economy and stimulates investment activities of economic entities. This is achieved through: reducing tax rates or tax bases; tax exemptions; eliminating taxes on reinvestment; introducing tax credits; implementing differentiated tax rates. Secondly, it involves financial and credit incentives. It involves expanding budget financing and enhancing the availability

and demand for credit resources. This is implemented through: allocating targeted state loans; providing state loans; accelerated depreciation; offering preferential and interest-free loans; establishing state off-budget investment funds. Thirdly, it encompasses the stimulation of investment project implementation. This mechanism ensures the realization of the state's economic and social development goals, enhances the technical level of production and specialists, and contributes to the competitiveness of national production. It is implemented through supporting the technical and economic justification of projects, providing targeted funding for research and project design work, and assisting investors in resolving issues or disputes.

The mechanisms of stimulation and utilization of land resources in Ukraine as part of the resource potential indicate the need for the concentration of resources and the implementation of measures to stimulate an investment-friendly climate in the present and near future.

## Conclusions

For the effective and efficient model of agricultural land use and the development of Ukraine's national agricultural economy, there exists an objective mechanism that encompasses various directions formed in the sphere of land relations, including environmentally safe land use, land protection, land monitoring, and state control over land use and protection.

In the context of reforming Ukraine's eco-economic system and stimulating investment activities, land resources, as the basis of any economic system, have been and remain the fundamental and reliable resource for shaping and improving the economic situation that exists in the country today. The efficient utilization of land resources and the enhancement of land relations are a priority direction for the socio-economic development of Ukraine and for stimulating investment attractiveness.

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## GLOBALIZATION AND GLOBAL TRENDS: IMPACT OF ARTIFICIAL INTELLIGENCE ON THE ECONOMY

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### **Key words:**

globalization,  
artificial intelligence, business,  
economy, automation

The article examines the theoretical and practical aspects of globalization and the impact of artificial intelligence on the economy and business. Researching the impact of globalization, technology, and artificial intelligence on the economy is a hot topic that is attracting significant interest among countries and companies. This research makes it possible to understand the current trends in the development of the world economy, predict its future changes and develop strategies that will help companies and countries use new opportunities and reduce possible risks. Today, artificial intelligence has a great impact on various fields of activity, in particular on business and the economy, which has global consequences, therefore, conducting research in this field is of great importance. The modern world is covered by the process of globalization, dynamic changes in technology and the development of the Internet, it needs a tool for the development of business and economy, for this it is possible to use artificial intelligence. The implementation of artificial intelligence opens up new opportunities for companies, such as automation, data analytics, personalization of services, development of innovative products and improvement of management. However, at the same time, it brings new challenges. Researching the impact of globalization, technology, and artificial intelligence on the economy is an important tool for developing strategies and solving problems affecting the economy and society as a whole.

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## ГЛОБАЛІЗАЦІЯ ТА ГЛОБАЛЬНІ ТРЕНДИ: ВПЛИВ ШТУЧНОГО ІНТЕЛЕКТУ НА БІЗНЕС ТА ЕКОНОМІКУ

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### **Ключові слова:**

глобалізація, штучний інтелект,  
бізнес, економіка, автоматизація

У статті розглянуто теоретичні та практичні аспекти глобалізації та вплив штучного інтелекту на економіку та бізнес. Дослідження впливу глобалізації, технологій та штучного інтелекту на економіку є актуальною темою, яка викликає значний інтерес серед країн та компаній. Це дослідження дозволяє зрозуміти сучасні тенденції розвитку світової економіки, прогнозувати її майбутні зміни та розробляти стратегії, які допоможуть підприємствам та країнам використовувати нові можливості та зменшувати можливі ризики. На сьогоднішній день штучний інтелект справляє великий вплив на різні сфери діяльності, зокрема на бізнес та економіку, що має глобальні наслідки, тому проведення дослідження в даній галузі набуває великого значення. Сучасний світ охоплений процесом глобалізації, динамічними змінами технологій та розвитком інтернету, потребує інструменту для розвитку бізнесу та економіки, для цього можливо використання штучного інтелекту. Впровадження штучного інтелекту відкриває нові можливості для компаній наприклад, автоматизація, аналітика даних, персоналізація послуг, розробка інноваційних продуктів та вдосконалення управління. Однак, водночас це несе й появу нових викликів. Дослідження впливу глобалізації, технологій та штучного інтелекту на економіку є важливим інструментом для розвитку стратегій та вирішення проблем, що стосуються економіки та суспільства в цілому.

### Formulation of the problem

In recent years, a number of global trends have been observed that shape the modern economic environment, including: digital transformation, technologies, artificial intelligence, an increase in the amount of data and the number of Internet users. Technology and artificial intelligence are bringing significant changes to the field of work and the labor market. The introduction of artificial intelligence can lead to the automation of jobs, which will cause the disappearance of certain professions, which in turn will give rise to the problem of unemployment and the need to retrain the workforce. This leads to the need to find new forms of work, reskilling workers and social protection for those who lose their jobs due to automation. Moreover, with the use of artificial intelligence comes the problem of privacy protection and the possibility of program abuse. Therefore, companies must establish standards and rules for the use of artificial intelligence. Unequal access to artificial intelligence, for example for less developed countries and population groups, can lead to a widening gap between countries and social groups. The general problem is to ensure fair and cost-effective use of artificial intelligence in business and economy in the conditions of globalization.

### Analysis of recent research and publications

Research on artificial intelligence receives attention from both domestic and international scholars and practitioners, such as O.I. Pizhuk [3], O.L. Yershova, L.I. Bazhan [2], D. Acemoglu, P. Restrepo [10]. In their works, they considered the role of artificial intelligence in the process of digital transformation of the economy. They study the impact of artificial intelligence on the labor market and changes in job requirements due to the use of new technologies and robots. They emphasize the potential of artificial intelligence to improve the efficiency of business processes, including automation, optimization of decision-making and increased productivity. Scientists also consider the impact of artificial intelligence on the competitive advantage of enterprises and opportunities for creating new business models. They pay attention to issues of transparency and responsibility when using artificial intelligence algorithms, especially in relation to decision-making and the preservation of personal data. Their research highlights the role of artificial intelligence in business and innovation implementation, the potential for using artificial intelligence to improve customer experience, develop new products and services, and forecast and analyze market trends.

### Objectives of the article

The purpose of the article is to investigate the relationship between globalization and global trends, as well as their impact on the economy and business, identify potential challenges and prospects associated with the implementation of new technologies and artificial intelligence. The main goals of the article are to reveal the potential of artificial intelligence to support business and increase efficiency in the context of globalization, identify

key challenges related to the use of artificial intelligence, such as employment, social impact and the creation of new opportunities for enterprises.

### Presenting main material

In recent decades, due to globalization, the world has become more interconnected and integrated. The strengthening of international connection, the exchange of goods, services and information affected the interdependence of the economies of countries and people. Technologies and artificial intelligence, due to the possibility of automation and data analysis, improve the functioning of various sectors and offer new ways to achieve efficiency.

Artificial intelligence (AI) is a broad term that refers to computer systems capable of performing tasks that normally require human intelligence, such as visual perception, speech recognition, decision making, and translation between languages [1].

Technologies and artificial intelligence are significantly changing the state of the economy and the way people live. Technologies speed up and facilitate business processes, reduce production costs, increase productivity and quality of work, which leads to economic growth and development. With the development of technologies and artificial intelligence, new opportunities appear, new types of professions and jobs are created.

According to a PwC report [7], there is a possibility that in the UK from 2017 to 2037 about seven million existing jobs may be displaced by artificial intelligence, but at the same time about 7,2 million new jobs will be created, the number of jobs in the UK will increase by 0,2 million.

However, the implementation of technology and artificial intelligence also has negative consequences for people, as automation can replace jobs that were previously done by humans with robots and software programs. At the same time, it can have significant economic consequences, in particular, a reduced employment and increase inequality between different population groups. Therefore, it is important that the development of technologies is accompanied by social and economic measures to ensure sustainable economic growth and social stability.

According to forecasts by Zippia [8] it is expected that in the United States by 2030, approximately 73 million jobs, which is about 46% of current jobs. Industrial sectors are expected to be the most affected, with the manufacturing sector alone expected to lose up to 20 million jobs.

Therefore, due to the impact of artificial intelligence, jobs are disappearing, but at the same time new ones are being created. The main difference is that low-skilled jobs are disappearing and skilled jobs are increasing instead.

Increasing labor productivity by organizations through the use of artificial intelligence and technologies that automate most processes and tasks will contribute to the growth of GDP.

According to the global artificial intelligence study by PwC [5], artificial intelligence is expected to bring about 15.7 trillion dollars to the global economy by 2030, which is more than the current output of China and India combined. Of this amount 6.6 trillion dollars will come

from productivity gains, and the other 9.1 trillion dollars from consumption side effects.

According to the analysis conducted by PwC (table 1), GDP growth is monitored, which is associated with increased productivity. There will be a significant increase in GDP in China by 26.1% and in North America by 14.5%, accounting for approximately 70% of the global impact. One of the main reasons for their leadership is that these countries have high technological readiness, which will contribute to enhanced productivity.

In the territory of the entire United Kingdom of Great Britain and Northern Ireland, the influence of artificial intelligence is expected to reach at least 5% of GDP. England, Scotland, and Wales have stronger trade ties with Europe and the rest of the world. The implementation of artificial intelligence in trade is likely to increase GDP growth in these countries (table 2).

Companies are forced to perform many operations and tasks every day. Artificial intelligence enables the automation of business operations in various industries, speeding up and facilitating the work process, allowing workers to focus on more important tasks. For example, the use of chatbots in customer service can help reduce the time previously spent on manually typing an answer to each customer, and allow specialists to concentrate on more complex cases. The use of artificial intelligence will also help companies minimize human errors, ensuring accuracy.

According to a study by Harvard Business Review [9], companies that started using artificial intelligence in sales, as a result, received an increase in the number of potential customers by more than 50%, reduced costs by 40–60% and reduced call time by 60–70%. Companies aiming to be leaders in world markets, stay ahead of their competitors

and achieve significantly higher profits, have already started using it in their activities.

As AI becomes increasingly popular in government agencies and sectors, it is important for them to consider the potential impact of AI for cybersecurity compliance. By taking steps to ensure the security, interoperability and ethics of their AI systems, agencies can help protect their systems and data from attackers. Governments and companies must take active to guarantee that employees are not left jobless after technological progress, and to ensure the security of their systems and data from cyber threats.

### Conclusions

Therefore, studying the impact of globalization, technology and artificial intelligence on the economy is highly relevant and important, as it provides an opportunity to investigate and timely understand the current trends in global economic development, predict future changes, as well as to develop strategies that help business and countries use new opportunities and reduce the emergence of new risks.

With the emergence of technology and artificial intelligence in the world, new prospects for the development of various industries, startups, business ideas and new jobs are rapidly arising. However, in addition to economic benefits, technology can also lead to significant disruptions for workers, companies and the economy, particularly in terms of labor market costs, especially for workers left behind by new technologies and artificial intelligence.

The development of technology and artificial intelligence is important for the global economy, but its positive or negative impact will depend only on how countries and companies use it and other influencing factors.

Table 1 – Impact of artificial intelligence (AI) on gross domestic product (GDP) worldwide in 2030, by region

Region	GDP growth due to AI in %	GDP growth due to artificial intelligence in trillions of US dollars
China	26.1	7
North America	14.5	3.7
Southern Europe	11.5	0.7
Developed Asia	10.4	0.9
Northern Europe	9.9	1.8
Latin America	5.4	0.5
The rest of the world	5.6	1.2

Source: compiled by the author based on [5]

Table 2 – GDP Growth amid Artificial Intelligence (AI) Implementation in 2030, by regions of the United Kingdom of Great Britain and Northern Ireland

Region	GDP growth due to AI in %	GDP growth due to artificial intelligence in billion of US dollars
England	10,6	204,5
Scotland	8,4	16,7
Wales	9,8	7,9
Northern Ireland	5,4	2,6

Source: compiled by the author based on [11]



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DOI <https://doi.org/10.26661/2414-0287-2023-3-59-10>**STATE AND PROSPECTS OF THE DEVELOPMENT OF ECONOMIC RELATIONS  
BETWEEN UKRAINE AND GREAT BRITAIN IN THE AGRICULTURAL SECTOR****Kushnir S.O., Kisenko O.A.***Zaporizhzhia National University**Ukraine, 69600, Zaporizhzhia, Zhukovsky str., 66*

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**Key words:**agricultural sector,  
agricultural production,  
prospects for cooperation,  
food safety, organic products,  
technologies, innovations,  
economic development

This article considers the prospects of economic relations between Great Britain and Ukraine in the agricultural area. Both countries have significant potential in this field, which creates unique opportunities for cooperation and development. Ukraine, which is one of the leading producers of grain, oil and other agricultural products, is one of the guarantee givers of food security in the world. On the other hand, Great Britain has a great demand for quality organic products, what Ukraine can use to expand the export range of agricultural production. Cooperation between two countries may involve the exchange of technologies, the expansion of sales markets and joint projects in the cultivation of organic products. However, in order to achieve success, it is important to develop infrastructure, bring production in line with international quality and safety standards, as well as intensify business contacts and facilitate the exchange of information between agricultural enterprises of both countries. Taking into account the potential and advantages, agricultural cooperation between Great Britain and Ukraine can contribute to sustainable economic development and ensuring food security.

**СТАН ТА ПЕРСПЕКТИВИ РОЗВИТКУ ЕКОНОМІЧНИХ ВІДНОСИН  
МІЖ УКРАЇНОЮ ТА АНГЛІЄЮ В АГРОСЕКТОРІ****Кушнір С.О., Кісенко О.А.***Запорізький національний університет**Україна, 69600, м. Запоріжжя, вул. Жуковського, 66***Ключові слова:**агросектор,  
сільськогосподарське  
виробництво,  
перспективи співпраці,  
продовольча безпека,  
органічна продукція, технології,  
інновації, економічний розвиток

Ця стаття розглядає перспективи економічних відносин між Англією та Україною у сільськогосподарському напрямку. Обидві країни мають значний потенціал у цій галузі, що створює унікальні можливості для співпраці та розвитку. Україна, яка є одним з провідних виробників зерна, олії та інших сільськогосподарських продуктів, є одним з гарантів продовольчої безпеки світу. З іншого боку, Англія має великий попит на якісні продукти органічного виробництва, що Україна може використати для розширення експорту асортименту продукції сільського господарства. Співпраця між країнами може включати обмін технологіями, розширення ринків збуту та спільні проекти у вирощуванні органічної продукції. Однак, для досягнення успіху, важливо розвивати інфраструктуру, приводити виробництво у відповідність до міжнародних стандартів якості та безпеки, а також активізувати ділові контакти та сприяти обміну інформацією між сільськогосподарськими підприємствами обох країн. Враховуючи потенціал та переваги, співробітництво агросфері між Англією та Україною може сприяти стійкому економічному розвитку та забезпеченню продовольчої безпеки.

**The problem statement  
in the article includes the following aspects**

Today, Ukraine finds itself in deep water because of the armed hostilities, and is forced to function, accepting challenges and overcoming obstacles. Great Britain became one of the reliable partners of Ukraine, which was one of the first to reach out for help, and for the second consecutive

year continues to establish mutual cooperation in various areas, including military, political, and economic ones. In the conditions of a rapidly changing world and increased globalization, economic relations are becoming a key factor for the development of countries. In the future, cooperation between Great Britain and Ukraine in the agricultural sector may be of crucial importance, as the development of the

partnership will ensure a sustainable supply of high-quality and ecologically clean agricultural products for consumers, ensure food security and contribute to the sustainable economic growth of both countries. For this purpose, Ukraine should outline the most appropriate areas of cooperation and problematic issues that need to be resolved.

### Analysis of the latest research

Prospects of bilateral economic relations between Ukraine and Great Britain are highlighted in the works of many domestic and foreign scientists, including M. Bilousov, O. Honcharov, A. Hrubinko, P. Ihnatev, V. Krushinskyi, V. Maiko, O. Sahaidak, P. Sardachuk, N. Yakovenko. Although the contribution of these scientists to the study of the economic relations of these countries in the agricultural sector is quite significant, the active pace of economic development requires constant changes and improvements, which determines the relevance of the study.

**The purpose of the article** is to identify potential opportunities for cooperation between Great Britain and Ukraine in the agricultural sector, including the exchange of technologies, scientific research in the area of organic production, fertilizer production, expansion of sales markets, implementation of joint projects and identification of problems that may arise in economic relations between the countries in agricultural industry, including infrastructural and logistical issues, provision of equipment and innovative technologies, production and application of modern fertilizers, compliance with quality standards, storage of raw materials and products, and other factors.

Main material statement. In today's world, where economic relations between countries are a key factor in ensuring sustainable development, it is important to monitor and explore new opportunities for cooperation between countries. One of the promising areas of cooperation between Great Britain and Ukraine is the agricultural sector. Both countries have significant potential in this field, and the development of economic relations in the area of agricultural production can result in mutually beneficial outcomes for both parties.

Ukraine has significant agricultural potential based on rich natural resources, fertile soils and a favourable climate. The country is one of the leading producers of grain crops, corn, sunflower, oil, oilseed meal, soybeans, rapeseed and other agricultural products. Additionally, Ukraine can

become a leading producer of organic products, which is becoming more and more popular on the world market.

The armed hostilities in Ukraine has created a threat to the food security of the world, as the real areas under sowing have decreased by about a quarter, since the armed hostilities zone covers almost 20% of the country territory, a third of Ukraine is mined (more than 5 million hectares of agricultural land), which will take decades to clear, and the land, which was damaged by trenches, shells, and the military equipment traffic, needs reclamation. It should be noted that as a result of hostilities, 53% of agricultural machinery, 23% of manufactured products, 15% of granaries, 6% of perennial crops were destroyed, the total amount of losses previously as of July 19, 2023 amounted to 8.7 billion US dollars and continues to grow [1].

Furthermore, the consequences of the explosion of the Kakhovskaia HPP are the loss of 92% of irrigation systems in the Kherson region, hundreds of farms were affected, the Zaporizhzhia region lost about 70% of the systems, and a certain part of other regions on the border with the Kherson region. This will have consequences not only for farmers, but also for the country's overall export potential [3].

Today, despite the armed hostilities and limited export opportunities, Ukraine remains a reliable partner and supplier of agricultural products to the world market (Fig. 1).

As can be seen from the data in Fig. 1, the volume of exports in 2022 decreased by almost 13% compared to the previous year, as the armed hostilities caused heavy losses to the crop husbandry sector (14.3 billion US dollars). Thuswise, the losses amounted to: 39% of the wheat crop, 17% of sunflower, 12% of corn, 8% of barley, 3% of berries and fruits, 21% of other plants. Livestock losses (\$1.7 billion) included: 48% dairy, 20% egg production, 17% poultry, 9% swine, 4% cattle, 2% all other. The decrease in exports is directly related to the armed hostilities, taking into account the gradually increasing trends observed in recent years and preliminary forecasts for 2022. However, even under the conditions prevailing in Ukraine today, the state is trying to develop a plan and ways to implement it to restore the export potential of the agricultural sector and maintain the status of a supplier of food to world markets.

According to the results of the 2022–2023 season, corn and wheat continued to be the main export items, sunflower oil ranks the second, and oil meal and related products rank third.

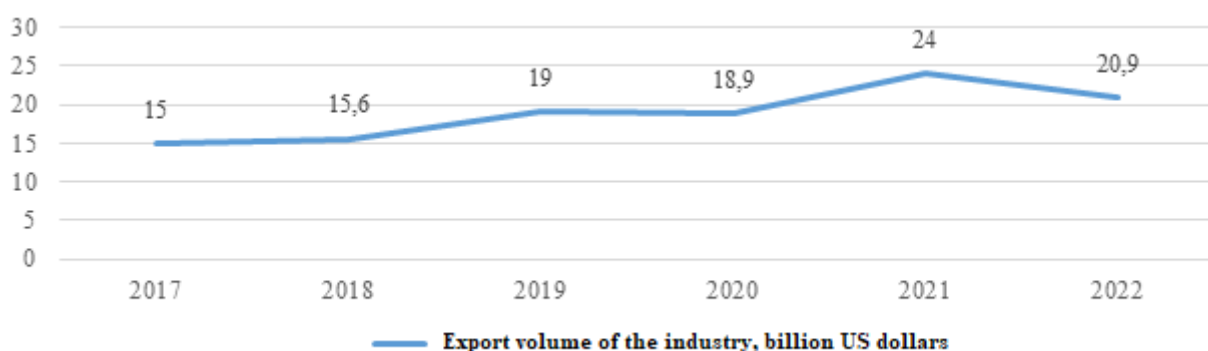


Fig. 1 – Export volume of agricultural products of Ukraine for the period 2017–2022, billion USA dollars

As shown in Figure 2, the leading sector of the economy in Great Britain is the service sector (74.5%), the industrial sector takes (18.6%), other sectors take (5.9%) and the agricultural sector takes (1%). Although the agricultural sector occupies the smallest share of Great Britain’s GDP, this does not prevent it from satisfying about 2/3 of the country’s internal food needs and occupying 71% of its total area. Great Britain is engaged in the active production of a wide range of agricultural products, including cereals (the main cereals are wheat and barley), oil crops (rapeseed), industrial crops (sugar beet), vegetables, fruits, etc. Thus, the turnover of crop production in 2021 amounted to 11 billion pounds. In turn, livestock turnover in 2021 was 16.3 billion pounds, including beef, pork, lamb, poultry, dairy products and eggs. Separately, promising subsectors of food processing (healthy food, staple foods, snacks), dried and processed fruits (cranberries, dried cherries, prunes, raisins, wild berries), nuts (almonds, peanuts, pecans, pistachios, walnuts) are also developing in Great Britain), fish and seafood (cod, pollock, salmon, other fish products), fresh kinds of fruit and vegetables (apples, grapefruits, sweet potatoes, table grapes), meat (hormone-free beef and pork products), food ingredients (any product used for further processing), pellets and other waste/residues (for renewable fuels) [4].

In 2021, Great Britain imported \$78.2 billion worth of agricultural and related goods, and exported – \$31.9 billion, which is less than half of the value of imports. It should be noted that the largest share of export and import of consumer-oriented goods (Fig. 3) includes: fresh fruit, products of animal origin, dairy products, distilled alcohol, wine, bakery products, fresh and processed vegetables etc. [5] Agricultural products include forest products, seafood and other related products. Semi-finished products include soy products and oil meal, other vegetable and essential oils, fodder, etc. Powder foods include corn, rice, and other coarse grains. This state of trade shows that historically the European Union has been the largest trading partner of Great Britain, but the official exit of the United Kingdom from the single European market, known as «Brexit», has affected the dynamics of trade, because of which the country seeks to diversify its trading partners. For this, the country plans to attract new trade partners not only due to its diverse production and product quality, but mainly due to its active implementation of modern technologies and innovations, such as automated control systems, data analysis and unmanned aerial vehicles to increase the efficiency and sustainability of production.

Links between Great Britain and Ukraine in agriculture has begun to develop in the last decade. Ukraine has



Fig. 2 – Sectors of Great Britain economy in relation to the share of GDP as of 2021

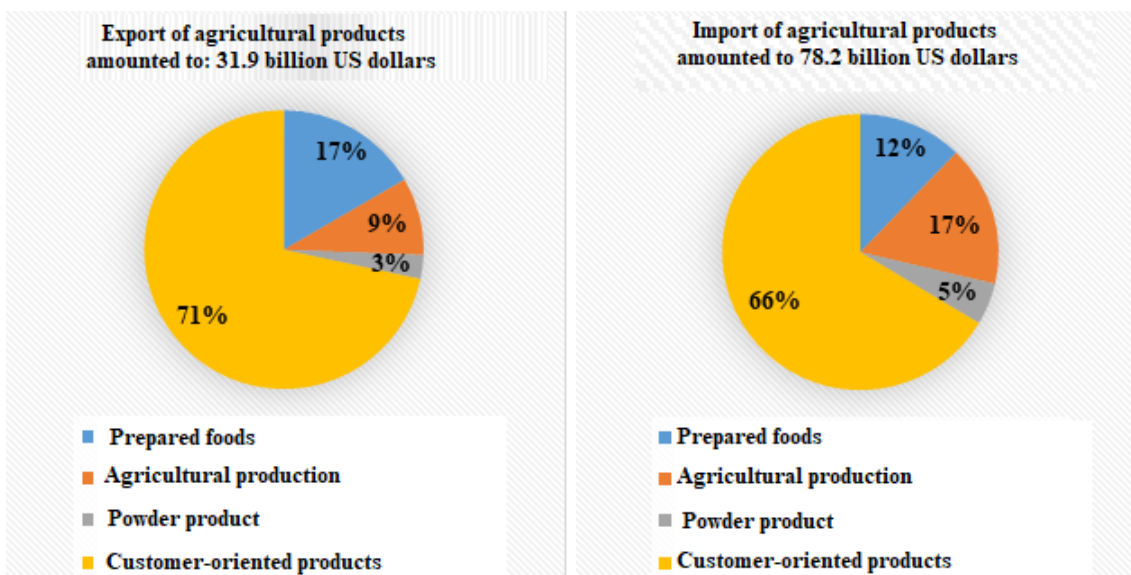


Fig. 3 – Volumes of agricultural exports and imports of Great Britain in 2021

become an important supplier of grain and oil, and trade volumes in this area continue to grow. On October 8, 2020, the Agreement on Political Cooperation, Free Trade and Strategic Partnership between Ukraine and Great Britain was signed, which entered into force on January 1, 2021. It is also worth noting the great role of the bilateral Agreement No. 1 signed on May 4, 2022 on amendments to the aforementioned Agreement in the form of an exchange of letters between the United Kingdom of Great Britain and Northern Ireland and Ukraine regarding the announcement of the cancellation of import duties and tariff quotas for Ukrainian goods in order to support the economy of Ukraine. This additional Agreement made it possible for Great Britain to remain Ukraine’s 11th-largest trading partner among European countries with a share of 3.5% of total trade with European countries [5].

Also, thanks to this decision, Ukraine will be able to further increase exports of goods traditionally imported to the Great Britain’s market, including flour, grain, dairy products, oil, honey, corn, wheat, etc. [6].

The consolidated efforts and cooperation in the agricultural sector of both countries will significantly affect the food security of not only Great Britain and Ukraine, but also the whole world, will contribute to sustainable economic growth and the development of innovations in agriculture.

Let’s consider the most advantageous ways of cooperation between Great Britain and Ukraine in the agricultural sector. Cooperation in the area of exchange of innovative technologies, samples of equipment and know-how should be one, currently powerful area. Specifically, Great Britain is distinguished by the development of agricultural sciences and innovative approaches to production, and Ukraine, in turn, can share the experience of growing large volumes of grain and other products. Taking into account the expediency of reorienting part of Ukraine’s raw export operations to the export of finished products, the exchange of knowledge and technologies can contribute to increasing the productivity and quality of agricultural production in both countries, expanding sales markets, increasing export potential and creating new jobs. Optimal use of the agricultural potential of both countries, joint initiatives in the field of research and innovation,

as well as the development of trade relations can ensure a sustainable and mutually beneficial partnership.

So, for example, thanks to Great Britain, Ukraine could introduce an innovative technology – unmanned aerial vehicle operation. Unmanned agricultural machinery (drones) has been actively used in Great Britain since 2017 and is used at all stages of crop cultivation: when planting, applying fertilizers and harvesting. Drones are equipped with cameras, lasers and GPS systems. This allows the equipment to navigate in space and carry out work without human intervention. The state of the field is also monitored using drones. UAVs are used for soil sampling and crop condition analysis. Special sensors are used for monitoring, and automatic systems are installed for spraying plants. The introduction of such technology in Ukraine is quite real, since companies specializing in UAVs for military purposes, in turn, will be able to adapt production for agricultural ones in the future. In addition, such an innovation will be extremely useful in the post-war period for determining the level of soil contamination and safe sowing.

Another cooperation opening is the development of joint projects in organic production. In respect of the growing demand for organic products Ukraine has the potential to become an important supplier of organic agricultural products. This is confirmed by the statistical indicators of the export of organic products for 2022, when Ukraine, even during the armed hostilities, was able to sell organic products to European countries in a total volume of 245 thousand tons for \$219 million, which in turn demonstrates a high level of European demand (Fig. 4).

As for separate cooperation between Ukraine and Great Britain in the organic sector, certain steps are being observed that will contribute to the establishment of trade, namely the certification of organic products in accordance with the standards of organic certification of the EU and Great Britain. This, in turn, will help ensure the trust of buyers and compliance with the requirements of the importing country. Furthermore, in the near future, a commission will begin operating in Ukraine that will specialize in the study of market trends and consumer preferences in Great Britain, which will allow to adapt the production of organic products and the marketing strategy to the conditions of the local market.

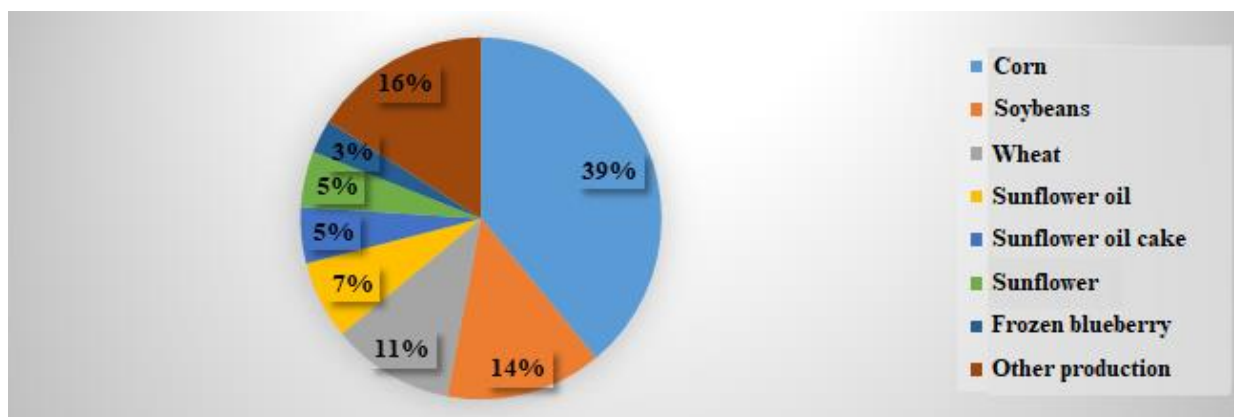


Fig. 4 – Export of organic products from Ukraine to Europe, 2022

However, achieving success in economic relations in the agricultural sector between Great Britain and Ukraine also depends on the resolution of several problematic issues, including:

1. Infrastructure and logistics: challenges associated with the transport of agricultural products between Great Britain and Ukraine, including the limited availability of efficient transport networks and high delivery costs. Solving the logistics issue is aimed at reducing delivery costs and increasing the competitiveness of products. Ukraine is already looking for reliable logistics companies that specialize in international transportation and have experience working between Ukraine and Great Britain, which will ensure efficient and reliable delivery of cargo. Additionally, Great Britain is trying to optimize delivery routes in order to reduce the time and costs of transporting goods from Ukraine.

2. Compliance with quality and safety standards: problems related to the requirements of international standards of quality and safety of products, which may affect the export of agricultural goods from Ukraine to Great Britain. In order to enter foreign markets and gain the trust of foreign consumers, the purpose of the state is to clarify and help manufacturers, especially small and medium-sized businesses, in reformatting business and certification by supporting, not suppressing, business.

3. Lack of business contacts: lack of developed business connections and partnership relations between agricultural enterprises of both countries, which can complicate cooperation and exchange of information. State support and assistance to the mutual exchange of information between agricultural enterprises, associations and organizations of both countries through joint events, training, regional conferences, fairs, etc., which will allow to expand partner networks and establish long-term partnership relations,

promote the development of production and increase its efficiency.

Great Britain is one of the reliable partners of Ukraine in various areas, therefore, through active cooperation and mutual trust, it is possible to achieve mutually beneficial outcomes and create a strong partnership in the agricultural sector between the countries.

#### Article conclusion

In the conclusion based on the results of the analysed material, it can be noted that there are many opportunities for cooperation in the agricultural sector between Great Britain and Ukraine. As the armed hostilities showed that the world is interested in and dependent on Ukrainian agricultural products. Therefore, the world community and international partners are maximally interested in supporting Ukrainian agricultural industry financially, allocating considerable funds to support Ukrainian agricultural production, providing benefits and attracting experts. At the same time, Ukraine has opportunities to increase exports, in particular of popular organic products, to borrow foreign experience in innovative technologies and equipment. Also, you should always remember that a crisis is the best time to invest, regardless of the political situation and all possible world events. The low cost of assets and a wide selection of investment instruments make the agricultural sector very attractive for a private investor. Also, the reforms regarding the opening of the land market are aimed, first of all, at attracting new investments, financing long-term projects, such as horticulture or land reclamation, and the development of modern technologies and infrastructure. In addition to the obvious financial benefits, investments in the agricultural sector of Ukraine are an important contribution to supporting not only the Ukrainian economy, but also global food security.

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## PRIORITIES IN THE INNOVATIVE DEVELOPMENT OF UKRAINE ENTERPRISES AGAINST THE BACKGROUND OF THE MILITARY AGGRESSION OF THE RUSSIAN FEDERATION

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### **Key words:**

aggression, war, global markets,  
world economy, recovery,  
innovations, entrepreneurship,  
competitiveness, reforms,  
development strategy

The world economy changes its architecture. These changes are caused by the global technology revolution, which is associated with innovation processes. They cover a wide range of innovations: from the creation of decentralized systems based on trust (the blockchain) to open integrations of artificial intelligence (open AI ecosystem). Such processes configure new features of global markets and, more to the point, new players in these markets. Consequently, the most important task for Ukrainian business is to define clear development priorities related to innovations. This article examines the place of the Ukrainian economy in innovative global processes, identifies the main problems of entrepreneurship development under war conditions, and outlines priorities on the way to innovative reconstruction. An analysis of global innovation trends against the background of modern challenges was carried out on the basis of the Global Innovation Index (GII) for 2022, and the place of Ukraine in these processes was determined. The relationship between innovative contributions and innovative results is shown. The general entrepreneurial potential of Ukraine was determined, inclusive of the background of the Russian war. It has been analyzed why the labor potential, which lost its place of work in connection with the armed hostilities of the aggressor, did not drift into the entrepreneurial private sector and did not join the ranks of the self-employed population. The innovative attitudes of Ukrainian entrepreneurship were analyzed and the industries that do not invest in technological innovation of production were identified. Arguments are presented why innovation can be the key to getting out of the crisis and a way to increase the competitiveness of enterprises in the domestic market, as well as promotion to foreign markets.

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## ПІДПРИЄМСТВА В УМОВАХ ВІЙСЬКОВОЇ АГРЕСІЇ РОСІЙСЬКОЇ ФЕДЕРАЦІЇ

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### **Ключові слова:**

агресія, війна, глобальні ринки,  
світова економіка, відновлення,  
інновації, підприємництво,  
конкурентоспроможність,  
реформи, стратегія розвитку

Світова економіка змінює свою архітектуру. Ці зміни викликані глобальною технологічною революцією, яка пов'язана з інноваційними процесами. Вони охоплюють широкий спектр інновацій: від створення децентралізованих систем, заснованих на довірі (блокчейн), до відкритих інтеграцій штучного інтелекту (відкрита екосистема ШІ). Такі процеси формують нові риси глобальних ринків і, що важливіше, нових гравців на цих ринках. Отже, найважливішим завданням для українського бізнесу є визначення чітких пріоритетів розвитку, пов'язаних з інноваціями. У цій статті досліджено місце української економіки в інноваційних світових процесах, визначено основні проблеми розвитку підприємництва в умовах війни та окреслено пріоритети на шляху до інноваційної реконструкції. На основі Глобального інноваційного індексу (ГІІ) за 2022 рік проведено аналіз світових інноваційних тенденцій на тлі сучасних викликів та визначено місце України в цих процесах. Показано зв'язок між інноваційними внесками та інноваційними результатами. Визначено загальний підприємницький потенціал України, в тому числі на тлі російської війни. Проаналізовано, чому трудовий потенціал, який втратив місце роботи у зв'язку зі збройними діями агресора,

не дрейфував у підприємницький приватний сектор і не поповнив ряди самозайнятого населення. Проаналізовано інноваційні настрої українського підприємництва та визначено галузі, які не інвестують у технологічне оновлення виробництва. Наведено аргументи, чому інновації можуть стати ключем до виходу з кризи та способом підвищення конкурентоспроможності підприємств на внутрішньому ринку, а також просування на зовнішні ринки.

### Problem statement

The global competitiveness of the world's economies has determined Ukraine's place in several rankings, and the steps assigned to its economy show an alarming trend. On the eve of the large-scale invasion of the Russian Federation, Ukraine ranked 44th among 141 countries in the world according to the skills indicator, with a score of 69.9 on a 100-point scale, and according to the "skills of the future workforce" criterion it ranked 26<sup>th</sup> (72.6). Supposedly these are quite decent indicators for a country that has been at war with an aggressor since 2014. But if you look at the "innovation capability" indicator, the picture will be different. Ukraine ranked 60<sup>th</sup> (40.1), and by "business dynamism" it ranked only 85<sup>th</sup> (57.2), and by sub-indices of the growth of innovative companies it was 109<sup>th</sup> (42.8) [1]. That is, Ukraine has a fairly high-quality labor potential, but it cannot realize itself. The domestic economy is structurally drifting towards simplification and primitivization, which is caused by a terrible situation with the involvement of the latest technologies in production processes at almost all industry levels. High-tech exports fell below 5% (in the EU, this figure is 15.6% on average, and in the world as a whole – 20.8%) [1]. Therefore, Ukrainian business faces the task of becoming innovatively oriented in order to take away its competitiveness and enter global markets.

### Analysis of latest research and publications

Research of the innovative capacity of Ukrainian business is carried out rather half-heartedly and there are few publications in this direction, and against the background of the large-scale invasion of the Russian Federation, this subject matter has almost disappeared. However, general studies of economic competitiveness ratings and surveys of entrepreneurs provide a lot of information for analysis. Razumkov Institute with the assistance of the Konrad Adenauer Foundation Representation Office in Ukraine [1], Global Innovation Index 2022 [2], World Bank, World Development Indicators Database [3], Inflation Reports of the NBU [4], World Economic Forum 2023 Reports [11] and others provide a lot of analytical information, including on Ukraine. A very interesting analytical presentation by Yevhen Angel provides a picture of the business climate of one region in comparison with the entire economy of Ukraine [5], reports of global trade activity [9], etc. But the priority of innovative activity of Ukrainian entrepreneurship needs more attention and strategic initiatives on the part of the state, especially against the background of war.

### Objective formation

The purpose of the article is to analyze the main problems of the development of entrepreneurship in Ukraine under

conditions of war and outline the priorities on the path to innovative restructuring of domestic business.

### Presentation of the main material of the research

A comprehensive program of post-war reconstruction of Ukraine and the development of domestic business should be based on the creation of an innovative economy that has mechanisms for integration into modern developed markets. The elements of this program should be implemented by the Ukrainian state rather quickly, even under conditions of the ongoing aggression of the Russian Federation. If this is not the case, the reconstruction strategy can turn into a path that will lead the country to long-term impoverishment with acute social problems. Unfortunately, the war that has been going on since 2014 slowed down the technological development of the Ukrainian economy, and the large-scale invasion of the Russian Federation almost stopped the scientific and technical movement, which distanced Ukraine from the leading countries within this framework. Evidence of this are the world rankings.

The Global Innovation Index (GII) 2022, which tracks the latest global innovation trends against the backdrop of today's challenges, reveals the world's most innovative economies by assessing the innovation performance of approximately 132 economies, highlighting innovation strengths and weaknesses. In this rating, Ukraine ranked 57<sup>th</sup>, dropping 8 places over the year (Fig. 1).

GIIYR	GII	Innovation inputs	Innovation outputs
2020	45	71	37
2021	49	76	37
2022	57	75	48

Fig.1 – GII Ratings of Ukraine for 2020–2022 [2]

As is obvious, in 2022 Ukraine rather invested in innovation than received innovative products, the domestic economy ranked 75<sup>th</sup> in terms of the volume of innovations involved, which is higher than last year, but lower than in 2020.

Ukraine ranks 4<sup>th</sup> among 36 countries of the world with below-average domestic income and 34<sup>th</sup> among 39 European economies. However, a rather interesting indicator of innovative performance in this study shows some optimism. The bubble chart below shows the relationship between income levels (GDP per capita) and innovation performance (GII score) (Fig. 2). The trend line indicates the expected innovative productivity according to the level of income. Economies above the trend line are performing better than expected, while those below are performing below expectations. Compared to GDP, Ukraine's indicators exceed expectations of its level of development.



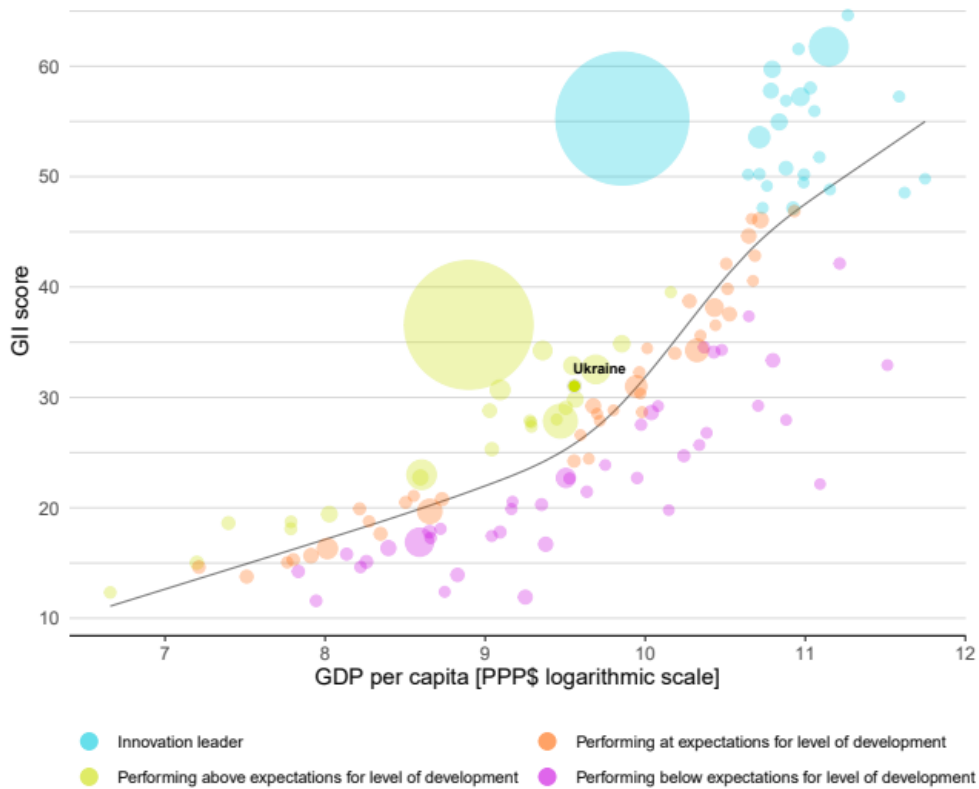


Fig. 2 – Positive relationship between innovation and development [2]

The diagram (Fig. 3) shows the relationship between innovative contributions and innovative results. Economies above the limit actually turn expensive investments into even greater innovation and higher quality products. Ukraine produces more innovative products compared to the level of innovative investments.

In reference to the overall entrepreneurial potential, Ukraine’s indicators exceed the average level of income for the group of countries with incomes below the average according to six main principles, namely: institutions; human capital and research; infrastructure; business sophistication; knowledge and implementation

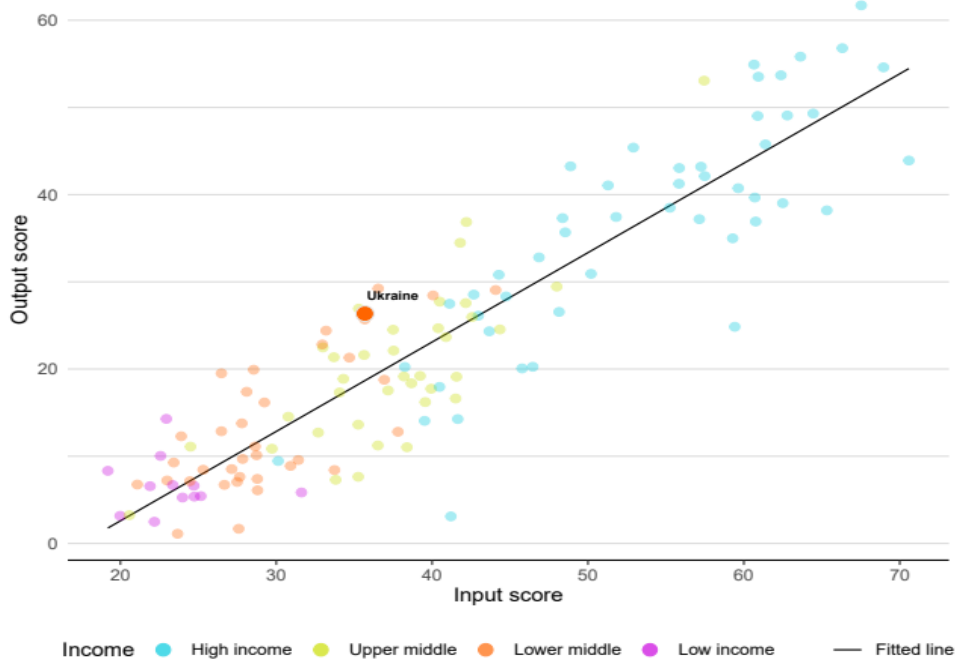


Fig. 3 – Innovative investments for productivity [2]

technologies and creative results. But if we look at Ukraine’s rank among the countries of the European Union, then, unfortunately, Ukraine’s indicators are lower than the average for the region at all GII levels.

When analyzing the potential of an entrepreneurial initiative, an important indicator can be the percentage of the self-employed population in the total employable population. Data from the World Bank give figures including 2021. Disappointingly, 2022 analytics for Ukraine have not yet been published. But the trends are clear. The share of family and self-employed workers as a percentage of total employment was 14.25% in 2020 and 13.93% in 2021. [3] Salaried workers, on the other hand, are those who hold types of work defined as “paid work” where workers have explicit (written or verbal) or implicit employment contracts that give them the basic remuneration, which does not directly depend on the income of the division for which they work, is 84.95% in 2020 and 85.28% in 2021. [3]. Relative unemployment is 9.48% and 9.83%. Based on the official report of the National Bank of Ukraine in the first quarter of 2023 the unemployment rate was 20% [4]. According to unofficial data, this indicator is much higher. It should be noted that the labor potential, which lost its place of work in connection with the armed hostilities of the aggressor, did not flow into the entrepreneurial private sector and did not replenish the ranks of the self-employed population. Why is this happening, if we take into account the fact that the overall demand for an innovative product has remained rather specific.

The results of the July monthly survey of business managers “Ukrainian Business During the War”, conducted

by the Institute of Economic Research and Political Consultations, showed an increase in pessimistic attitudes (Fig. 4), emphasizing that:

- security remains the main obstacle for the development of enterprises, which directly affects investment attractiveness;
- 63% of entrepreneurs (59% surveyed in May) consider the permanent and uncontrolled increase in prices for raw materials and goods a threat to business;
- difficulties with logistics 43% (38% in May);
- the probability of unforeseen problems with energy and water supply – 38% of entrepreneurs complained about this;
- labor shortage became more relevant and moved from 6th to 4th place;
- “Disruption of supply chains” was also included into the top five obstacles.

As for illegal and unfair practices, the majority of respondents did not name any of them as widespread. At the same time, unfair court decisions (2.9 points) and corruption in local authorities (2.8 points) were called more common, and raidership and property seizure (2 points) were the least common (Fig. 5).

The studies carried out demonstrate a change in priorities in the business environment. At the beginning of the spring of 2023, only 3% of businessmen considered technological backwardness to be an obstacle (Fig. 6). Instead, the adverse political situation (including war) and low demand were cited as the main problems.

The issue of outdated technologies in Ukrainian entrepreneurship traditionally occupied the lowest levels of management priorities. Business considered

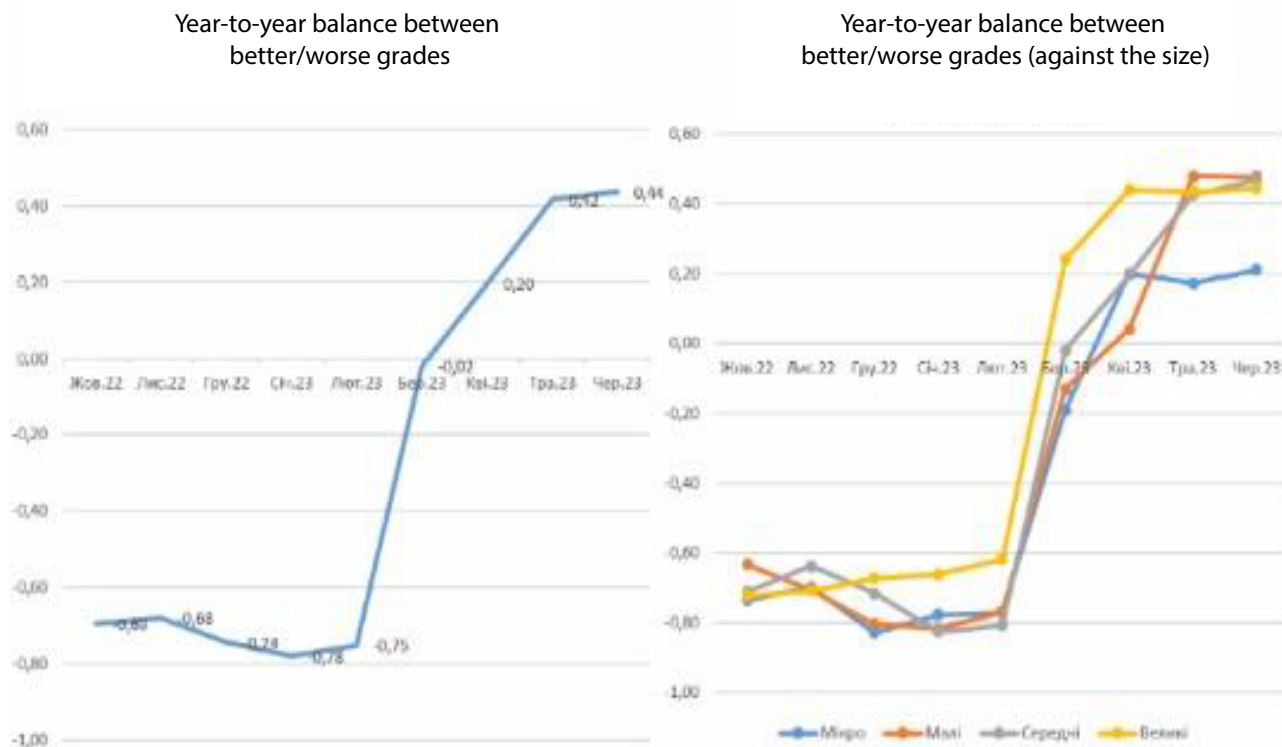


Fig. 4 – Results of the July survey of enterprise managers “Ukrainian Business During the War” [5]

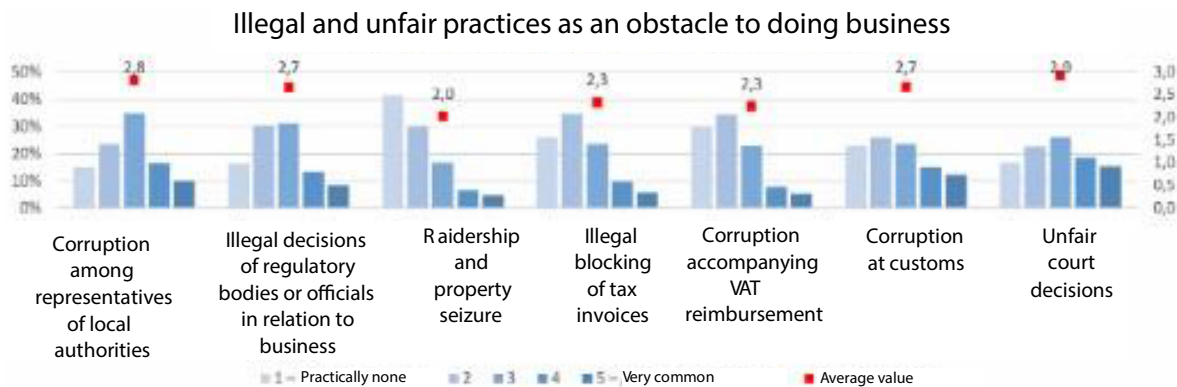


Fig. 5 – Results of the July survey of enterprise managers “Ukrainian Business During the War” [5]

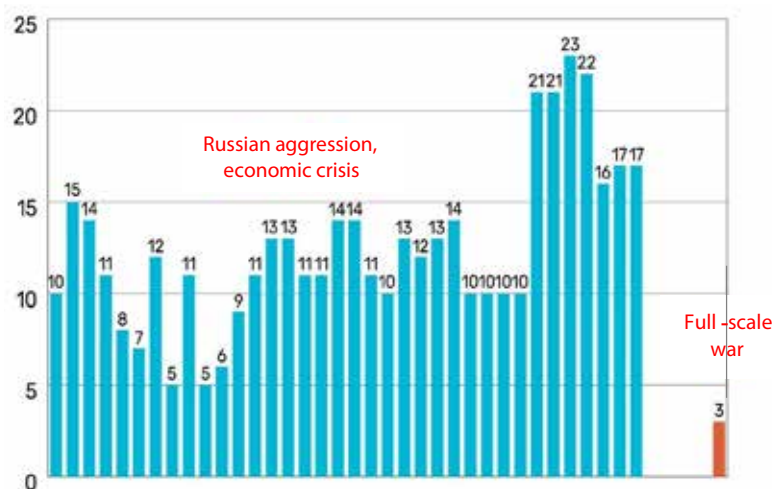


Fig. 6 – Outdated technologies as an obstacle for business. July survey of enterprise managers “Ukrainian Business During the War” [5]

and now considers as its main task to survive in any way. And the latest technologies fall out of the focus of attention of the heads of enterprises. However, despite the destructive aggression of the Russian Federation, most entrepreneurs declare their desire and plans to introduce innovative technologies. According to surveys, almost a quarter of businessmen consider the development and implementation of the latest technological cycles to improve the quality of products and services to be one of the first priority measures. For 46% of managers, innovations are acceptable partly within the limits of competitive advantages. Unfortunately, a third of businessmen (31%) are not at all interested in innovation. Attention to innovative activity is proportional to the size of the business. The following rule applies here: the larger the enterprise, the greater the chances of attracting investment in technology development. Only 13% of small businesses are interested in the latest developments, and this is a big mistake of a small private business, which loses competitiveness and opportunities for expansion and, even, promotion to global markets.

If we look at the interest in innovations in the sector, we will also see the consequences of a certain philosophy of business managers in different areas (Fig. 7).

Apparently, the latest technologies are not interesting for half of the manufacturers of building materials. At the same time, this industry is the most crisis-prone and problematic in Ukraine, even despite high consumer demand. A quarter of machine builders also show no interest in innovation, which drags Ukraine to the periphery of developed economies.

### Conclusions

Ukrainian business should pay more attention to the involvement of the latest technologies in its production processes. And it is right in a time of bitter trials, generated by the war of the Russian Federation against Ukraine, that innovations can become the key to getting out of the crisis and a way to increase competitiveness in the domestic market, as well as to promote to foreign markets. State and non-state institutions should take an active part in promoting the development of innovative strategies of enterprises. Innovation should become the main strategy of both the state and entrepreneurship in all spheres of production. The reconstruction of Ukraine should take place on the basis of the latest philosophy of industrial and entrepreneurial activity. Only then will Ukraine have a real chance to join the ranks of the world's developed economies.

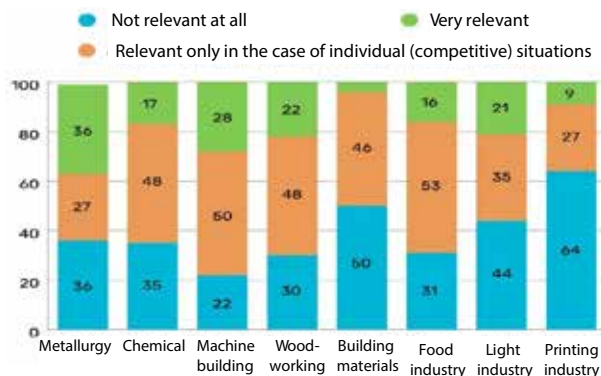


Fig. 7 – Relevance of innovations depending on industry. July survey of enterprise managers “Ukrainian Business During the War” [5]

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# FINANCE AND MONEY TURNOVER

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## LEGALIZATION OF CRYPTOCURRENCY IN UKRAINE

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**Key words:**cryptocurrency,  
virtual assets, taxation,  
legalization,  
cryptocurrency market

The rapid development of information technologies, the globalization of the world economy, and the formation of a digital economy in Ukraine lead to the transformation of socio-economic relations. The growth of digitalization of the economy, the large-scale introduction of information technologies into all spheres of human life contribute to the emergence of new industries, one of which is the crypto industry, with the appearance of which in 2008, the money market totally changed forever. More and more markets are collapsing, while more and more regulators from different countries are busy implementing legislation regarding the legalization, use and taxation of cryptocurrencies. The article is devoted to the study of the peculiarities of cryptocurrency legalization in Ukraine. The peculiarities of the law “Pro virtual’ni aktyvy” and the stages of its implementation are considered. The draft law on amendments to the Tax Code of Ukraine regarding cryptocurrency taxation has been analyzed. The number of cryptocurrency users in Ukraine and other countries of the world, such as the USA, Venezuela, Kenya, North Africa, etc., was studied. The paper analyzes how countries such as Great Britain, the Netherlands, the USA, China, Japan and Canada regulate the cryptocurrency market and whether transactions with them are legalized at the legislative level. Conclusions were also made regarding the feasibility of legalizing cryptocurrency in Ukraine. So far, we have the Law, but for the final settlement of these issues, many different by-laws, instructions and documents still need to be developed. But already today it can be said that the State is dealing with the issue of cryptocurrency relations and is on the way to its settlement.

## ЛЕГАЛІЗАЦІЯ КРИПТОВАЛЮТИ В УКРАЇНІ

**Батракова Т.І., Краснощок Я.В.***Запорізький національний університет**Україна, 69600, м. Запоріжжя, вул. Жуковського, 66***Ключові слова:**криптовалюта,  
віртуальні активи,  
оподаткування, легалізація,  
ринок криптовалюти

Стрімкий розвиток інформаційних технологій, глобалізація світової економіки, і формування цифрової економіки в Україні зумовлюють трансформацію соціально-економічних відносин. Зростання діджиталізації економіки, масштабне впровадження інформаційних технологій в усі сфери життєдіяльності людини сприяє появі нових галузей, однією з таких є криптоіндустрія, з появою якої в 2008 році грошовий ринок тотально змінився назавжди. Все більше ринків руйнується, водночас дедалі більше регуляторів з різних країн займаються впровадженням законодавства стосовно легалізації, використання та оподаткування криптовалют. Стаття присвячена дослідженню особливостей легалізації криптовалют в Україні. Розглянуто особливості закону «Про віртуальні активи» та етапи його запровадження. Закон також передбачає створення нового центрального органу виконавчої влади на базі Мінцифри для регулювання ринку віртуальних активів. Одна з його функцій – контролювати постачальників послуг, пов’язаних з віртуальними активами, на предмет прозорості структури власності. Також учасники ринку мають запровадити внутрішні процедури фінансового моніторингу для запобігання відмиванню доходів, отриманих злочинним шляхом. Важлива позиція закону – він набуде чинності лише після того, як депутати підготують та проголосують

за відповідні зміни до Податкового кодексу. Проаналізовано законопроект про внесення змін до Податкового кодексу України, щодо оподаткування криптовалюти. Досліджено кількість користувачів криптовалюти в Україні та таких країнах світу, як США, Венесуела, Кенія, Північна Африка і інших. В роботі проаналізовано, як такі країни, як Великобританія, Нідерланди, США, Китай, Японія та Канада регулюють ринок криптовалют та чи легалізовано на законодавчому рівні операції з ними. А також зроблено висновки щодо доцільності легалізації криптовалюти в Україні. Поки що ми маємо Закон, але для остаточного врегулювання віх питань ще потрібно розробити багато різних підзаконних актів, інструкцій та документів. Але вже сьогодні можна сказати, що Держава займається питанням криптовалютних відносин, та знаходиться на шляху до його врегулювання.

### **Problem statement**

The cryptocurrency market in Ukraine is shadowy, due to the lack of legal regulation of transactions with cryptocurrencies. Quite a long time ago, the government of Ukraine considered the possibility of giving cryptocurrency official status, but this actually became possible only in March 2022 after the signing of the Law “Pro virtual’ni aktyvy” by the President of Ukraine. At the moment, it raises quite a lot of questions, so in this work I would like to consider its features and in general the expediency of legalizing cryptocurrency in Ukraine.

### **Recent research and publications analysis**

The works S.O. Hrytsai, V.I. Zakharchenko, N.O. Patachyts and M.S. Nechiporuk, V.B. Marchenko of are devoted to the problems of the essence and development of cryptocurrencies, their types, advantages and disadvantages. But O. Lyubkina, O. Tkachenko and S.F. Cmerichevskyi, O.S. Suzdalev studied the issues of global experience in regulating cryptocurrencies.

Despite numerous studies on the development of cryptocurrencies, the issues of implementation and issues of crypto currency remain insufficiently studied by domestic and foreign scientists, which determines the relevance of scientific research.

### **The purpose of the article**

The purpose of the article is to consider the new law “Pro virtual’ni aktyvy”, which legalizes cryptocurrency in Ukraine, as well as to consider the process of legalization in other countries.

### **The main material representation**

The Ukrainian cryptocurrency market has been actively operating for more than six years, on May 30, 2016, the first Ukrainian cryptocurrency appeared – karbovanets, but all this time it functioned in the shadows. Legal regulation as such did not exist. In 2021, there was the first attempt to adopt a law on the legalization of cryptocurrency.

On September 8, 2021, the Verkhovna Rada adopted the law “Pro virtual’ni aktyvy”, but already on October 5, the President of Ukraine vetoed this law, he opposed the creation of a separate regulator in the virtual assets market. Instead, it is proposed to entrust the relevant functions to the already existing regulator of financial markets. The motive for such a decision is quite convincing: according to the President, the current National Commission for

Securities and the Stock Market of Ukraine will be able to detect various abuses by participants of the new virtual assets market more quickly and accurately.

After the amendments made by the President, on February 17, 2022, the Verkhovna Rada already presented a new version of the law, and on March 16, the law was signed by the President and will enter into force after the adoption of the law on taxation of operations with virtual assets. The legalization of cryptocurrency in Ukraine was planned for October 1, 2022. But it was postponed pending the adoption of the bill.

According to the law “Pro virtual’ni aktyvy”, a definition of “cryptocurrency” was provided, according to the law it is defined as a virtual asset.

A virtual asset is an intangible good that is the object of civil rights, has a value and is expressed by a set of data in electronic form. The existence and liquidity of a virtual asset is ensured by the system of ensuring the turnover of virtual assets. A virtual asset can testify to property rights, in particular, rights of claim to other objects of civil rights [1].

What will change as a result of the adoption of the law?

1. The status of virtual assets will be determined. It will be possible to monitor providers of services related to virtual assets for a transparent ownership structure, and it is also necessary to introduce internal financial monitoring procedures to prevent the laundering of proceeds of crime.

2. The law must protect owners of virtual assets from criminals. Thanks to regulatory changes, it will be possible to reverse malicious cryptocurrency transactions after the fact. For example, if the law enforcement authorities establish that a virtual asset has been stolen, for this the owner of the asset will have to submit a statement and prove the illegality of the executed transaction.

3. Crypto companies will have to pay taxes. Necessary amendments will be made to the Tax Code of Ukraine. Cryptocurrency has great volatility, so it is quite important to determine the tax base, tax payment terms and from what amount it will be calculated. So, for example, in Switzerland, cryptocurrency is equated with foreign currencies – transactions with it are exempt from VAT, but are taxed as property, and in Japan, companies must pay tax on the sale of cryptocurrency, but in Germany, purchases paid for in virtual currency are exempt from taxation.

4. The law legalizes investments in the form of cryptocurrencies.

5. The right of participants in the virtual assets market to independently choose the prices of virtual assets, at

which operations are carried out with them, will lead to an underestimation of the tax liability. The issue of tax declaration of income will be resolved in the next bill on amendments to the Tax Code of Ukraine, the development and adoption of which is possible only after the law of Ukraine “Pro virtual’ni aktyvy”, comes into force. Although the State Tax Service of Ukraine, on the basis of the general provisions of the Tax Code, can prove an understatement of the tax liability, just as with shares or other assets, such as jewelry [2].

Particular attention should be paid to the regulation of taxation of cryptocurrencies. In order to implement the provisions of the law “Pro virtual’ni aktyvy”, and to put it into effect, the Verkhovna Rada of Ukraine registered draft law No. 7150 with amendments to the Tax Code of Ukraine on March 13, 2022. In general, it provides for the introduction of such tax incentives for the application of the “softened regime” of taxation of virtual assets, such as:

- 1) exemption from value added tax of operations with virtual assets and services provided by service providers related to virtual currencies;
- 2) establishment for a period of 5 years of preferential taxation of investment income from transactions with virtual assets for individuals at the rate of tax on the income of individuals in the amount of 5%;
- 3) establishment for a period of 5 years of preferential taxation of investment income from operations with virtual

assets and services provided by providers of services related to virtual assets at an income tax rate of 5%;

- 4) the obligation to pay a military levy on the amount of investment profit from operations with virtual assets for individuals at a rate of 1.5% [3].

As soon as the law “Pro virtual’ni aktyvy”, becomes effective, companies that will provide services for storage, exchange, transfer or management of crypto-assets will be able to attract investments and officially cooperate with the banking system.

This means that companies will work transparently and, as a result, will be able to gain support and protection at an official level.

According to Table 1, we can conclude that in Ukraine, even before the full legalization of cryptocurrency, projects related to the sale and purchase of cryptocurrencies are actively developing. Which is not surprising, because Ukraine is the leader in the number of users of cryptocurrency, 12.73% of the population use cryptocurrency, that is more than 5.5 million residents of Ukraine (see Fig. 1)

Ukraine is one of the first countries in the European Union to legalize cryptocurrency. In general, the European Union itself has not legalized cryptocurrency. At the moment, the law is just being adopted, according to it, the current position of cryptocurrency as an “outsider” will change to a full participant in the space of financial services in the EU, but the exact dates when this will happen are unknown [7].

Table 1 – Ukrainian cryptoprojects

Crypto project	Characteristics of the crypto project
Trust Wallet	It is a decentralized cryptocurrency wallet that allows you to securely trade over 160,000 cryptoassets. With Trust Wallet, users are in full control of their own assets and have access to dApps and decentralized exchanges. The wallet, which Binance has been working with for about four years, is available for installation on iOS and Android mobile devices.
NEAR Protocol	This is software from Ukrainian developers that serves as a platform for creating and running decentralized applications. The main goal of the NEAR Protocol is to provide convenience for developers and users.
DeXe Network	It is a decentralized social trading platform. It is designed to copy the best trading strategies.
Weld Card	The first Ukrainian cryptocurrency payment card. It allows you to safely, instantly and legally use cryptocurrency for daily calculations.

Source: compiled by the author based on [4; 5]

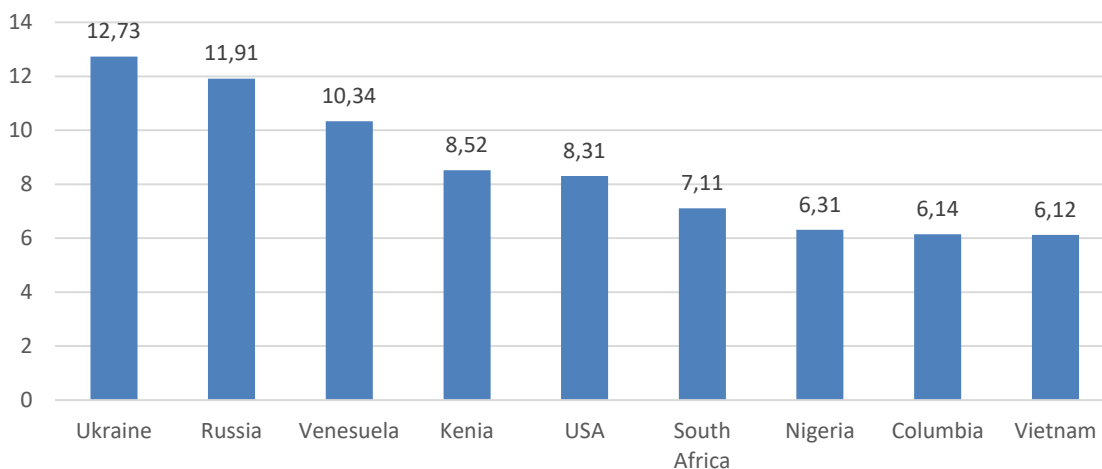


Fig. 1 TOP 10 countries by the number of cryptocurrency users in percentage ratio as of 2020

Source: compiled by the author based on [6]

Great Britain, which recently left the EU, as well as Ukraine, is actively developing a regulatory framework for the legalization of cryptocurrency. On February 24, the Bank of England began developing a regulatory framework for the regulation of cryptoassets. The agency says that while the size of the sector is currently small, its rapid growth could pose a threat to financial stability in the future if left unregulated.

Cryptocurrencies are largely unregulated as they do not fall under the purview of existing UK regulators. In order to create an effective system of supervision over them, the law must first be changed, and the UK Treasury is currently working on this. The CFP plans to apply the principle of equivalence to crypto-assets. It assumes that crypto firms that provide services similar to those of existing financial institutions will be subject to the same regulations [8].

Considering the experience of the Netherlands, it should be noted that at the moment cryptocurrency is not legalized there, although it is owned by half a million Dutch households, investments in cryptocurrency make up 0.1% of their total savings. The Dutch government, in particular the Ministry of Finance, is experimenting with blockchain technology as part of pilot projects dedicated to transferring government processes to smart contracts.

On March 8, 2018, the Dutch Ministry of Finance published a letter on cryptocurrencies. The letter contains a warning about investment risks, as well as an explanation of the need for further consultations with banks regarding the purchase of cryptocurrencies on credit, because USA and UK banks have banned the use of credit cards to purchase cryptocurrencies [9].

In the USA, regulating relations regarding the circulation of cryptocurrencies and determining their legal status is quite complicated. This is due to the fact that, in addition to the legislation of individual states, there are also federal regulations. It is also necessary to take into account the importance of judicial precedent in the USA legal system, since USA courts began to deal with public relations related to the circulation of cryptocurrencies in their cases, even before such relations received regulatory legal regulation at the federal or state level. Therefore, it was the USA courts that first began to give a certain legal definition to cryptocurrencies.

But Canada and Japan are among the countries where cryptocurrency is legalized.

In Japan, the operation of cryptocurrency is regulated at the legislative level. Cryptocurrency exchanges are regulated by the Digital Assets Commission. In case of opening a cryptocurrency exchange, the applicants must form a certain package of documents and follow the rules of activity. Cryptocurrency exchange operators are subject to registration with the Financial Services Agency. Cryptocurrency is a value like an asset. Bitcoin is recognized as a prepaid payment instrument [11].

In Canada, bitcoin is defined as an intangible asset, and transactions with it are defined as barter. From June 1, 2020, cryptocurrency companies were legalized in the country. Now, both foreign and local, they are considered money transfer businesses. For cryptocurrency transactions of more than 10,000 Canadian dollars, the company is required to report the transaction and identify all participants in the transaction. Payment in cryptocurrency for goods and services is taxable as a barter transaction, and at the time of sale [12].

China is the country that reacts most negatively to the legalization of cryptocurrency. In 2013, China banned financial institutions from trading in Bitcoin, while not extending the ban to individuals, and the cryptocurrency market continued to function.

In general, cryptocurrency is considered by the People's Bank of China as a virtual commodity rather than a currency. Taxation of cryptocurrency in this state is as follows: transactions with cryptocurrency are subject to income tax, income tax and capital gains tax, and its sale may be subject to value added tax. In May 2021, the People's Bank of China finally declared cryptocurrencies illegal and ordered an immediate halt to all related activities, as they consider cryptocurrencies a threat to the stability of China's financial market. The only cryptocurrency that can exist in China is the digital yuan [13].

According to Table 3, it can be concluded that out of the seven studied countries, cryptocurrency is legalized in only two countries, the USA is a country where cryptocurrency is partially legalized, while Ukraine and Great Britain are currently at the stage of legalizing cryptocurrency, the Netherlands is not yet ready for legalization, but China quite categorically banned the use of cryptocurrency.

Also, in our opinion, after the legalization of cryptocurrency in Ukraine, it is quite expedient to provide fairly complete information for the population, for the

Table 2 – Features of cryptocurrency recognition in different US states as of 2021

States of the USA	Features
Eastern District of Texas	In 2013, the District Court issued a decision (memorandum opinion) that essentially recognized Bitcoin as a currency.
Miami	The district court in one of its decisions formulated a diametrically opposite position, according to which Bitcoin is not a currency. This conclusion was used as the basis for the dismissal of charges in the case of money laundering.
California	The first of all the states at the legislative level to allow the use of cryptocurrencies. The law, which allows any corporation, association or individual in California to participate in the circulation of money other than US legal tender, went into effect in early 2015.
New York	In 2015, the state's Department of Financial Services introduced the BitLicense, a license to conduct cryptocurrency business. The license was criticized by many major crypto companies, which later left the state.
Washington	Digital currency is an object of money transfers within the meaning of the Law "On the Unification of Financial Services". This means that companies can make cryptocurrency transfers to a Washington resident only after obtaining a Washington money transfer operator license.

Source: compiled by the author based on: [10]



Table 3 – Analysis of countries regarding their perception of cryptocurrency, as of 2022

Country	Is cryptocurrency legalized?	Definition of cryptocurrency
USA	Legalized in some states	Defined as “virtual currency” in some states
Netherlands	Not legalized. Separate cryptocurrency projects are being considered	–
Japan	Legalized	Cryptocurrency is a value compared to assets. Bitcoin is recognized as a prepaid payment instrument
China	Forbidden	–
Canada	Legalized	In Canada, bitcoin is defined as an intangible asset, and transactions with it are defined as barter
UK	Preparations for legalization are underway	–
Ukraine	Preparations for legalization are underway	Cryptocurrency is defined as a virtual asset

Source: compiled by the author based on: [8–13]

correct use of cryptocurrency, it is possible to conduct online courses available to everyone or send information through the “Diya” application.

### Conclusions

Summarizing all of the above, we can conclude that Ukraine is currently one step away from the legalization of cryptocurrency. This is a rather complicated and long process that requires a lot of attention. According to the law, which was signed on March 16, owners of cryptocurrencies will be protected from criminals, will be able to independently choose the price of virtual assets, in addition, investments in cryptocurrencies will be legalized and the process of taxation of cryptocurrencies will be determined.

Even before the legalization of cryptocurrencies, companies dealing with cryptocurrencies began to appear in Ukraine, as well as innovative projects, such as a payment cryptocurrency card, which was created for the purpose of making payments in cryptocurrencies, but until the law is valid, this project cannot function either.

Analyzing the foreign experience regarding legalization, it should be noted that each of the studied countries has its own peculiarities regarding the cryptocurrency market, but if we pay attention to the market closest to us, the market of the European Union, then the issue of cryptocurrency legalization is currently being resolved there and in Ukraine. This is quite reasonable, because virtual currency currently fills the market and attracts more and more users, it should not be left in the shadows and allow criminal actions, on the contrary, it is better to bring it out of the shadows and show what advantages and risks can be from using cryptocurrency.

In our opinion, the legalization of cryptocurrency in Ukraine is quite a positive phenomenon. The legalization of cryptocurrencies will create prerequisites for building a civilized and competitive market of virtual assets in Ukraine, which will allow both Ukrainian and foreign investors to enter it. It can also be noted as a positive that, despite different attitudes towards the crypto industry, many countries are engaged in the development of their own national currency on the blockchain platform.

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# LABOUR ECONOMICS, PERSONNEL MANAGEMENT AND MARKETING

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## FORMULATION OF PERSONNEL POLICY AS THE BASIS OF EFFICIENT ENTERPRISE ACTIVITIES

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**Key words:**

personnel, personnel policy,  
personnel potential,  
enterprise development  
management,  
enterprise competitiveness,  
policy competitiveness

It is noted that the personnel management system at a modern enterprise, regardless of the form of ownership, is the most powerful tool for ensuring competitiveness and development. It is determined that the personnel policy of an enterprise is one of the most important management tools, since in modern conditions the role of human resources in the implementation of business activities is crucial, and the quality of their management determines the success of the enterprise. It is found that the effective use of human resources can be achieved through the formation and implementation of an effective personnel policy of an enterprise, which today is considered the most important competitive advantage and means of achieving success of any modern enterprise. A number of requirements to the personnel policy of an enterprise are analyzed. The stages of formation of the personnel policy at the enterprise are disclosed. The most common problems of the enterprise's personnel policy are allocated, in particular: lack of qualified employees, which results in poor quality of work performed, high staff turnover at the enterprise, the problem of organizing the selection and recruitment of personnel. It is proved that the presence of a personnel policy at an enterprise as the basis for effective operation of an enterprise makes it possible to implement a competitive policy in the presence of high quality human resources. The dependence of enterprise competitiveness on the choice of personnel policy is analyzed. Recommendations for solving personnel problems at the time of formation of the enterprise's personnel policy have been developed, which can be the basis for the effective operation of the enterprise. It is noted that the effective development of an enterprise is based on a systematic approach to the personnel management strategy. It has been researched that the personnel policy is created to merge the efforts of all personnel of the enterprise to solve the tasks.

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## ФОРМУВАННЯ КАДРОВОЇ ПОЛІТИКИ ЯК ОСНОВА ЕФЕКТИВНОЇ ДІЯЛЬНОСТІ ПІДПРИЄМСТВА

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**Ключові слова:**

персонал, кадрова політика,  
кадровий потенціал,  
управління розвитком  
підприємства,  
конкурентоспроможність  
підприємства,  
конкурентоспроможність  
політики

Зазначено, що система управління персоналом на сучасному підприємстві, незалежно від форми власності, є наймогутнішим інструментом забезпечення конкурентоздатності й розвитку. Визначено, що кадрова політика підприємства є однією з найважливіших управлінських інструментів, оскільки в сучасних умовах роль людських ресурсів у здійсненні підприємницької діяльності є вирішальною, а якість управління ними обумовлює успішність підприємства. Виявлено, що ефективного використання кадрового потенціалу можна досягнути завдяки формуванню та реалізації ефективної кадрової політики підприємства. Проаналізовано ряд вимог до кадрової політики підприємства. Розкриті етапи формування кадрової політики на підприємстві. Виокремлено найбільш поширені проблеми кадрової політики підприємства. Досліджено, що наявність кадрової політики на підприємстві як основа ефективної діяльності підприємства дає можливість здійснення конкурентоспроможної

політики за наявності високої якості кадрового потенціалу. Проаналізовано залежність конкурентоспроможності підприємства від вибору кадрової політики. Розроблені рекомендації щодо вирішення кадрових проблем на момент формування кадрової політики підприємства, що може бути основою ефективної діяльності підприємства. Зазначено, що ефективний розвиток підприємства полягає в системному підході до стратегії управління персоналом. Досліджено, що кадрова політика створена для злиття зусиль всього персоналу підприємства для вирішення поставлених завдань.

### Formulation of the problem

To determine the direction and basis of work with personnel, the personnel policy of the organization is developed, through which the goals and tasks of personnel management are implemented. This approach is characteristic of large enterprises and civil service systems, because it is precisely in such organizations that the principle of compliance with the personnel policy of the enterprise is most consistently implemented.

### Analysis of recent research and publications

Many Ukrainian scholars have paid attention to the issues of personnel policy, such as: Blyznyuk V.V., Boginya D.P., Grishnova O.A., Kolot A.M., Novikova O.F., Petyukh V.M., Chuhno A.A. and others, materials of scientific conferences, periodicals, Internet resources of specialized professional portals, etc.

### Formulation of goals

The purpose of the article is the determination of the essence and role of the personnel policy as the basis of the effective operation of the enterprise in the modern conditions of the enterprise's development.

### Presentation of the main research material

The personnel management system at a modern enterprise, regardless of its form of ownership, is a powerful tool for ensuring competitiveness and development [2]. The personnel management service implements the personnel policy and coordinates the activities of managing the enterprise's labor resources; expands its functions to create new systems of incentives for labor activity, management of professional advancement, conflict prevention, study of the labor market, creation of personnel reserves for management personnel [5].

The personnel policy of the enterprise is one of the most important management tools, because in modern conditions the role of human resources in the implementation of entrepreneurial activity is decisive, and the quality of their management determines the success of the enterprise. Considering the structure of the personnel policy, it can be noted that the motivation of the personnel's work occupies a prominent place. This is explained by the fact that the company will not be able to achieve significant results without the presence of professional, development-oriented, innovative and motivated personnel. Therefore, when forming the personnel policy of the enterprise in the field of labor motivation and when improving it, increased attention should be paid to these components [10].

Personnel policy is a system of working with personnel that unites various forms of activity and aims to create

a cohesive and responsible high-performance team to realize the company's capabilities and adequately respond to changes in the external and internal environments.

The concept of personnel policy in a broad sense is a system of rules and regulations. In a narrow sense, it is a set of specific rules and wishes in the relationship between employees and organizations.

The English specialist in the field of personnel management D. Greste believes that ensuring the personnel policy is:

- organizational integration;
- senior management and line managers adopt the developed and well-coordinated human resource management strategy as their own and implement it in their operational work, closely interacting with services;
- a high level of responsibility of all employees, which means both identification with the company's core values and persistent implementation of the set goals in practical work;
- functionality;
- variation of functional tasks, which means abandoning the traditional, rigid delineation of different types of work, as well as the use of various forms of labor contracts (full-time, part-time and hourly employment);
- structurality;
- adaptation to continuous training, organizational changes, flexibility of organizational and personnel potential, high quality of work and its results, working conditions (working environment, work content, employee satisfaction) [4].

Effective use of personnel potential can be achieved thanks to the formation and implementation of an effective personnel policy of the enterprise, which today is considered the most important competitive advantage and a means of achieving success for any modern enterprise. In general, the organization's personnel policy is understood as a system of theoretical views, requirements, principles that determine the main areas of work with personnel, as well as methods of this work that allow creating a highly productive cohesive team.

In order for the personnel policy to meet its purpose, it must meet a number of requirements, namely:

- it should be closely related to both the strategic goals and current tasks of the organization;
- it should be developed as a result of discussions and consultations at various levels of the enterprise;
- it should be formulated clearly and concisely in writing and cover the main areas of work with personnel;
- must be communicated to all employees of the company;
- it should contain specific practical steps for its implementation;

– separate areas of personnel policy should be interconnected and complement each other [3].

In modern conditions, personnel policy will be considered effectively formed if it meets the following requirements [8]:

- personnel policy should be related to the company’s development strategy. In this, it represents personnel support for the implementation of this strategy;
- personnel policy should be sufficiently flexible, i. e. it should be stable on the one hand, and dynamic on the other;
- the personnel policy should be economically justified, i. e. based on the real financial capabilities of the enterprise;
- personnel policy should ensure an individual approach to employees.

Personnel policy is a system of rules and norms, aspirations and restrictions in the relationship between personnel and the organization as a whole, according to which employees act in the internal and external environment. An example can be personnel policy for hiring, transferring and dismissing employees, etc. Formation of personnel policy is carried out in several stages. Each stage requires certain clear actions to be taken to achieve a specific goal. The stages of personnel policy formation at the enterprise can be considered in the table. 1 [9].

Based on the table 1, it is important to investigate a number of modern problems that arise in the formation of personnel policy at the enterprise. The following are among the most common problems:

- lack of qualified workers, which ultimately leads to low quality of performed works;
- high staff turnover at the enterprise. The main reason for staff turnover is dissatisfaction with their position. In particular, dissatisfaction with the existing salary, disrespectful attitude of the management, lack of opportunities for self-realization and self-assertion, lack of conditions for recreation, weak incentive and motivation system, etc;
- the problem of organizing the selection and recruitment of personnel. This problem is directly caused by the oversaturation of the labor market with labor, so the company’s management needs to create all conditions for attracting such personnel, in which their personal characteristics, skills, and knowledge will best meet the company’s goals. To solve these and other problems, the company develops a certain mechanism for implementing its personnel policy [7].

The presence of a personnel policy at the enterprise as the basis of the effective operation of the enterprise makes it possible to implement a competitive policy in the presence of high-quality personnel potential. The competitiveness of the enterprise depends on the competitiveness of each team member. Thus, the competitiveness of an employee, according

to O.A. Grishnova, is the conformity of the quality of the workforce to the needs of the market, the ability to win in competition on the labor market, i. e. to more fully satisfy the requirements of employers in terms of knowledge, abilities, skills, and personal traits compared to other candidates [9]. In terms of quality, competitiveness is characterized by a set of consumer properties of the workforce capable of ensuring effective work, in particular: profession, seniority, age of the employee, knowledge of foreign languages, etc. In terms of quantitative characteristics, the category “employee competitiveness” can be determined by such indicators as labor productivity and labor efficiency, working time spent on certain operations (works), quality of manufactured products, raw material costs [1]. Personnel policy is also interconnected with these quantitative and qualitative indicators. They form the basis for calculating the effectiveness of the company’s existing personnel policy, and also make it possible to improve the latter. In fig. 1 shows the dependence of the company’s competitiveness on the selected personnel policy.

Based on fig. 1, it can be said that personnel policy is an integral part of the organization’s strategically oriented policy. The content of personnel policy is work with personnel in accordance with the concept of enterprise development as the basis of effective enterprise activity. The purpose of the personnel policy is to ensure an optimal balance of the processes of updating and preserving the quantitative and qualitative composition of personnel in its development in accordance with the needs of the organization itself, therefore this policy must meet the requirements of the current labor legislation and the state of the labor market in the region [11].

Based on the above, we will provide some specific advice on solving the above-mentioned problems at the time of forming the personnel policy of the enterprise, which can be the basis of the effective operation of the enterprise:

Employee policy:

- establishing strategic and organizational processes for selecting and hiring employees, namely:
  - 1) development of a two-level personnel structure, which will include “main personnel”, that is, the most valuable and qualified workers and “peripheral” employees who perform less important and responsible tasks;
  - 2) location of the enterprise;
- organization of training and reconstruction, improvement of personnel qualifications;
- creation of all the necessary conditions for the development of human potential in business, which is the result of the effective operation of the enterprise – this will provide it with business competition on the market;

Table 1 – Stages of formation of personnel policy at the enterprise [6]

№	Name of the stage	The goal of work with personnel	Activities
1	Normalization	Coordination of principles and goals of work with personnel with strategic development of the organization	Conduct an analysis of corporate culture, strategy and state of development organizations
2	Programming	Development of the program, ways of achieving the goals of personnel work, taking into account the conditions and possible changes situations	Develop a system of measures to achieve the goals in the form of a document, taking into account the current state and necessarily taking into account possible changes
3	Personnel monitoring	Development of procedures for diagnosing and forecasting of the personnel situation	Conduct an analysis of the state of personnel potential

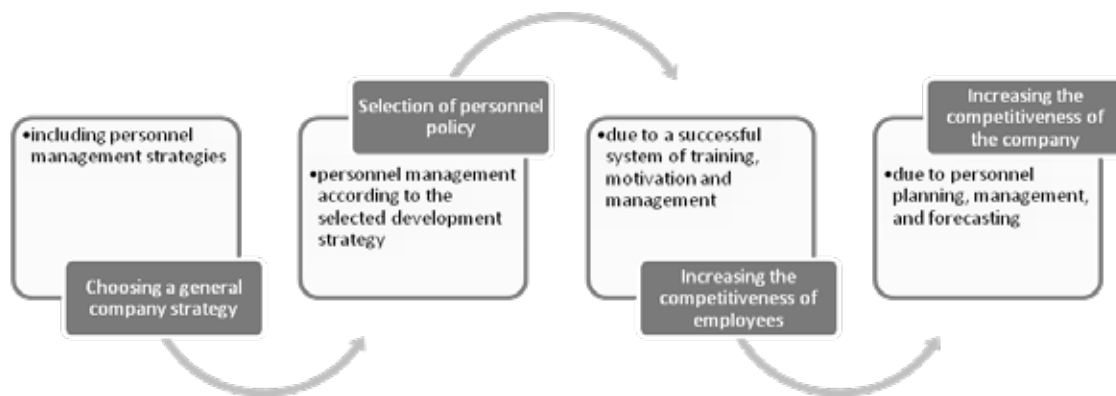


Fig. 1 – Dependence of the enterprise's competitiveness on the choice of personnel policy [6]

– development of effective employee management methods as a practical and reasonable situation of placement, use and provision of personnel that will ensure professional development;

– development of social and labor relations between employees and management regarding labor and employee development, working conditions and social protection;

– creation of an effective system of stimulating the work of employees, including non-material and material motivation and development of key areas of work to motivate employees, etc.

### Conclusions

The effective development of the enterprise consists in a systematic approach to the personnel management strategy. The personnel policy was created to merge the efforts of all the company's personnel to solve the assigned tasks. In the aspect of the modern innovative economy in the era of the

digital revolution, personnel policy should coincide with the concept of enterprise development and be considered as an important strategy of effective personnel management.

The personnel policy of modern company employees is to create a business development plan, to be sufficient and flexible, financially satisfactory and based on real business opportunities. It should form an individual approach to its employees. The principles of personnel policy can be defined as follows, in particular:

– democracy of management, which depends on readiness for cooperation;

– understanding of people, their needs;

– maintaining fairness and consistency.

Therefore, in accordance with modern economic conditions, the personnel policy should be aimed at creating such a system of working with employees to focus on obtaining not only economic and social effects, but also regulatory aspects and state decisions.

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DOI <https://doi.org/10.26661/2414-0287-2023-3-59-14>**WAYS TO IMPROVE ENTERPRISE PERSONNEL SAFETY MANAGEMENT EFFICIENCY****Dashko I.M, Androsova O.F., Stefanyk S.M.***Zaporizhzhia National University**Ukraine, 69600, Zaporizhzhia, Zhukovsky str., 66*

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**Key words:**

safety, personnel security, employees, enterprise, management, personnel management strategy, interest protection, conflict, qualification, corporate policy, mentoring

It is noted that personnel management is an element of social management, traditionally understood as the management of people and their teams. It has been identified that one of the most critical issues is enterprise management from the perspective of economic security. The essence of the concept of enterprise security has been disclosed. The significance of employee safety within the overall security system has been explored, acknowledging its crucial role. The concept of personnel security has been defined as the foundation of the enterprise's economic security, characterized by various approaches and aligned with diverse tasks to fulfill the core objectives of employee safety at the enterprise. It is emphasized that enterprises constantly face various threats. Various approaches to personnel safety of employees, which ensure the main tasks of personnel safety of employees of the enterprise, are analyzed. The disclosed principles necessary for establishing effective personnel security include consistency, legality, morality, interest, economic efficiency, interaction, and promptness. Scientific sources on enterprise personnel security have been reviewed, identifying different scholars' approaches based on process-oriented, structural, functional, and goal-oriented perspectives to understand its essence. Strategic goals for establishing personnel security have been outlined. Internal and external risks and threats to personnel security at the enterprise have been identified. Proposals for improving the management of personnel security at the enterprise have been developed, using the example of the LLC "Agency "DZHEB." General measures to enhance employee safety, when implemented collectively, can positively impact ensuring personnel security at the enterprise.

**НАПРЯМИ ВДОСКОНАЛЕННЯ ЕФЕКТИВНОСТІ УПРАВЛІННЯ БЕЗПЕКОЮ ПЕРСОНАЛУ ПІДПРИЄМСТВА****Дашко І.М., Андросова О.Ф., Стефанік С.М.***Запорізький національний університет**Україна, 69600, м. Запоріжжя, вул. Жуковського, 66***Ключові слова:**

безпека, кадрова безпека, працівники, підприємство, управління, стратегія управління персоналом, захист інтересів, конфлікт, кваліфікація, корпоративна політика, наставництво

Зазначено, що управління персоналом є елементом соціального управління, під яким традиційно розуміється управління людьми та їх колективами. Визначено, що одним із найактуальніших питань є управління підприємством з точки зору економічної безпеки. Розкрито сутність поняття безпеки підприємства. Досліджено, що безпека працівників підприємства займає важливе місце серед інших аспектів системи безпеки. Визначено місце кадрової безпеки, як основа економічної безпеки підприємства. Розкрито сутність кадрової безпеки працівників, що характеризується різними підходами і відповідно до різноманітних завдань забезпечують основні завдання кадрової безпеки працівників підприємства. Зазначено, що підприємствам постійно доводиться протистояти різним загрозам. Проаналізовано різні підходи кадрової безпеки працівників, що забезпечують основні завдання кадрової безпеки працівників підприємства. Розкриті принципи, які необхідні для формування ефективної кадрової безпеки зокрема: принцип узгодженості, принцип законності, принцип моральності, принцип зацікавленості, принцип економічної ефективності, принцип взаємодії та принцип оперативності. Проведений аналіз наукових джерел з питань кадрової безпеки підприємства виокремив підходи науковців до розуміння її сутності на основі процесного підходу, структурного підходу, функціонального підходу та цільового підходу. Зображено стратегічні цілі

формування кадрової безпеки. Виокремлено внутрішні та зовнішні ризики щодо загроз для кадрової безпеки підприємства. Розроблено пропозиції на прикладі ТОВ «АГЕНЦІЯ «ДЖЕБ» щодо удосконалення управління кадровою безпекою підприємства. Надано загальні заходи для підвищення безпеки працівників, які в комплексі можуть позитивно вплинути на забезпечення кадрової безпеки працівників підприємства.

### Formulation of the problem

Effective enterprise management in modern conditions of development in Ukraine directly depends on the high quality of the workforce of the enterprise, the alignment of employees' skills and qualifications with contemporary work requirements and conditions. This consideration should take into account the current trends prevailing in the industry.

Personnel management is one of the key functions of any organization, and it can be a critical factor that determines the success or failure of the organization, can become a real leader of the future. It is important to note that personnel management is an element of social management, traditionally understood as the management of people and their teams [1].

In the conditions of a market economy, one of the most pressing issues is enterprise management from the perspective of economic security. Enterprises constantly have to face various threats and adapt to them, and therefore, their successful functioning in a market economy requires the establishment of an effective system of economic security measures. Over the years, there has been a growing increase in threats from within the workforce, resulting in a deterioration of the enterprise's economic security due to heightened risks in personnel management.

On the estimations of specialists, such risks can not only lead to financial losses for the enterprise but also result in complete loss by the owners or significant reduction in the market value of assets. Personnel security of the enterprise is one of the most crucial components of its economic security. Therefore, the overall security of the enterprise depends on how effectively the issues related to personnel security are addressed [7].

### Analysis of recent research and publications

In contemporary economic literature, issues of security, including personnel security of enterprise employees, receive significant attention. This attention is based on the works of renowned domestic and foreign scholars, such as O.A. Kyrychenko, V.S. Sidak, O. Yu. Lashchenko, A.V. Kozachenko, V.P. Ponomarov, O.M. Lyashenko, L.M. Tomanovich, N.V. Cherednichenko, and others. Despite numerous studies on this subject, personnel security of enterprise employees still requires further research, particularly focusing on directions to improve the effectiveness of personnel security management at the enterprise. Therefore, the issue of employee safety remains highly relevant for enterprises of any ownership form.

### Formulation of the goals of the article

The purpose of this article is to justify the concept of security and the role of personnel security within

the framework of enterprise economic security. It aims to identify and establish directions for enhancing the effectiveness of personnel security management at the enterprise.

### Presentation of the main research material

Employee safety holds a significant position among other aspects of the security system, as employees are involved in all processes taking place within the enterprise. Coordinating these elements will ensure the successful functioning of the business, as targeted efforts towards the employees will serve as a guarantee of their safety.

Most authors agree that enterprise security is a condition for protecting business from undesirable influences, both external and internal behaviors, while making the most effective use of available resources (business potential). Enterprise security is a comprehensive concept that includes material, financial, energy, informational, technological, legal, and employee safety, which is one of the most crucial factors in ensuring enterprise security. It should be noted that all these components of enterprise security are closely related to the activities of personnel – personnel security. Therefore, personnel security of the enterprise is a vital condition for successful enterprise management. The concept of “personnel security” has diverse definitions due to the plurality of approaches to its understanding.

The essence of personnel security of employees is characterized by various approaches, which, in accordance with diverse objectives, ensure the core tasks of personnel security at the enterprise, including:

- ensuring sustainable development of the enterprise and risk neutralization.
- protecting the interests of the enterprise and employees from unlawful actions.
- preventing theft and destruction of property, material assets, etc.
- preventing embezzlement of funds and materials.
- safeguarding commercial secrets and preventing incitement to conflicts.
- implementing information on production activities and personnel safety management.

The analysis of scientific sources on personnel security of the enterprise showed that there are such approaches of scientists to understanding its essence:

1) The analysis of scientific sources on the subject of personnel security at the enterprise reveals different approaches adopted by scholars to understand its essence:

Process approach: According to this perspective, personnel security of the enterprise is a process aimed at preventing negative impacts on the economic security of the enterprise through risks and threats related to the personnel, their intellectual potential, and labor relations [9].

2) Structural approach: This approach considers personnel security of the enterprise as a crucial component of its economic security. It aims to identify, neutralize, prevent, divert, and mitigate threats, hazards, and risks directed at the personnel and their intellectual potential, as well as those originating from within the personnel. This is achieved through the implementation of an effective human resource management system and personnel policies at the enterprise [4].

3) Functional approach: The functional approach to personnel security at the enterprise refers to the combination of socio-economic, managerial, social, and psychological processes aimed at safeguarding the enterprise’s activities from threats arising from human factors [8].

4) Targeted approach: This approach justifies personnel security of the enterprise as a state of protection of socially progressive interests of the organization, concerning the development and improvement of its human capital, supporting an effective human resource management system, and minimizing risks associated with this component [5].

To establish an effective personnel security, the following principles should be observed:

1. Principle of Consistency – harmoniously aligning personnel security with the corporate strategy and personnel management strategy.

2. Principle of Legality – based on compliance with applicable legislation.

3. Principle of Morality – entails fostering a strong organizational culture and adhering to a moral code regarding personnel.

4. Principle of Interest – ensures employees’ adherence to strategic and tactical decisions as per internal requirements and rules.

5. Principle of Economic Efficiency – achieved through the practicality of the developed personnel security strategy and achieving results.

6. Principle of Interaction – involves engaging external security stakeholders.

7. Principle of Promptness – focused on implementing adaptive security measures promptly.

Forming an effective personnel security is carried out through strategies and tactics in conjunction with

the enterprise’s mission, which determine the vector for ensuring the appropriate process.

Strategic objectives are aimed at ensuring personnel security by protecting each employee, safeguarding the economic interests of the enterprise, and achieving maximum results (figure 1).

It is known that for any enterprise, regardless of its ownership form and type of activity, personnel are the most important resource. At the same time, the personnel also serve as a source of internal and external threats to personnel security.

Internal risks include: inadequate employee qualifications, lack of a training system, absence or weakness of corporate policies, and labor management practices.

External risks include: inflationary processes affecting employee income, external pressure on employees, employee motivation by competitors, and direct employee bribery [2; 3].

As employees are the most critical part of personnel security, it is essential to provide conditions that help avoid the influence of negative factors and risks that can lead to a decrease in overall performance, cause various conflict situations, and increase employee turnover. Therefore, security services operating within the enterprise must promptly realize, eliminate, and prevent any negative consequences they might have.

Special attention should be given to the selection of employees, which can be facilitated through the use of personnel agencies, job fairs, social networks, the Internet (especially the company’s website) for recruiting new employees [6, 10].

Having studied the advantages and disadvantages of the human resources activities of the company “Agency “DZHEB,” proposals for enhancing the management of the company’s personnel security are developed as follows:

- introduce the position of IT recruiters responsible for the quality and quantity of highly skilled managers and specialists in the field of SMM;
- improve the employee motivation policy by emphasizing non-material incentives;
- conduct surveys among employees to assess job satisfaction and working conditions, with the aim of reducing the workforce;

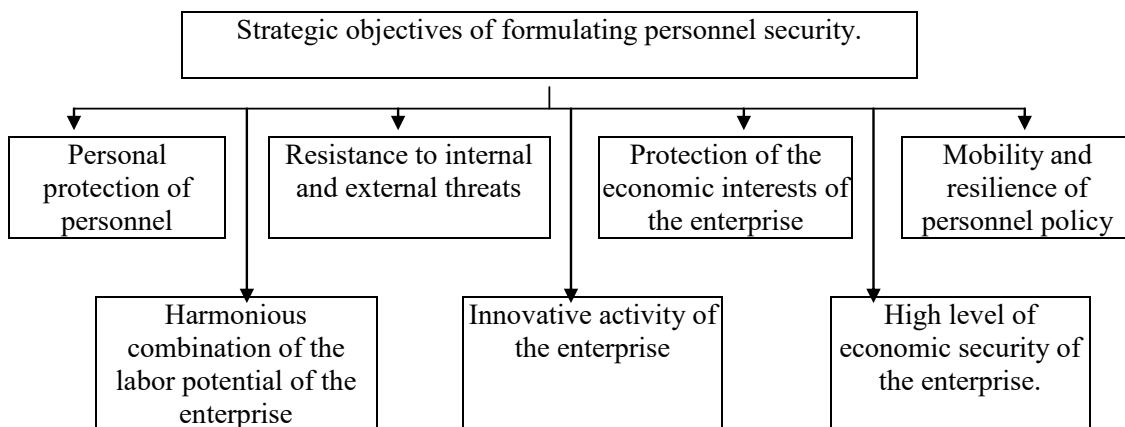


Fig. 1. Strategic objectives of personnel security formation [2]



– develop strategies to ensure the safety of the company's workforce by making the management apparatus of employees a purposeful and effective tool for enhancing the company's competitiveness;

– implement a unified Human Resources Information System (HRIS) for personnel management and establish an effective system for ensuring the personnel security of employees.

### Conclusions

In order to increase the safety of employees, it is necessary to take appropriate measures, because certain people are directly behind all processes, and the effectiveness of activities depends on this, in particular:

1. Selection and verification of potential candidates, checking references, identifying the most experienced and reliable personnel.

2. Internal control and timely mitigation of circumstances and threats.

3. Providing material incentives.

4. Offering social benefits.

5. Creating a favorable emotional climate during interactions between employees, promoting respectful attitudes from both the personnel and the public administration institution itself.

6. Implementing mentoring programs, conducting training and various educational activities.

7. Proper and well-founded screening of external and internal threats from personnel.

Overall, implementing all these measures in combination can have a positive impact on ensuring the personnel's safety and security within the enterprise.

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## PECULIARITIES OF FORMATION OF THE COMPANY'S PERSONNEL RESERVE IN THE FIELD OF STAFF MOTIVATION

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### Key words:

personnel, potential,  
personnel reserve,  
reserve formation,  
quantitative assessment,  
employee efficiency,  
career growth,  
personnel motivation, premiums

It is noted that the main value of any enterprise is usually considered to be its employees, and the enterprise itself is viewed not as a mechanism for making a profit, but as a way of organizing people and their potential. New requirements for the training and retraining of management personnel are identified. HR-management as a science that focuses on human resources, their formation and development in accordance with the strategic goal of the enterprise is revealed. The choice of sources of formation of the personnel reserve is allocated. It is noted that an employer at any enterprise, when forming a personnel reserve, needs to make a choice and prioritize among the sources of formation. It is substantiated that when forming a personnel reserve, the choice is always made in favor of hiring new employees. It is noted that the purpose of the declared activity is aimed at improving the economic result of the organization (even if indirectly) and at avoiding mistakes when working with the reserve. The theoretical approaches to the content and mechanism of formation of the personnel reserve are investigated. The sources of formation of the personnel reserve, advantages and disadvantages of the internal personnel reserve are analyzed. It is established that the potential reserve is formed by managers, specialists, and workers who meet the basic requirements in terms of education, specialty, and height. It is determined that the talent pool is closely related to increasing the motivation of employees who are aware of the seriousness of the prospects for professional and career growth at the enterprise. Attention is focused on the criteria for forming an internal reserve and assessing the effectiveness of work with the personnel reserve. The article highlights the work with the talent pool on the example of private joint-stock company "Ukrainsky Grafit", where the main regulatory document governing the mechanism of formation is the Regulations on work with personnel reserve. It is emphasized that the task of the Regulations of private joint-stock company "Ukrainsky Grafit" is to establish uniform organizational principles in working with the reserve and to create a system for training the reserve of management personnel at the enterprise. The main information sources of private joint-stock company "Ukrainsky Grafit" regarding the consideration of candidates for the personnel reserve are disclosed. It is determined that in the event of vacancies at the enterprise, the internal personnel reserve is considered first to fill the vacancy.

## ОСОБЛИВОСТІ ФОРМУВАННЯ КАДРОВОГО РЕЗЕРВУ ПІДПРИЄМСТВА У СФЕРІ МОТИВАЦІЇ ПЕРСОНАЛУ

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### Ключові слова:

персонал, потенціал,  
кадровий резерв,  
формування резерву,  
кількісна оцінка,  
ефективність співробітників,  
кар'єрне зростання,  
мотивація персоналу, премії

Зазначено, що головною цінністю будь-якого підприємства заведено вважати її співробітників, а саме підприємство – розглядають не як механізм видобутку прибутку, а як спосіб організації людей та їхнього потенціалу. Зумовлено нові вимоги до підготовки та перепідготовки керівних кадрів. Розкрито HR-менеджмент як науку, що приділяє головну увагу кадровим ресурсам, їх формуванню, розвитку у відповідності стратегічній меті підприємства. Виокремлено вибір джерел формування кадрового резерву. Зазначено, що роботодавцю на будь-якому підприємстві при формуванні

кадрового резерву необхідно зробити вибір і розставити пріоритети серед джерел формування. Обґрунтовано, що при формуванні кадрового резерву завжди вибір робиться на користь прийому нових співробітників. Зазначено, що мета заявленої діяльності спрямована на поліпшення економічного результату організації (нехай навіть непрямого) і на уникнення помилок під час роботи з резервом. Досліджено теоретичні підходи до змісту та механізму формування кадрового резерву. Проаналізовано джерела формування резерву кадрів, переваги та недоліки внутрішнього кадрового резерву. Встановлено, що потенційний резерв утворюють керівники, фахівці, робітники, які задовольняють основні вимоги за освітою, спеціальністю, зросту. Визначено, що кадровий резерв тісно пов'язаний з підвищенням мотивації працівників, які усвідомлюють серйозність перспективи професійного та кар'єрного зростання на підприємстві. Зосереджена увага на критеріях формування внутрішнього резерву, оцінці ефективності роботи з кадровим резервом. Висвітлена робота з кадровим резервом на прикладі ПрАТ «Український графіт», в якому основним нормативним документом, що регулює механізм формування є Положення про роботу з кадровим резервом. Виокремлено, що завданням Положення ПрАТ «Український графіт» є встановлення єдиних організаційних принципів у роботі з резервом та створення системи підготовки резерву керівних кадрів на підприємстві. Розкриті основні інформаційні джерела ПрАТ «Український графіт» щодо розгляду кандидатів кадрового резерву. Визначено, що у разі виникнення вакантних посад на підприємстві у першу чергу для заповнення вакансії розглядається внутрішній кадровий резерв.

### Formulation of the problem

A significant problem faced by company managers today is the lack of specialists on the labor market who would not only carry out high-quality management procedures for personnel, but also connect the personnel policy of the company with a defined strategic goal. This problem is relevant even for successful business structures.

Every enterprise that plans its further development must have the necessary human resources to fulfil the production tasks that are part of its development programmes. Personnel, in turn, being one of the most important resources, needs to be developed. The work on the formation and preparation of a reserve for promotion to senior positions of the enterprise is carried out in order to more effectively use the potential of human resources, improve the quality of management personnel, and motivate employees to grow professionally and professionally. The prospect of an employee holding a position with greater authority and responsibility is one of the significant motivational factors for his or her highly effective work.

The formation of a personnel reserve is one of the main functions of personnel management, because the presence of professional “reserve players” is the key to the success of any enterprise.

To implement this area of work with personnel, a personnel reserve is created to fill primarily managerial positions. In the current conditions of socio-economic development, the relevance and practical importance of forming a company's personnel reserve is due to the increased competition for qualified labour in the labour market.

The personnel reserve formation program is aimed at creating a system of continuous professional and career development of employees. Providing an employee with feedback on career growth is a powerful management

tool even for a line manager, who in this way directs and motivates the activities of his subordinates.

It is also difficult for HR managers to accept that qualified employees cost money and effort to retain them. It's no secret that our most common “method” of personnel management in crisis situations is “patching personnel holes.” It is almost the only method of HR management even in more stable enterprises, since most of our top managers are used to working systematically, giving strategic status to the personnel reserve, only by word of mouth.

It would seem that any manager is aware of the need to introduce a new employee as quickly as possible, who will make it possible to change the situation for the better. However, the most traditional methods of working with personnel do not contribute to this, and sometimes additionally slow down the process that has barely begun.

In the absence of a personnel reserve, the problems that arise fall like “thunder from a clear sky”, the top management is deprived of the opportunity to predict and manage the situation, because in the best case, it receives information about what happened, after the fact, when it is too late to change anything.

### Analysis of recent research and publications

In the HR management system, sufficient attention is paid to methodical and organizational conditions for the formation of the personnel reserve. A significant contribution to the study of theoretical, methodological and practical aspects of the formation of the personnel reserve at enterprises, the forms of preparation of the reserve, the criteria and stages of the formation of the reserve was made by such scientists as: Savchenko V.A. (personnel development), Sochinskaya-Sibirtseva I.M., Dorenskaya A.O., Tushevskaya T.V. (HR-management), Dyakiv O.P., Ostroverkhov V.M. (personnel management),

Balanovska T.I., Mykhailichenko M.V., Troyan A.V. (modern technologies of personnel management) and others. But, despite a significant number of works, issues related to the selection of candidates and the assessment of personal qualities of candidates remain insufficiently researched. It is appropriate to emphasize that competence, professional training, work experience, organizational, business, moral qualities, opportunities for further growth of the employee should be of decisive importance when selecting candidates for the personnel reserve.

#### **Formulation of the goals of the article**

The purpose of this article is to summarise the peculiarities of formation of the enterprise's personnel reserve in the sphere of personnel motivation.

#### **Presentation of the main research material**

Personnel development is a systematically organised process of continuous professional training and education of employees to prepare them for performing more complex production functions, professional and qualification advancement, formation of a reserve of managers and improvement of the social structure of the organisation's personnel [1].

The company should encourage further professional growth of its employees at different levels of the hierarchy. However, special attention should be paid to senior management positions, as they have a significant impact on the development of the enterprise. It is important to be able to identify candidates who demonstrate leadership qualities and aptitude for management among your staff and specifically prepare them for management positions. This can be implemented in practice through planning and training of the personnel reserve [2].

Depending on the approaches to the formation of the composition of managers, two types of personnel reserve are distinguished: internal and external. The internal personnel reserve is formed from the company's employees. The external personnel reserve is formed from the number of:

- graduates of specialised educational institutions who have successfully completed an internship at the company;
- candidates who were interested in HR, but for some reason did not come to work in the company at the time of the interview; candidates whose data were obtained on the basis of monitoring the achievements and career development of key industry professionals [2].

The advantage of the internal personnel reserve is that the reservist is sufficiently familiar with the organization, its structure, organizational culture, has personal contacts with work colleagues, and is less susceptible to being dragged to other enterprises.

The disadvantages of the internal personnel reserve include the fact that the reservist does not always enjoy authority among his colleagues, sometimes does not show interest in innovations.

The reserve for positions should be formed on the basis that the employees enrolled in it have a real chance to advance. To determine the optimal number of personnel reserves, it is necessary to determine:

- the enterprise's need for management personnel for the nearest or longer term (up to five years);
- the actual number of currently prepared reserves of each level;
- the approximate percentage of individual employees leaving the personnel reserve (for example, due to failure to complete an individual training program, in connection with departure to another district, etc.);
- the number of managers released as a result of a change in the management structure, which can be used for management activities in other areas [3].

When implementing programmes for selecting the reserve, the organisation should assess the need for managers, the time of their appointment and the specifics of their activities. Only on the basis of these data is it advisable to select the personnel reserve and develop its training programmes [6].

The company uses the following sources of information to select candidates for the personnel reserve: certification materials; results of the work of the team managed by the candidate for nomination; materials of personal affairs; data characterizing the qualifications of employees, labor activity; results of interviews with a reserve candidate, feedback from colleagues [7].

The procedure of selection into the personnel reserve must be regulated and coordinated with other procedures – nomination, appointment. Selection to the reserve for management positions is carried out by the top management of the enterprise and the human resources management department confidentially, for a specific position, taking into account three main criteria:

- compliance of individual characteristics of the candidate with the profile of an ideal employee in this position, which is determined by methods of expert evaluations and testing;
- the results of work in the position he currently holds, according to the certification results;
- the candidate's level of preparation.

The general list of applicants must be secret, it is known only to the first supervisor and the personnel manager [5; 10].

The process of forming the personnel reserve should be continuous and flexible in accordance with production requirements, coordinated with other areas of work with the organization's personnel. The preparation of the personnel reserve is a rather difficult process, which requires constant attention from the head of the enterprise, the personnel department at all stages of the formation of the reserve.

The appointment of the head of a structural division, the promotion of a specialist to a managerial position should not take place spontaneously in connection with a sudden vacancy, but should be planned systematically, based on the gradual replacement of the vacated position of the manager [2].

Quantitative characteristics of the state of work with the personnel reserve are characterized by a number of indicators (Table 1).

Let's consider the peculiarities of the formation of the personnel reserve on the example of PrJSC "Ukrainian Graphite". Personnel reserve is a group of managers and

Table 1 – Indicators of quantitative assessment of work with personnel reserve

Indicator	Calculation methodology
Effectiveness of training managers within the enterprise	$E_{tr.} = \frac{\text{Number of key positions for the period occupied by representatives of the reserve}}{\text{Number of vacant positions}}$
Effectiveness of training managers within the enterprise	$E_{tr.} = \frac{\text{Number of key positions for the period occupied by representatives of the reserve}}{\text{Number of vacant positions}}$
Fluidity of the reserve	$F_{res.} = \frac{\text{The number of reserves that left the company during the period}}{\text{Average number of reserves for the period}}$
Average length of time in the reserve	$t_{res.} = \frac{\text{Number of years in the reserve before taking up the position}}{\text{The number of members of the reserve who took up the position}}$
Reserve readiness	$R_{res.} = \frac{\text{Number of key positions with successors}}{\text{Total number of key positions}}$

specialists, potentially capable of managerial activities, who meet the requirements set forth by a certain position, and after appropriate professional training can occupy managerial positions [8]. The internal personnel reserve is formed from the company’s employees.

The main purpose of working with the internal reserve of personnel at the enterprise is:

- full and timely supply of the enterprise with competent and managerial personnel;
- identifying among the employees persons who have the potential to be appointed to a managerial position and effective use of their creative potential;
- creating real prospects for professional and career growth;
- ensuring timely replacement of managers in connection with reaching retirement age or for other reasons, competent and capable of managerial work of employees;
- achieving optimal arrangement and rotation of managers, specialists;
- attraction of younger employees to key positions;
- reduction of the period of adaptation to the position of manager by newly appointed employees [4; 9].

It should be noted that the mechanism for forming a personnel reserve at an enterprise is determined by the Regulation on work with the personnel reserve, which has its own structure (Fig. 1).

When selecting candidates for the reserve for management positions of the enterprise, the following are taken into account:

- account data (age, education, information on labor activity, etc.);
  - employee’s health status, family circumstances;
  - managerial potential (dedication, responsibility, initiative, leadership qualities, ability to make decisions independently, balance, self-control, ability to see the future, ability to acquire new knowledge and new methods of work);
  - organizational skills (possession of business communication and management skills, ability to work in a team and rationally allocate working time) [9].
- The qualification commission evaluates each applicant and makes a conclusion about inclusion in the reserve, inclusion with comments and exclusion.
- Only after the list is approved, employees are notified of inclusion in the internal reserve or exclusion. Exclusion of an employee from the reserve is carried out:
- in connection with the unsatisfactory results of his activity;
  - insufficient work on improving business qualifications;
  - unworthy behaviour;
  - due to the deterioration of health;
  - by age.

Work is carried out with the persons included in the personnel reserve, which will contribute to the improvement of the professional level of employees and their preparation for the performance of functions in a managerial position. For this purpose, an individual training plan is developed for a specialist who is included

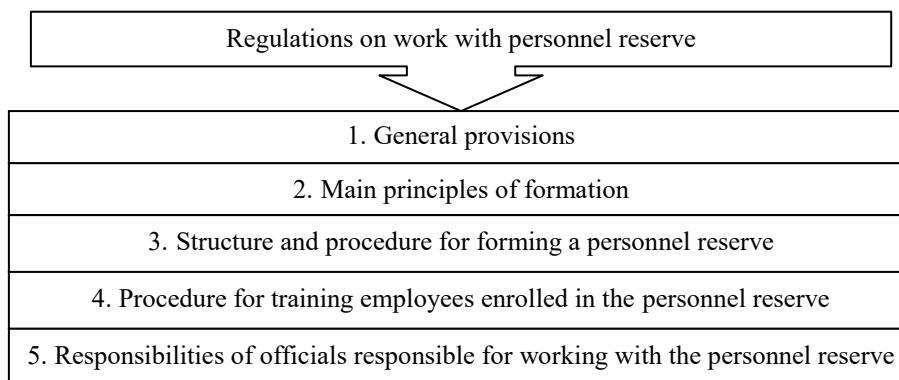


Fig. 1. Structure of the Regulation on work with the personnel reserve [9]

in the reserve. The individual plan includes the following measures:

- joint work of a candidate for a managerial position and a mentor;
- temporary performance of the duties of an absent manager during his vacation or business trip;
- internship in a managerial position;
- work in projects and execution of powers delegated by the mentor;
- participation in working groups, meetings;
- solving certain production tasks;
- employee performance assessment.

The individual plan is developed directly by the head of the structural unit and agreed with the director by direction.

During the formation of the personnel reserve, the role of the manager changes: from a direct supervisor, he turns into a consultant who delegates opportunities to the employee. In the process of delegation, the reservist's training goals can be discussed, supplemented, adjusted taking into account the realities that the reservist saw.

At PrJSC “Ukrainian Graphite” considerable attention is paid to reservists, but for some reason mentors remain in the shadows. Therefore, it is advisable to create an effective system of motivating the mentors themselves to perform their functions by:

- regular allowance for mentoring (monthly/quarterly);
- encouragement of mentors whose reservists have demonstrated the best results of training according to the conclusions of the qualification commission during the interim or annual evaluation.

If necessary, it is useful to conduct internal training of mentors in the skills of transfer of experience and assistance in the development of reservists.

Thus, the process of forming an internal personnel reserve at the enterprise involves: firstly, ensuring reliable succession when replacing managerial positions of structural divisions, secondly, minimizing the possibility of appointing an untrained worker or one who does not meet the requirements, thirdly, creating conditions for stimulating creative activity.

Work with the personnel reserve at PrJSC “Ukrainian Graphite” is an element of the system of career growth and motivation, which does not require significant investments, but gives the opportunity to obtain appropriate results.

The availability of a personnel reserve of trained specialists enables the enterprise to significantly reduce the costs of recruiting and adapting new employees, as well as to build a system of investments in personnel development, which, in turn, significantly increases the non-material motivation of employees and contributes to their retention at the enterprise. In addition, the presence of a prepared personnel reserve makes it possible to significantly reduce the company's risks in case of illness of key employees or the occurrence of other unforeseen circumstances.

Clearly defined guarantees of professional growth and career advancement are important as a motivating factor. This is a serious moral and psychological motive for employees' labour activity, based on each employee's natural desire for self-affirmation and recognition of their

usefulness and significance in the team. It is important to create an environment in the team where everyone knows the prospects for their growth – in qualifications and in their position.

### Conclusions

The personnel reserve can be used both as an approach to evaluating the efficiency of employees and, if necessary, as a basis for determining rewards based on results – bonuses.

The essence of forming a personnel reserve is to form a list of key tasks. It is very important that the performance of each task can be evaluated. Correct understanding of the employee's goals creates the possibility of their achievement. When setting goals competently, the employee realizes that he is fully responsible for completing the task, even if there are a number of external objective reasons. Their task is to overcome obstacles that stand in the way of achieving their goals. Having clear goals and objectives is a powerful motivating factor.

“Voluntary retirement” of experienced employees threatens the need to look for new, less qualified and experienced employees, which may ultimately affect the quality of manufactured products.

Analyzing the implementation of organizational innovations, it should be noted that this process is far from painless. Most often, it is necessary to overcome the resistance of the staff. It arises due to various specific reasons, to which the five most common reasons are added: fear of the unknown, a sense of insecurity and uncertainty that has arisen (due to the lack of guarantees), lack of involvement in the process of future changes, lack of time to implement an innovation due to a large volume of operational work, past negative experience of implementing change projects. And if the resistance is provoked by the lack of information or its misinterpretation, it will be logical to relieve the tension by providing true and complete information about the program for the formation of a personnel reserve, as well as to attract employees to participate in it, convincing them of the need for this measure. Having spent a certain amount of time and effort, the top management receives active participants of the program with strong motivation. Resistance can also be overcome thanks to the stimulation and support of employees.

However, the internal reserve of the enterprise should not be limited only to the key positions of managers of the upper and middle management levels. The most effective functioning of enterprises is also facilitated by the inclusion in the personnel reserve of managers of the lower level of management, professionals with good training and potential for career growth.

When the enterprise is developing, increasing the volume of production, it is quite justified to invite workers to new workplaces, specialists to low-level positions. But it is necessary to fill vacant positions of professionals and managers mainly from one's own personnel resources. This is a justified employment policy, an important component of corporate culture [1].

The process of training reservists can last a long enough time, provided the company uses modern methods of

market analysis and long-term planning, but such training of its own personnel can justify itself in the future.

Therefore, when working with personnel, especially when forming a personnel reserve, it is necessary to take

into account that the greatest value will not be an employee who possesses exceptional knowledge, but one who is able to constantly master and learn new things, and then apply his own knowledge in practice.

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**MARKETING ASSIMILATION TACTICS OF THE FIRM  
TO THE CONSUMERS' BEHAVIORAL CHANGES FOR PROFIT MAXIMIZATION  
AND THE MORAL ANTAGONISM OF SUCH COMPANY'S DECISIONS**

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**Key words:**

marketing, marketing activity,  
market size, market needs,  
products

This article delivers a comprehensive study of marketing instruments used amongst morally compromised industries like alcohol production. Further it describes adverse effects of obesity and alcohol altogether. This article works with fundamental life building constructs such as a choice of life through increased sales in the firm of fattening and silently killing products (i. e. alcohol) over creating a false concepts of acceptance of fat people for whom they are (obese and fat people are being called socially acceptable group of reasonable individuals and somewhere even being idolized for their bravery to accept their fat bodies and being able even to openly present it to public in social media). This article will provide an insight towards creating a bond in between customer and a company. Overall study shows a need towards healthy business attitude and usage of honest marketing instruments.

**МАРКЕТИНГОВА ТАКТИКА АСИМІЛЯЦІЇ ФІРМИ ДО ПОВЕДІНКОВИХ ЗМІН  
СПОЖИВАЧІВ ІЗ МЕТОЮ МАКСИМІЗАЦІЇ ПРИБУТКУ ПІДПРИЄМСТВА  
І МОРАЛЬНИЙ АНТАГОНІЗМ ТАКИХ РІШЕНЬ КОМПАНІЇ**

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**Ключові слова:**

маркетинг,  
маркетингова діяльність,  
місткість ринку, потреби ринку,  
продукція

Досліджено маркетингові інструменти, які використовуються в морально скомпрометованих галузях, таких як виробництво алкоголю. Описано негативний вплив ожиріння та алкоголю в цілому. Вивчено основні конструкції побудови життя, такі як вибір життя через збільшення продажів у фірмі продуктів кормового типу для людей та продажу продуктів «мовчазного вбивства» (тобто алкоголю). Виокремлено хибні концепції прийняття товстих людей, якими вони є (люди з ожирінням і «повні» люди, яких називають соціально прийнятною групою розумних людей, а де навіть обожнюють за їхню хоробрість прийняти свої товсті тіла та навіть можуть відкрито представляти це громадськості в соціальних мережах). Надано розуміння того, як створити зв'язок між клієнтом і компанією. Обґрунтовано необхідність здорового ділового ставлення та використання чесних маркетингових інструментів.

**Problem statement**

Cognitive, subjective and behavioral acceptance of ones' body is hidden from discussion subject agendas for moral reasons. However it makes nonetheless a great deal of sense for marketing specialist to work with. Person's appearance many times is not conscious decision of him or her and therefore been manipulated by marketers or sales people. For instance, acceptance of fat people is not a big problem of numerous diseases fatness can cause, but instead marketers show fake respect for obese and fat people. A simple example of this can be this sentence, when the English word "Obese" is translated at the level of the international company Google as "stout" or "corpulent" –

that is, huge, plump, thick, with a strong posture, but not "obese as overly fat and round". Marketers creating false hope for fat people to be accepted for whom they are, when consciously and secretly sales person just desires to sell another extra item to a fat person. Body shaming of a fat body has been a great deal of (many times adverse or harmful) psychological impact on personality development of people in a society [1, p. 3].

Companies are subjected to morally unacceptable and unstable choices in between saving human lives and increasing companies' profits.

Marketers are unaware of sales techniques that could lead the company into long hall of shame or vice versa increase socially acceptable presence on the market.



Production industries of poisonous substances like alcohol companies are only contributing into fattening people and piling up more diseases on top of all existing.

Marketers are creating a vague global comprehension of obese people as a socially acceptable form of living. It is totally fine for sales industries and for business because they can sell more. However this popularization of acceptance of “bigger body” (morbid obese people) creates a long term disastrous effect for nation-wide scale that accepts obesity as healthy lifestyle.

#### **Analysis of recent research and publications**

Mind Shift Center for Psychological Assistance Services company calls body shaming of fat, obese and morbid obese people as a bullying, they refer to it as a disrespectful attitude, picking at a person, sarcasm, agony, pressure, mocking, humiliating and any other form of derogatory comments are considered as unacceptable form of social behavior [2, p. 3].

As most of current and medically adequate studies around the globe show, i. e. a study of national library of medicine, that obese people are lazy, obsessed with weight loss, experiencing problems with movements and heart problems, due to fatness of heart and organs, they are lack of confidence, motivation, happiness, life enjoyment, engagement, self-worse or fulfillment, obese people are limited in general world perception and discovery. Above all fat people are generally disappointed, lightly depressed, self-enclosed, felling anxious and somewhat useless. Morbid obesity may create a pathological lack of personal life, sexual intercourses, interpersonal relationships; lack of creating new social contacts, gaining confidence and crating new future plans. [3, p. 3].

Daniel G. Amen has published several reports on studies about marihuana smoking and its influence on brain activity [4, p. 1]. As well Daniel G. Amen has many podcasts about consumption of alcohol and its adverse affects on human body development as well as on developing the brain volume. His studies are not new but quite interesting nonetheless. However the main point extrapolated from his research should be his honest position about “the big lie” of alcohol industry in particular that says that: “one or two glasses of red wine are good for you” [5, p. 1]. Drinking creates not only adverse effects in for of liver failure, dizziness, fatigue, loss of consciousness or rational thinking, lower self-worse value, absolutely horrific aftermaths results like withdrawal from alcohol poisoning, immediate addiction processes, destruction of muscles across whole body, increasing cholesterol and body fat, fattening organs and skin, damaging kidneys, pancreas, the prostate gland at an unpaired androgen-dependent organ, it is affecting attacks on heart failure in form of increased risk for damage to the heart muscle. Alcohol may lead to breast and other types of cancers such as: increases the risk of cancers of the mouth, throat, esophagus, liver, and colon [6, p. 1]. Above all and what most strikes about this particular substance is that alcohol shrinks the brain. Dr. Daniel G. Amen researched since 1991, that everyday drinkers have smaller size white matter in the brain and ultimately smaller brain, and when

it comes to brain, apparently size matters. Grey matter represents nerve cells bodies and brain cell bodies, white cell matter represent tracks. Those, who drink a lot, have more disrupted communication within the body than those who do not drink. This disrupted communication may lead to several different cancers types which are in turn are bad for the brain. Nevertheless marketers at the alcohol, knowingly about the adverse effects of alcohol on human body and the brain in particular, will continue the propaganda of “a great best way to support vessel flow blood circulation” as a prerequisite for continues and nonstop purchases and consumption of the slow death potion.

**The task of the article** consists in the application of previously developed marketing service activities ability of a marketer to start to think differently, develop critical thinking and show positive and negative impacts of unhealthy life styles, particularly morbid obesity. Within the scope marketers goal is to understand the instruments used by lead sales industries and apply these knowledge onto own business.

Marketer professionals should differentiate in between standpoints of a process of selling to healthy people is a very limited market due to the fact that healthy and confident people are highly motivated, asserted, employed, reasonable and engaged individuals. Healthy people know what they are looking for, their goals and values; also they are less susceptible to unreasonable marketing tricks and pitfalls to which obese people are not as much ready to fit. Thusly, marketers should be aware of standpoint of selling to fat people, on the other hand, is an unlimited play ground to sell, because fat people eat junk foods and drink fluids that are not necessarily healthy or otherwise good for overall wellness of their body and mind. Fat people are limited physically in their mobility, thusly they are more lenient towards buying stuff they don't need and they consume a lot more at the trade spot rather than taking received values to place of residence [7, p. 1].

#### **The main research material**

The best way to sell your goods and services is to convince majority of population that – being fat is good for you. When medically speaking is very bad and morbid obesity has numerous adverse effects in private life as well as it creates health problems such as: blood clots in veins, high cholesterol, heavy breathing, congested inhalation, inability to wear the same size clothes, low mobility, unattractive body during sex, inability to perform certain physical jobs due to the extra weight, high blood pressure, high levels of triglycerides (dyslipidemia), higher risks of stroke and a heart attack. Becoming fat may involve bringing new psychological phobias such as psychological vulnerability, anxiety, panic, mania, paranoia, depression, lower self-esteem, and lower social acceptance by themselves, fear, social anxiety, other types of phobias such as fear of heights, enclosed spaces, unwanted perplexity, and other adverse effects [8, p. 1].

These new range of personal customers' problems may assist the marketer to create a new product or to see a cloud of new possibilities within psychological interference

boundaries – customers' fears. A new product that will alleviate all previously mentioned phobias fears anxieties and body problems, which technically speaking may take an effect of a placebo or will not make any difference at all. That is the goal of a marketer. Creating a brand new feature, a brand new service, a brand new design that will once and for all not only answer all the customer service department questions but also fulfill life-long needs of a client. Even better than that is to create a brand new product or a service that could possibly serve longer than one customer's life-long purpose but will hold value and increase it for this client's own future generations to work with. That ultimate very achievable role of product may be easy to reach by just using fears and phobias and transferring it into advantageous new reformed way of understanding the product. Obviously, for alleviation of all these problems it is not enough to eat, drink, wear new clothes, new shoes, new cars, buy new jewelry, consume new services. Certainly, if a person becomes fat, he or she must visit a professional licensed dietitian, therapist, family doctor or psychiatrist and resolve first of all physical and psychological issues [9, p. 1].

However, a proficient marketer or a sales person may choose not to engage into manipulating this fears nor deepening the adverse effects, but instead the marketer may choose to develop a friendly relationship with the customer.

Building a trust between the company and the client would make a very small and insignificant influence on business right away, meaning company may not even make a sale or a profit this day; however building the trust will help the company to grow overtime, in longer periods of time, in long perspective. Untethered, complete and fully integrated connection with customer's needs, both actual product's, mental, physical and societal will highly increase an ability to foresee future greater sales, bigger and more motivated client's awareness with the brand, free of charge spread across all over the place of brand's name and many other positive and magnetic effects that would create integrity and ascend mission of the enterprise [10, p. 121].

Depending on companies' stage of strategic development, on market availability or urgent needs of this enterprise, a manager may choose fast and short income, like one mid-size itemized sale over long and prosperous trustworthy relationship with this particular customer. These sorts of actions are absolutely not a mistake economically and financially speaking, since the company will make a little profit out of this sale. However fulfilling deeper and more secret issues may lead to creating a bond in between client and a firm.

With the creation and appearance of the internet in early 2000s and popularization amongst customers and businesses it is now crucial to work with the customer instead of working on the customer. Seller may say it is crucial to work with the customer instead working solely with the product. Historically, before the internet, the company was clearing business and reputation only on papers or as much as market would have had allowed a backlash for business to float on surface. Nowadays, all businesses are online. It is practically impossible to hide facts from public or society. Many businesses are dealing

with 24/7 private surveillance, but some are dealing with even harder way of business conduct is 24/7 public surveillance. None of the ways are bad. In fact, with proper attitude to business conduct publicity will allow business to advertise sometimes for free of charge [11, p. 1].

Previously stated governmental rules dictated to maintain mandatory review and feedback books of customer's overviews. Presently it is still a part of the business but now these books transferred to review books or customer pages or customer reviews online, social media pages, private blogs, web page's review, bank order phone call review, etc. Thusly, any issue whether it is small one or big one will immediately be going online. This instant online work is very risky due to the fact of low ability to control things fast if they are not properly displayed. Therefore a company's best strategy is the long-term customer oriented strategy. When the company chooses reputation over income then during a small and insignificant mistakes the customer still values the long-term perspective over short time mistakes, regardless whether those mistakes were intentional or unintentional. Of course making intentional mistakes for the customer would most likely reduce the level of trust, therefore any business should not do intentional mistakes it is not in anybody's interest neither companies nor customers [12, p. 121].

### Conclusion

There should be drawn a line of a true support of people who are struggling with obesity or alcohol dependence and support in sales should be provided for that client. A real marketing professional should never indulge pure gratification of one-self on using customers' vulnerability in purchase of the product into own personal gain.

Current enterprises that produce alcohol, regardless of how much profitable alcohol consumption is, from dawn of ages are making all their studies about obesity and morbid obesity obsolete. Alcohol plays one of the main reasons of body fattening, lowering self-esteem, addictions and creating numerous diseases including various types of cancer, degrading brain activity and reducing potential for reproduction.

Alcohol industry knowingly using dirty marketing tools of sales such as telling to a customer that: "one or two glasses of wine weekly are healthy for the person". Alcohol not only inputting into obesity problem and creating a vast number of psychological issues but as well it decreases its reputation. In long term adverse effects of substance are leading to inevitable dependence, anxiety, smaller and less qualitative life span. There are many other tricks to say otherwise that being fat and drunk in fun and cool, however it is not. Nonetheless this is a peak of marketing, creating a paradoxical way of thinking about the product. Alcohol is being the top legal drug seller governed by the own governments.

The same logic stands for alcoholics that consume even 1–2 glasses of drinks annually or more. These are the lead customers with whole set of psychological problems and health deficits. These are the gullible audience that will accept any truth to be told, because alcohol is clouding their

true, concrete, critical and own judgment of their needs; therefore they will rely on marketers' suggestions and personalized ads in social media. It is a moral responsibility that each marketing professional will have to face during the time of sale, whether it is own time in choosing the industry of future advances in sales or in his or hers own company's mission during sales of goods and services.

Depending on the level of morality manager must maneuver in between being morally good and making money. Whatever he or she chooses is the correct way except that instance when customer will suffer long strategy and orientation.

and uncalled for consequences from this sale. It is own marketer responsibility to choose whether building strong firm relationships is an ultimate goal of the company. Fat people are in physiological need of higher maintenance starting from bigger amount of food required to purchase, buying bigger clothes, shoes, purses, buying double seats, bigger cars, bigger houses, and generally consuming more items and services than a healthy and strong individuals.

An upper management may lead and advise on general mission. As well educated sales professional will always correct the work depending on the type of company's

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## PROBLEMS OF HUMAN RESOURCES MANAGEMENT AT INDUSTRIAL ENTERPRISES IN THE POST-WAR PERIOD

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### Key words:

workforce turnover,  
industrial sector employees,  
reasons for high workforce  
turnover,  
quantitative and qualitative  
composition of enterprise  
personnel

The article examines the issues of personnel policy of industrial enterprises in the post-war period. The quantitative and qualitative composition of the personnel in the industrial sector, the number of permanent employees, and the business's innovative activities have been investigated. It is noted that personnel serves as the foundation for enterprise development, ensuring the stability of industrial enterprises. It has been found that the number of permanent employees in the industrial sector is constantly decreasing, and factors such as the implementation of automated systems and robots replacing human labor, reduction of staff positions by transferring some production to external enterprises, periods of economic crisis, changes in the enterprise's activities, cost reduction, changes in consumer demand, and demographic decline affect the outflow of personnel. The dependence of industrial workforce on the country's population is determined. The demographic situation of Ukraine's population is considered, and the main indicators are calculated, namely: the index of the population's numerical strength of Ukraine; the index of the working-age population of Ukraine; the index of the number of permanent employees in the industry. The level of workforce turnover is analyzed, the main groups are investigated, and their main reasons for the high level of workforce turnover are identified, based on components such as personnel needs, employer requirements, external factors, aspects, and factors for investigating the quantitative and qualitative composition of employees. The main consequences of high workforce turnover are determined. It is substantiated that in order to prevent a critical situation with personnel issues in the future, a series of preventive measures have been formulated, which need to be implemented soon for each individual industrial enterprise.

## ПРОБЛЕМИ КАДРОВОЇ ПОЛІТИКИ ПРОМИСЛОВИХ ПІДПРИЄМСТВ У ПІСЛЯВОЄННИЙ ПЕРІОД

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### Ключові слова:

плинність кадрів,  
штатні працівники  
промисловості,  
причини високого рівня  
плинності кадрів,  
кількісний і якісний склад  
персоналу підприємства

У статті розглянуто проблеми кадрової політики промислових підприємств у післявоєнний період. Було досліджено кількісний і якісний склад персоналу промислової галузі, чисельність штатних працівників, інноваційна діяльність бізнесу. Зазначено, що персонал виступає основою для розвитку підприємства, забезпечує стабільність промислових підприємств. З'ясовано, що в галузі промисловості кількість штатних працівників постійно зменшується, а на відтік кадрів впливають такі фактори: впровадження автоматизованих систем та роботів, що замінюють людську працю; зменшення штатних позицій шляхом переведення частини виробництва на зовнішні підприємства; періоди економічної кризи; зміни напрямків діяльності підприємства; зменшення витрат; змінами в попиті споживачів; зменшення демографічних показників. Визначено залежність штатних працівників промисловості від чисельності населення країни. Розглянуто демографічний стан населення України та розраховано основні показники, а саме: індекс кількості чисельності наявного населення України; індекс кількості працездатного населення України; індекс кількості штатних працівників у промисловості. Проаналізовано рівень плинності кадрів, досліджено основні групи та виявлено їх основні причини виникнення високого рівня плинності кадрів, які базуються на таких складових

як: потреби персоналу; вимоги роботодавця; зовнішні чинники, аспекти й фактори для дослідження кількісного та якісного складу працівників, встановлено основні наслідки високого рівня плинності кадрів. Обґрунтовано, що для недопущення критичної ситуації з кадровим питанням у майбутньому було сформульовано ряд превентивних заходів, котрі потрібно почати реалізувати незабаром для кожного промислового підприємства окремо.

**Statement of the problem**

The industrial sector is a crucial component of any country’s economy and plays a pivotal role in societal development and prosperity. In light of military actions within Ukraine’s territory, it is essential to preserve and attract new scientific and technical potential of the workforce, ensure stability in the post-war recovery of the industrial sector, and create competitive products for both domestic and international markets. Currently, a major challenge is the significant outflow of working-age population beyond the country’s borders and elevated mortality rates among men and women of working age. The permanent staff of industrial enterprises plays a critical role across all business aspects – from product quality to corporate culture and innovative business development. The professional knowledge and expertise of employees determine the quality of the products and services provided by the enterprise. High employee qualifications enable effective problem-solving and innovation implementation. Mobilizing all possible resources for the recovery and development of the industrial sector stands as one of the primary tasks in the post-war period.

**Analysis of recent studies and publications**

The issues of personnel policy at industrial enterprises have been studied by economists and researchers such as Samolyuk N.M. and Yurchyk G.M. [5], Protsyk I.S. and Kara N.I. [4], Yelyseyeva N.A. [2], Shevchenko V.S. [7], Krushelnytska O.V. and Melnychuk D.P. [3], Stepanova E.R., Nazarov N.K. [6], and Shubaliy O.M. [8]. This matter is currently highly relevant and demands further in-depth research.

**Objectives of the article**

To investigate the state of personnel policy and analyze the key indicators of the quantity and quality of staff in

industrial enterprises. Personnel policy is a fundamental component of industrial enterprises; personnel address all issues, and indicators of activities such as profit, profitability, solvency, capital intensity, capital equipment, and others depend on them.

**The main material of the research**

Since the country is under a state of war, many statistical data are not accessible in the public domain, and other data are difficult to analyze and systematize due to constant destruction of critical and public infrastructure, losses, and devastation of the Ukrainian population by Russian forces. Therefore, it would be appropriate to conduct research on this issue based on data from the 5 years leading up to 2022.

Work at industrial enterprises can be a significant challenge for many individuals. It often involves physical strain, routine tasks, and monotony. Safety of workers in production environments is a crucial factor, where health risks may arise due to hazardous equipment or materials. Additional factors that complicate work include uncomfortable working conditions, constant stress, and value misalignment. These factors can lead to psychological tension and job dissatisfaction. Work difficulties can be exacerbated by low pay and a lack of opportunities for professional growth. All these aspects make employment at industrial enterprises demanding and challenging for many individuals.

The personnel of a company are a fundamental component of business development and stability in the activities of industrial enterprises. To analyze the state of personnel, it’s necessary to examine two key aspects: quantitative composition and qualitative aspects. Data regarding the quantitative composition of staff in the industrial sector are illustrated in Figure 1.

Analyzing these indicators, it is possible to conclude that the number of permanent employees in the industrial sector is consistently decreasing. This trend could be attributed to various factors, including:

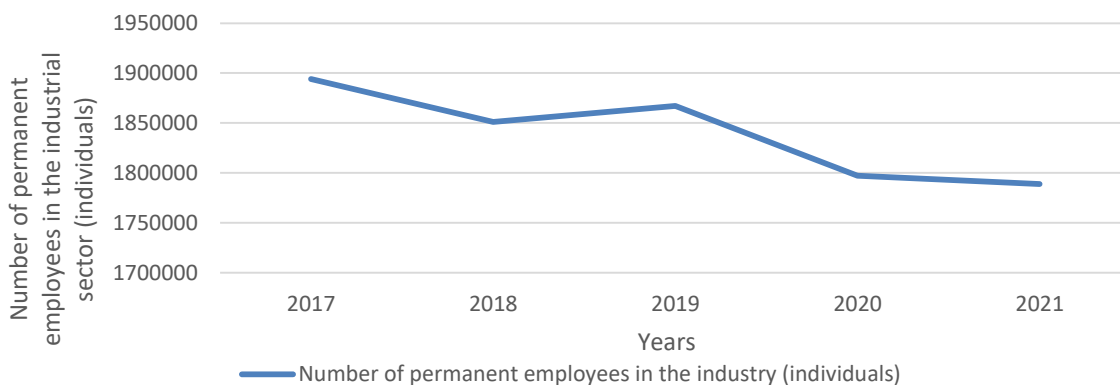


Fig. 1 – Number of permanent employees in the industrial sector (individuals) [1]

1. The implementation of automated systems and robots can reduce the need for manual labor. This leads to the improvement of production processes, reduction in production costs, and the substitution of human labor with automated systems.

2. Industrial enterprises can choose to reduce their workforce by outsourcing a portion of their production or services to external companies specialized in the respective activities.

3. Periods of economic crisis lead to a decrease in demand for products and services, which can compel businesses to downsize their workforce in order to maintain financial stability.

4. A shift in the company’s direction of activity requires a change in the organizational structure to align with the new strategy.

5. Intense competition in the market may necessitate businesses to reduce costs and enhance efficiency, which can result in workforce reductions.

6. Shifts in consumer demand, external conditions, or new technologies significantly impact changes in production processes and the demand for employees.

7. Reduction in the working age population or changes in demographic indicators affect the availability of regular employees for certain industries and other factors.

Due to intense global market competition, businesses must continuously develop and implement new technologies, modernizing their technological processes to achieve lower production costs and improved quality. Therefore, innovative activities play a crucial role in the operations of industrial enterprises, serving as a driving force for progress in their scientific advancements and new products based on innovations incorporated into production. Information about innovation activities in the industry is presented in Table 1.

Analyzing the data from Table 2, an increase in the number of industrial enterprises is observed, which can

be attributed to various factors including economic, technological, social, and political circumstances. As the number of employees decreases while the number of enterprises increases, it indicates the economically viable implementation of innovative methods in the production process, leading to the automation of many work processes and reducing the need for a large workforce. However, a negative aspect is the reduction in the number of jobs.

The dependence of the industrial workforce on the population of the country is closely interconnected. The decrease in the population figures is influenced by various factors, including low birth rates, migration, economic and social factors, low living standards, and other factors. Let’s examine the demographic situation of the population of Ukraine for the years 2017–2021 in Table 3.

For the purpose of illustrating the demographic situation and visualizing the data, the following indicators need to be calculated with respect to the year 2017. For convenience, let’s introduce the following definitions:

– I(PU) – index of the population of Ukraine in relation to the year 2017

$$I(PU) = \frac{\text{current year population of Ukraine}}{\text{population of Ukraine in 2017}} \times 100; \quad (1)$$

– I(LFP) – index of the labor force population of Ukraine in relation to the year 2017

$$I(LFP) = \frac{\text{current year labor force population of Ukraine}}{\text{labor force population of Ukraine in 2017}} \times 100; \quad (2)$$

– I(RWI) – index of the number of regular workers in the industry of Ukraine in relation to the year 2017

$$I(RWI) = \frac{\text{current year number of regular workers in the industry of Ukraine}}{\text{number of regular workers in the industry of Ukraine in 2017}} \times 100. \quad (3)$$

Table 1 – Innovation activities of industrial enterprises [1]

Indicators of Innovation Activities	Years			
	2017	2018	2019	2020
Number of Implemented Innovative Products (units)	2387	3843	2148	4066
Expenditures on Innovations by Industrial Enterprises (million UAH)	2169.8	3208.8	2918.9	3486.3

Table 2 – Number of industrial enterprises in Ukraine [1]

Types of Enterprises	Years				
	2017	2018	2019	2020	2021
Total (units)	42026	44425	47679	47806	49059
Large enterprises (units)	215	237	258	243	292
Medium enterprises (units)	4745	4866	5025	4918	4860
Small enterprises (units)	37066	39322	42396	42645	43907

Table 3 – Demographic Situation of Ukraine's population [1]

Population Indicators of Ukraine	Years				
	2017	2018	2019	2020	2021
Total Population of Ukraine (individuals)	42584542	42386403	42153201	41902416	41588354
Working-Age Population of Ukraine (individuals)	17193200	17296200	17381800	17329900	16617200

The obtained data from the calculations will be presented in Figure 2, using the indicators of the year 2017 as the baseline at 100%.

Figure 2 illustrates the relationship between the population and its working-age population of the country, and the number of full-time employees engaged in the industry. Over a five-year period, Ukraine’s population decreased by 5.55%, the working-age population decreased by 3.35%, and the number of full-time industrial employees decreased by 2.4%.

Assessing the quality composition of personnel is crucial for ensuring the efficiency and successful operation of a company. This process helps identify the strengths and weaknesses of the team of employees, determine development needs, and make strategic decisions to ensure a high level of expertise and qualifications. To conduct an assessment of the quality composition of personnel, it’s important to consider the following aspects:

1. Analysis and evaluation of skills, knowledge, and experience of employees to ensure they possess the necessary expertise for effective job performance and have a sufficient level of professionalism and expertise in their specific fields.

2. The ability of employees to adapt to new conditions, technological changes, and market demands.

3. Assessment of employees’ ability to communicate and interact effectively with colleagues, clients, partners, showcasing their leadership potential and the ability to manage and enhance work processes.

4. Confidence that employees adhere to and embody the corporate culture and values of the industrial enterprise.

One of the important indicators that characterizes the quality composition of personnel is employee turnover. Employee turnover refers to the change of employees due to resignations initiated by themselves or due to termination of the employment contract initiated by the administration [8, p. 175]. The turnover coefficient is determined by dividing the number of employees who left or were dismissed from the enterprise (department, section) during a given period by the average headcount during the same period [8, p. 133]. Employees who meet the requirements of the industrial enterprise and align with the company’s policies are less likely to be dismissed. According to data from Ukraine’s state statistics, Figure 3 depicts indicators of the employee turnover coefficient in the industry.

There is no consensus regarding acceptable employee turnover rates, and typically this indicator varies in different research studies, depending on numerous factors. In their

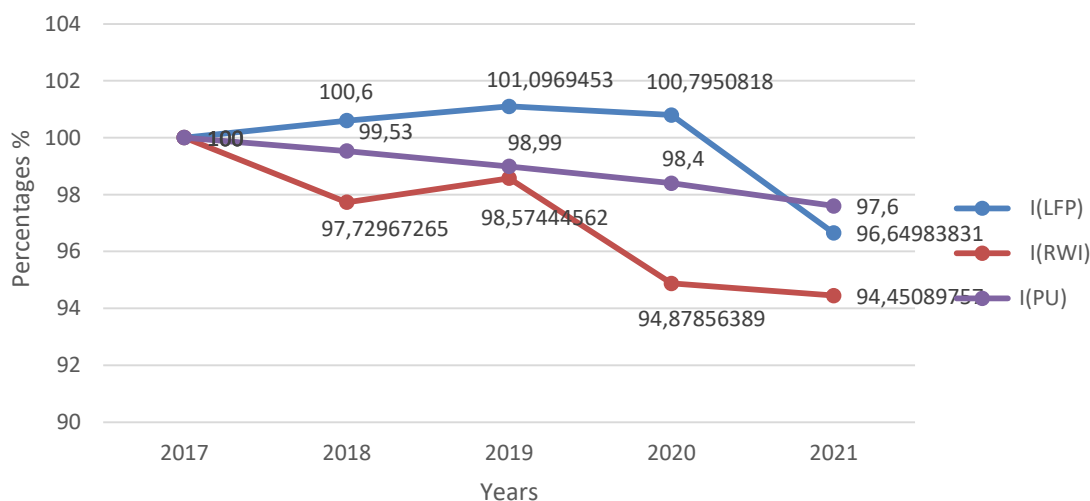


Fig. 2 – Demographic situation of the population of Ukraine

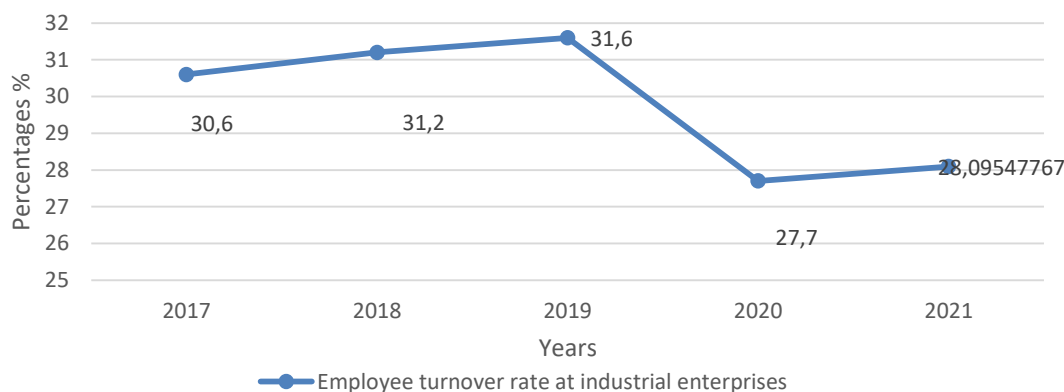


Fig. 3 – Employee turnover rate at industrial enterprises [1]

works, Samolyuk N.M. and Yurchyk G.M. [5] consider the 3–5% range as a normal level of the turnover coefficient, and they regard values exceeding this range as excessive, leading to economic costs. The same opinion is shared by Yelisieieva N.A. [2].

Economists Protsyk I.S. and Kara N.I. also consider a turnover coefficient of 3–5% as a norm that wouldn't result in negative consequences for production. They suggest acceptable rates of 12% for small enterprises and 15% for large enterprises. When the turnover is below 5%, it leads to an aging workforce, limiting the development and acquisition of new experience by employees, which in turn reduces the competitiveness of the enterprise in the market [4].

Stepanova E.R. and Nazarov K.N. differentiate the norm of turnover coefficient for various personnel categories: 3–5% for top management, 5–7% for engineering and technical staff, 10–15% for workers, and up to 20% for unskilled labor [6, p. 17].

Analyzing the works of the aforementioned authors, one can conclude that employee turnover in industrial enterprises is significantly higher than the norm. To understand the current situation, it is necessary to analyze and systematize the main causes of the high turnover rate, as presented in Table 4.

The reasons for employee turnover within a company can be attributed to the three main causes of a high level of staff turnover, namely:

1. Personnel needs. The relationship between the employer and employees, which is a critically important aspect of effective organization. These relationships define the work environment, employee satisfaction, productivity, and the overall success of an industrial enterprise.

2. Employer's requirements. The demands that an employer can place on the personnel are typically determined based on the organization's needs and the specific requirements of individual positions.

3. External factors. External factors have a significant impact on a company's workforce. They encompass

a broad range of external conditions that can influence employees' work, motivation, productivity, and job satisfaction. (Figure 4)

### Conclusions

During the investigation of the personnel policy status of industrial enterprises, the issue of a high level of employee turnover in the industry was identified. This leads to the following consequences:

1. Increased costs for recruiting new employees, their training, and onboarding. It also requires time for employees to adjust and acquire the necessary knowledge and skills for effective work.

2. Frequent turnover can disrupt workflow processes, cause instability within the team, resulting in decreased productivity and loss of valuable knowledge and experience that could have added value to the enterprise. It also undermines stability and the ability to innovate within the organization.

3. Increased employee turnover complicates management processes, task distribution, and organization. It also leads to inadequate training of employees in customer interactions, affecting service quality and more.

In the post-war period, the demographic situation is expected to change significantly compared to 2017–2021, and not in a favorable way. Therefore, it is crucial to reduce the number of people leaving their jobs to stabilize and make the industry economically viable. Many experts already emphasize the shortage of professionals in the field. To improve the situation, it's important not to overlook this problem and implement a series of preventive measures and plans at each enterprise, which should include:

1. Introducing additional reward and recognition systems for employees to enhance their sense of importance within the company.

2. Increasing competitive salaries.

3. Organizing training and development opportunities to ensure ongoing professional growth and learning.

Table 4 – Reasons for the high level of staff turnover

Autor	Reasons for the high level of staff turnover
Yelyseyeva N.A.	1. Termination based on legislative grounds in accordance with the Labor Code of Ukraine. 2. Employee's moral and motivational intentions, which are rooted in real reasons that compel employees to make the decision to leave their job. Various factors can contribute to this, such as dissatisfaction with the level of compensation, delays in wage payment, personal circumstances, challenging and hazardous working conditions, unacceptable work schedules, and other factors [2]
Protsyk I.S., Kara N.I.	1. Organizational factors that arise within the enterprise and encompass aspects such as payment, working conditions and safety, opportunities for professional growth, degree of automation and work intensity, psychological climate within the team, conflict levels, corporate culture, human resource management within the organization, and more. 2. Personal factors that include age and gender of employees, level of education, work experience, qualifications, physiological and psychological characteristics and attributes of personnel, and more. 3. External factors independent of the enterprise's strategy, including the economic situation in the country and region, family circumstances, and other external conditions [4]
Shevchenko V.S.	1. Controlled factors. Working and living conditions. 2. Partially controlled factors. Satisfaction with the team, relationships, forms of motivation. 3. Uncontrolled factors. Climatic, demographic, and social factors [7, p. 100]
Krushelnyska O.V., Melnychuk D.P.	1. Family and household circumstances. 2. Dissatisfaction with living and working conditions. 3. Violations of labor discipline [3, p. 160]



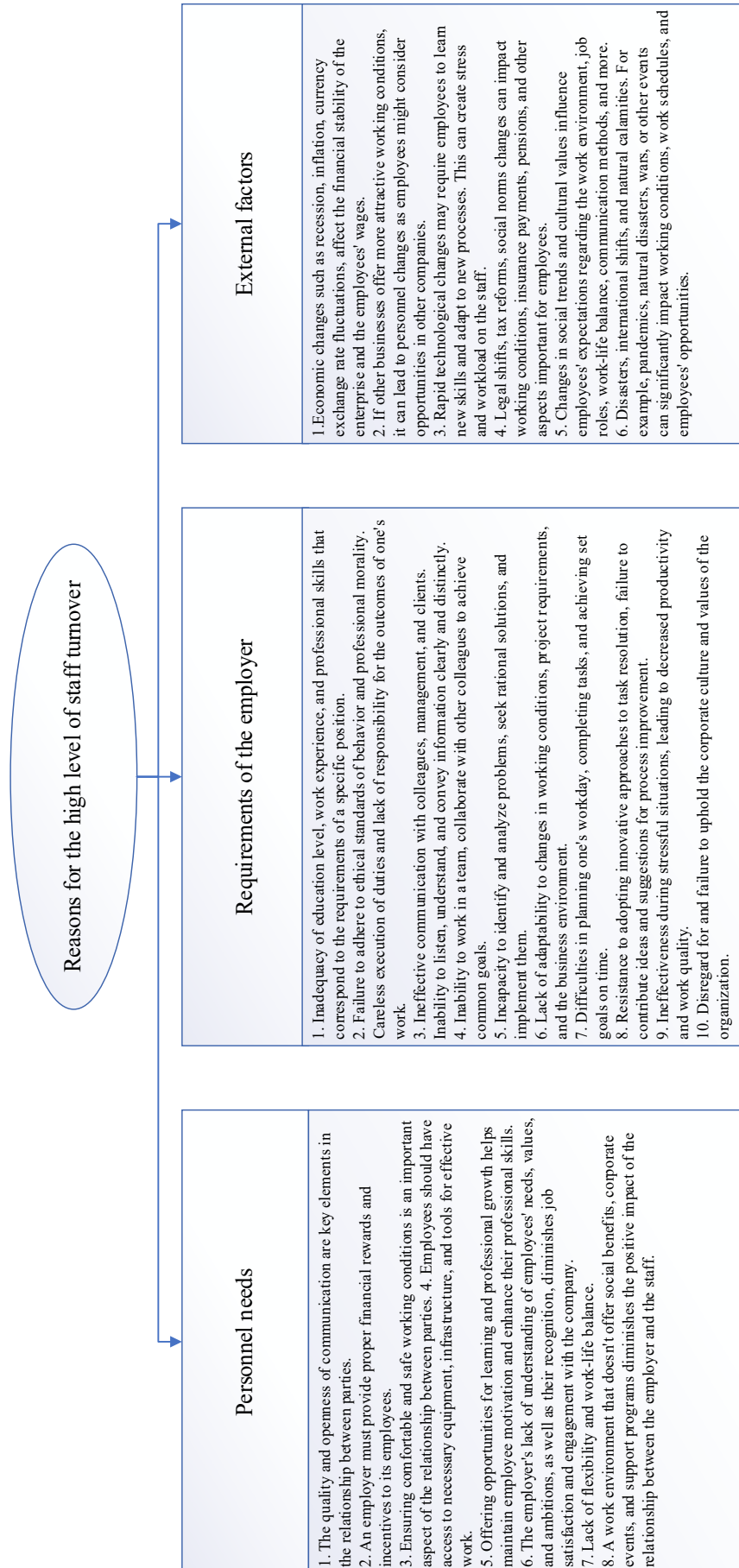


Fig – 4. Causes of high employee turnover

4. Enhancing the quality of the employees' benefits package.

5. Providing safe and comfortable working conditions to increase employee satisfaction and reduce the desire to change jobs due to safety concerns or discomfort.

6. Exploring possibilities for foreign and government investments.

A more detailed investigation of this issue will be possible after the end of the state of emergency and will require analyzing the situation in the country and on each individual enterprise.

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# PROJECT MANAGEMENT AND FINANCIAL AND ECONOMIC SECURITY IN THE CONDITIONS OF GLOBALIZATION

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## THE ROLE OF UKRAINE IN THE FORMATION OF WORLD FOOD SECURITY

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**Key words:**

food security, Ukraine, economy,  
export, agriculture,  
global food security, war,  
the Russian-Ukrainian war,  
grain supplies

The authors considered the role of Ukraine in the formation of world food security. It was established that the export of agricultural products is a priority component of the national economy. It is studied how the full-scale invasion of the Russian Federation on the territory of sovereign independent Ukraine affects the export of Ukrainian food. The state of Ukrainian food exports based on the results of the 2021/2022 marketing year and 2022/2023 marketing year was considered. The specifics of Ukrainian export of food and agricultural goods are analyzed. The export potential of Ukraine has been proven in the conditions of protracted military aggression and large-scale Russian missile attacks on the entire territory of Ukraine, which have continued continuously for more than one year. The authors considered current operational economic indicators and analyzed the dynamics of their decline compared to pre-war data. The reasons for the decrease in grain supplies have been established. Forecasts of various experts regarding exports for the near future were studied. The authors presented relevant data and graphical models for a more accessible understanding of the problem. The general impact of the Russian-Ukrainian war on world food security is substantiated. In the work, the authors emphasized the importance of Ukrainian food supplies at the international level.

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## РОЛЬ УКРАЇНИ У ФОРМУВАННІ ПРОДОВОЛЬЧОЇ БЕЗПЕКИ СВІТУ

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**Ключові слова:**

продовольча безпека, економіка,  
експорт, сільське господарство,  
російсько-українська війна,  
поставки зерна

Авторами розглянуто роль України у формуванні продовольчої безпеки світу. Встановлено, що експорт продукції сільського господарства є пріоритетною складовою національної економіки. Досліджено вплив повномасштабного вторгнення російської федерації на територію суверенної незалежної України на експорт українського продовольства. Розглянуто стан експорту українського продовольства за підсумками 2021/2022 маркетингового року та 2022/2023 маркетингового року. Проаналізовано специфіку українського експорту продовольчих та сільськогосподарських товарів. Доведено експортний потенціал України в умовах затяжної воєнної агресії та масштабних ракетних обстрілів рф усю територію України, які безперервно тривають більше ніж протягом одного року. Авторами розглянуті актуальні оперативні економічні показники та проаналізовано динаміку їх спадання порівняно з довоєнними даними. Встановлено причини зменшення поставок зерна. Досліджено прогнози різних експертів стосовно експорту на найближче майбутнє. Автори подали актуальні дані та графічні моделі для більш доступного розуміння проблеми. Обґрунтовано загальний вплив російсько-української війни на продовольчу безпеку світу. У роботі автори акцентували на важливість поставок українського продовольства на міжнародному рівні.

### Formulation of the problem

The Russian-Ukrainian war has a negative impact on the food security of both the country and the world, and may limit the world food supply. With the beginning of the full-scale invasion, a drop in the volume of food exports from Ukraine became noticeable, which caused additional pressure on global food security. One of the main reasons for the decrease in exports is the decrease in grain supplies, which is explained by many factors, including the hostilities in the south and east of Ukraine, which made more than a third of Ukrainian fields unfit for sowing, the increase in fuel prices and the complication of logistics, the destruction of infrastructure, the theft of crops, etc. Considering the mentioned losses and problems that Ukraine has experienced, the issue of food security formation is quite urgent and requires research.

### Analysis of the latest research and publications on the problem under consideration

Considering the fact that Ukraine is one of the main subjects of food security support, the topic of food security formation has become widespread, especially among Ukrainian information sources. In particular, it is highlighted on the official websites of the Ministry of Agrarian Policy and Food of Ukraine [4; 14; 15], the Ministry of Economy of Ukraine [5] and the National Institute of Strategic Studies [6]. Many scientists also dealt with this issue, including Jurgen Fegele, vice president of the World Bank for Sustainable Development [18], Hryhoriy Stolnikovich, Roman Neiter and Maria Bogonos – Center for Food and Land Use Research KSE [17], Maria Dyachuk, specialist in the industrial greening department of the NGO “Ekodiya” Mykhailo Amosov, head of the industrial greening department of the NGO “Ekodiya” [16]. Scientific works of the mentioned scientists, statistical data and published theses of official state institutions of Ukraine became the information base of this study.

### Formulation of the goals of the article

The purpose of this article is to study the role of Ukraine in the formation of world food security in the conditions of a full-scale invasion of Russia on the territory of sovereign Ukraine. Justification of the general impact of the Russian-Ukrainian war on world food security. Analysis of the dynamics of current economic indicators and their comparison with pre-war data.

### Presenting material

Food security is the ability of a country to provide its population with safe and high-quality food, as well as access to it. The export of Ukrainian food is an important direction of the country’s economic development, a source of foreign exchange earnings for the country. Ukraine has significant potential in agriculture, particularly in the production of grain, meat, milk and other products.

In 2021, Ukraine took 4th place in the world in terms of grain exports, second only to the USA, Brazil and Argentina. From the beginning of the 2020/2021 marketing year (started on July 1) to January 18, 2021, Ukraine exported about 27.57 million tons of grain and leguminous crops, which is 18.6% (6.3 million tons) less than in the same period last year marketing year [2].

Currently, Russia’s war against Ukraine is causing additional pressure on global food security: a drop in food exports from Ukraine and side effects that may further limit the world’s food supply. With the beginning of the full-scale Russian invasion of Ukraine, grain supplies decreased. Among the reasons should be mentioned:

- 1) about a third of Ukrainian fields are unfit for sowing due to hostilities;
- 2) fuel price increase and logistics complications;
- 3) the destruction of agriculture and the infrastructure that ensures the storage and transportation of food products;
- 4) the blocking by the Russian Navy of access to Ukrainian ports, which prevents dozens of ships that transport food to world markets from reaching the Mediterranean Sea;
- 5) damage and destruction by Russian missiles and bombs of Ukrainian airports, railways, stations and highways, which are critically important for the export of wheat, corn and other goods; destruction of grain warehouses in the east and south of Ukraine, destruction of agricultural machinery and infrastructure [3].

According to the Ministry of Economy, for 2022, during the war, Ukraine exported almost 31.8 million tons of grain, including 11.2 million tons of wheat, 9.7 million tons of corn, and 5.636 million tons of barley (Fig. 1) [5].

As a result of the war, in 2022 the indicators of the previous year’s volume of wheat exports decreased by 12% and the volumes of corn exports – by 8%. At the same time, the volume of barley exports increased by 44%.

Analyzing the data of the Ministry of Agrarian Economy and Food of Ukraine for the 2022/2023 and 2021/2022 marketing years, we observe the following situation (Table 1, Fig. 2).

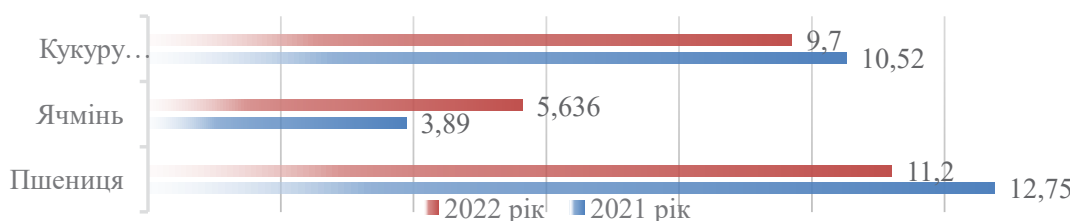


Fig. 1 – Grain export in 2021–2022 (million tons)

Source: created by the author based on [2; 5]

Table 1 – Dynamics of exports from Ukraine of cereals, legumes (with products of their processing) and flour, thousands of tons

	2022/2023 marketing year		2021/2022 marketing year		Dynamics, %	
	Total (as of 31.03.2023)	March 2023	Total (as of 31.03.2022)	March 2022	Total (31.03.2023 to 31.03.2022)	March 2023 to March 2022
Grains and legumes (total)	37639	5341	44943	1428	84%	374%
Wheat	12880	1542	18399	307	70%	502%
Barley	2276	226	5643	7	40%	3229%
Corn	22163	3559	20439	1108	108%	321%
Wheat flour	111,2	16,3	66,9	0,3	166%	5433%
Other flour	4,3	0,4	1,5	0	287%	100%
Flour together	115,5	16,6	66,4	0,3	174%	5533%
Export together (grain + flour)	37793	5364	45034	1428,3	84%	376%

Source: compiled based on [14]

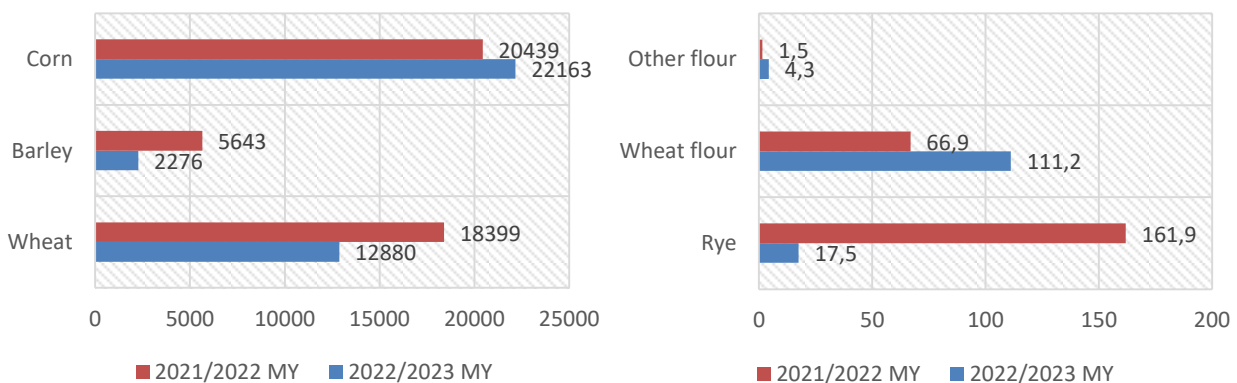


Fig. 2 – Comparative export statistics of the main types of cereals and their processing products 2022/2023 and 2021/2022 marketing years, thousand tons

Source: created by the author based on [14]

As can be seen from Table 2, during the current marketing year, the export of cereals fell by 16%, despite a slight increase in the export of corn by 8.4% and flour in general by almost 74%. Although in March of the current year, a significant increase in the export of grain by 3.8 times was noted.

However, despite all the difficulties with exporting Ukrainian food, Ukraine maintains a leading position among world exporters and is among the TOP-5 global agricultural exporters. Together with international partners, Ukraine expanded new logistics routes, in particular, a grain corridor was launched, thanks to which the state managed to export more than 40 million tons of grain, oilseeds and their processing products since the beginning of the war to provide food for hundreds of millions of people around the world [4].

Estimates of grain exports for 2023 vary greatly:

according to the report of the US Department of Agriculture, USDA, for 2023 it is predicted that Ukraine will harvest 21 million tons of wheat and 27 million tons of corn. At the same time, 13.5 million tons of wheat (which is 14% more than last year) and 23.5 million tons of corn (6% more than last year) will be exported. In general, the forecast for the export of fodder grain in Ukraine for the 2022–23 marketing year in the March forecast was increased by 1.1 million tons – to 26.03 million tons from 24.93 million tons in February, and the forecast for its production remained at 34.16 million tons [11].

according to the data of the National Bank of Ukraine, a reduction in the harvest of cereals and legumes in 2023 is forecast by 15.2% to 45.6 million tons compared to 53.8 million tons in 2022. Wet weather and a shortage

Table 2 – The main directions of export of Ukrainian food

Type	Subspecies of supplies	The main importing countries	Export volumes (2022 year)
Grain	Wheat, barley, rye, corn	EU, China, India, Egypt, Iran	42,6 million tons
Meat	Pork, poultry, beef	Saudi Arabia, United Arab Emirates, China	413,2 million tons
Milk and dairy products	Milk, milk powder, butter, casein, cheese, ice cream	EU, China, Kazakhstan	108,6 million tons
Eggs	Eggs of chickens, quails, etc.	EU, Singapore, United Arab Emirates, Israel	228 million tons

Source: created by the author based on [1; 7; 8; 9]

of electricity (which is needed to dry the grain) delayed the harvest of corn in late 2022, with nearly 20% still in the field at the start of 2023. These factors may affect land preparation and reduce the area planted with spring crops for the 2023 harvest [13].

According to the forecast of the Ministry of Agriculture, Ukraine will have a significantly smaller harvest this year than last year due to hostilities and worsening weather conditions. However, it will be quite enough to ensure the food security of our country and preserve its export potential. Yes, we are talking about more than 51 million tons of grain and 16 million tons of oilseeds [14].

The Russian Federation's war against Ukraine disrupted the normal functioning of the world food market, as these two countries account for 30% of world exports of wheat and barley, 18% of corn, and about 80% of oil and oil meal. According to estimates by the Food and Agriculture Organization of the United Nations (FAO), about 13 million people around the world may face food shortages as a result of Russia's invasion of Ukraine [3].

The hostilities taking place on the territory of Ukraine have an extremely negative impact on the functioning of food systems; the following consequences are expected, in particular:

1) disruption of integral supply chains of agricultural products and food products (from primary production to sale of products to the consumer), as well as activities related to the creation of added value in the agricultural sector, related to the production, processing, distribution, consumption and disposal of food products; disruption of the sowing campaign, which is especially threatening, given the high world prices for gas and, accordingly, fertilizers. Active hostilities are currently taking place in those regions where most of the wheat is grown – Kherson, Odesa, and Zaporizhzhia. Collectively, this will lead to a decrease in yield, collection and export of grain; complicated export of Ukrainian products to foreign markets due to the blocking of Ukrainian ports by the Russian Federation (60% of Ukrainian agricultural products are exported by sea), which will have a negative impact primarily on countries that depend on food imports [6].

All these factors can lead to the emergence of a serious crisis of global food security: an increase in inflation and a rapid increase in world food prices.

Therefore, in order to minimize the manifestations of the global food crisis, it is necessary to protect and support the production of agricultural products in Ukraine as soon as possible in the conditions of martial law, taking advantage of the opportunities of Ukraine's

influence on global food policy, which it has gained thanks to the achievement of leading positions in the world markets of certain types of agricultural products, as well as the activation of cooperation with international and intergovernmental organizations, in particular FAO, regarding the transformation of food systems [6].

But the countries are already actively working on solving the problem of complicated export of products. The USAID project is spreading a new grain export technology. The USAID project proposes to use a new technology – large reusable soft containers (maxibags). One maxi bag holds 14 tons of grain. Thanks to them, Ukraine as an exporter will be able to quickly ship grain to its customers and send it by rail to the countries of the European Union. During a full-scale invasion of Russia, in the conditions of blockade of the seaports of Ukraine by Russia, this opportunity can help in the export of grain and increase the volume of its export by rail. The USAID project is promoting this grain transshipment technology to help agricultural exporters learn about new opportunities, accelerate grain exports, and allow Ukraine to supply and guarantee global food security even in times of war [15].

### Conclusions

Ukraine plays an important role in shaping world food security: it is one of the leading exporters of grain crops in the world. The country also has significant potential in the production of other types of agricultural products, including vegetables, fruits, dairy and meat products. Business is currently facing a difficult situation related to the war, which significantly affects the production of export-oriented food. Despite this, Ukraine actively cooperates with international organizations in order to support its products and improve food security in the world. In addition, even in such difficult conditions, the state actively develops the export of its agricultural products to the markets of the European Union, Asia and Africa, which allows to increase its income and helps to reduce the global food crisis. In order to reduce the risk of a food crisis, it is necessary to take urgent measures to protect and support the production of agricultural products in Ukraine, especially in the conditions of martial law; solve logistics problems; equip the country with high-quality air defense equipment to minimize damage to natural resources and agriculture, transport chains and infrastructure that ensures food production and storage. But the main solution to the problem was and remains the cessation of hostilities on the territory of Ukraine and the withdrawal of Russian troops from the territories of a sovereign independent state.

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## ВИМОГИ ДО ОФОРМЛЕННЯ СТАТЕЙ У ФАХОВОМУ НАУКОВО-ПРАКТИЧНОМУ ЖУРНАЛІ «ФІНАНСОВІ СТРАТЕГІЇ ІННОВАЦІЙНОГО РОЗВИТКУ ЕКОНОМІКИ»

З № 2(42) 2019 року фаховий науково-практичний журнал «Фінансові стратегії інноваційного розвитку економіки» виходить лише англійською мовою. **Стаття подається до розгляду в редакцію українською мовою. Після проходження внутрішнього рецензування – обов’язкове надання перекладу статті англійською мовою.** Переклад має бути професійним, у жодному разі не використовуючи інтернет-перекладач.

До друку приймаються наукові статті обсягом від 10 сторінок, що відповідають тематиці серії видання й містять нові наукові результати, не опубліковані раніше. Виклад матеріалу статті має бути послідовним, логічно завершеним, із чіткими формулюваннями, що виключають подвійне тлумачення або неправильне розуміння інформації; мова тексту має відповідати літературним нормам, бути професійною і лаконічною. Автор зобов’язаний забезпечити високий науковий рівень викладеного матеріалу, повноту і системність висвітлення питання, достовірність результатів і даних, що наводяться, правильність цитування та посилань на літературні джерела. Редакційна колегія приймає до друку статті, які характеризуються оригінальністю, високою мірою наукової новизни і практичною значущістю.

### 1. МАКЕТ СТОРІНКИ

**Для оформлення статті автор використовує формат А4 з полями з усіх боків – 2 см. Порядок абзацу виділяється відступом 1,25.**

☞ *До уваги авторів:* У разі необхідності для шрифтових виділень у таблицях і рисунках дозволяється застосовувати шрифт Courier New (наприклад, для ілюстрації текстів програм для ЕОМ). Для стилістичного виділення фрагментів тексту слід вживати начертання *курсив*, **напівжирний**, *напівжирний курсив* зі збереженням гарнітури, розміру шрифту та інтервалу абзацу.

### 2. ТИПОГРАФСЬКІ ПОГОДЖЕННЯ ТА СТИЛІ

Текст статті, яка подається до розгляду та рецензування українською, має бути побудований за такою схемою:

- індекс УДК у верхньому лівому кутку аркуша (Times New Roman, 14 пт., звичайний);
- назва статті великими літерами (по центру, Times New Roman, 14 пт., напівжирний);
- ПІБ авторів (по центру, Times New Roman, 14 пт., звичайний);
- назва ЗВО (по центру, Times New Roman, 14 пт., курсив);
- повна адреса ЗВО або місця роботи автора (по центру, Times New Roman, 14 пт., курсив);
- адреса електронної пошти;
- ORCID (обов’язково);
- анотація (200–250 слів), яка містить стисле формулювання змісту статті (вирівнювання – по ширині сторінки, Times New Roman, 14 пт., звичайний);
- ключові слова (до 10 слів) (вирівнювання – по ширині сторінки, Times New Roman, 14 пт., курсив).

Після цього з абзацу викладається основний текст статті (вирівнювання – по ширині сторінки, Times New Roman, 14 пт., міжрядковий інтервал 1,5).

#### Структура основної частини рукопису українською мовою:

**I. Постановка проблеми** в загальному вигляді та її зв’язок з важливими науковими чи практичними завданнями.

**II. Аналіз останніх досліджень і публікацій**, у яких започатковано розв’язання даної проблеми і на які спирається автор (з обов’язковими посиланнями в тексті на використану наукову літературу!!!), виділення не вирішених раніше частин загальної проблеми, котрим присвячується стаття.

**III. Формулювання цілей статті** (постановка завдання).

**IV. Виклад основного матеріалу дослідження** з повним обґрунтуванням отриманих наукових результатів.

**V. Висновки і перспективи подальших досліджень** у даному напрямку.

**VI. Література.** Оформлюється відповідно до вимог Національного стандарту України ДСТУ 8302:2015.

**ЛИШЕ ПІСЛЯ ПРОХОДЖЕННЯ ВНУТРІШНЬОГО РЕЦЕНЗУВАННЯ  
АВТОР НАДАЄ ПЕРЕКЛАД СТАТТІ АНГЛІЙСЬКОЮ МОВОЮ.**



Схема побудови англomовної статті аналогічна українському варіанту:

- UDC у верхньому лівому кутку аркуша (Times New Roman, 14 пт., звичайний);
- назва статті великими літерами по центру (Times New Roman, 14 пт., напівжирний);
- ПІБ авторів (по центру, Times New Roman, 14 пт., звичайний);
- назва ЗВО (по центру, Times New Roman, 14 пт., курсив);
- повна адреса ЗВО або місця роботи автора (по центру, Times New Roman, 14 пт., курсив);
- адреса електронної пошти (по центру, Times New Roman, 14 пт., звичайний);
- анотація англійською мовою розширена (1800 знаків) (вирівнювання – по ширині сторінки, Times New Roman, 14 пт., звичайний);
- ключові слова (key words) – до 10 слів – (вирівнювання – по ширині сторінки, Times New Roman, 14 пт., курсив).

☞ *До уваги авторів:* після ключових слів англійською мовою необхідно надати цей блок інформації (крім УДК) також українською, вимоги до оформлення зберігаються.

Структура основної частини статті англійською мовою

(вирівнювання – по ширині сторінки, Times New Roman, 14 пт., міжрядковий інтервал 1,5)

**I. Statement of the problem** (Постановка проблеми).

**II. Analysis of recent studies and publications** (Аналіз останніх досліджень і публікацій).

**III. Objectives of the article** (Формулювання цілей статті).

**IV. The main material of the research** (Виклад основного матеріалу дослідження).

**V. Conclusions** (Висновки).

**VI. References** (Література), оформлюється за міжнародним бібліографічним стандартом. Приклади оформлення: <http://journalsofznu.zp.ua/References.pdf>

**ВАЖЛИВО!** Кожен рисунок включається до тексту у вигляді одного графічного об'єкта (положення об'єкта «В тексті»).

**ДЛЯ ОПУБЛІКУВАННЯ СТАТТІ АВТОРУ НЕОБХІДНО:**

*надіслати на електронну пошту редакції збірника [kconf.econom.znu@gmail.com](mailto:kconf.econom.znu@gmail.com)*

1. Текст статті, оформлений відповідно до встановлених вимог.
2. Витяг із протоколу засідання кафедри з рекомендацією статті до друку (скан. копію).
3. Рецензію доктора або кандидата наук із відповідної галузі науки, завірену відповідним підписом та печаткою установи, яка є зовнішньою по відношенню до ЗНУ та установи, де працює автор (автори) статті (скан. копію).
4. Відомості про автора (авторів) у вигляді таблиці (бажано у файлі формату .xls):

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Кожній статті, починаючи з № 4 2018 року, присвоюється DOI.

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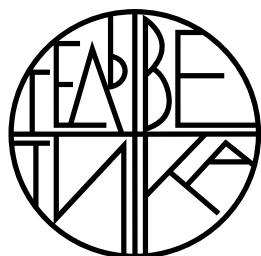
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