

Національний університет  
«Полтавська політехніка імені Юрія Кондратюка»

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National University  
«Yuri Kondratyuk Poltava Polytechnic»

# ЕКОНОМІКА І РЕГІОН

№ 2 (81) 2021

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Vol. 2 (81) 2021



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# ЕКОНОМІКА І РЕГІОН

№ 2 (81)  
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## DO WE NEED ECONOMIC STIMULATION OF SOLAR ENERGY DEVELOPMENT IN HOUSEHOLDS? COMPARATIVE ANALYSIS OF UKRAINE AND LATVIA

Iryna Sotnyk\*, Doctor of Sciences (Economics), Professor  
Sumy State University

\*ORCID 0000-0001-5787-2481

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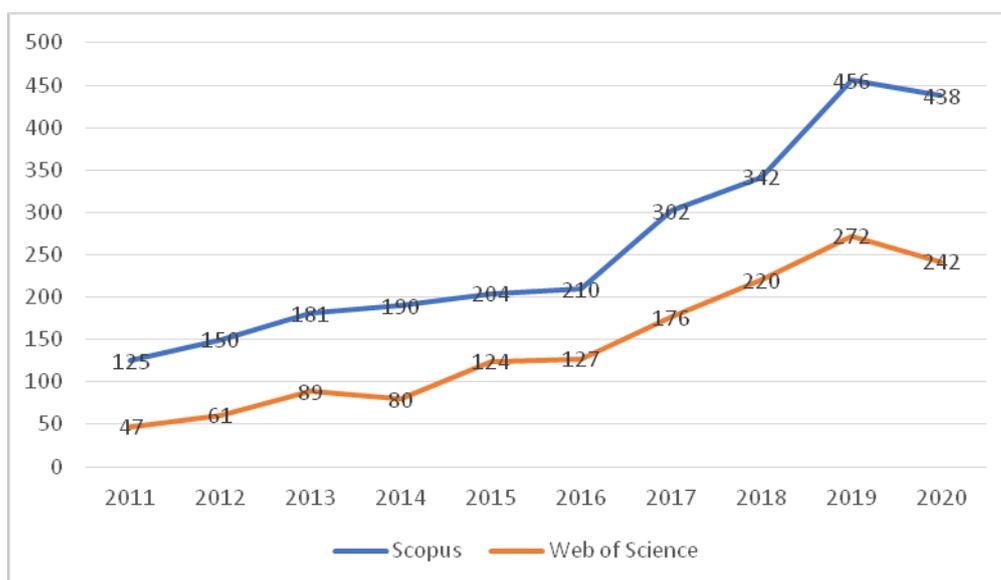
**Introduction.** Renewable energy (RE) is an integral part of energy development programs in many countries worldwide. In 2019, in the document "A European Green Deal," the European Union (EU) declared an ambitious goal to achieve carbon neutrality by member states by 2050. RE sector deployment was defined as one of the leading directions to reach this target [8]. Ukraine also seeks to contribute to achieving the goals of the Green Deal in the framework of European integration. To this end, the country has developed the Roadmap for Carbon Neutrality in the context of its international obligations. The tasks of the National Roadmap include an increase in the energy efficiency of buildings, the energy sector liberalization, green energy technologies dissemination, integration of the United Energy System of Ukraine with the EU market, etc. [3]. In addition to reforms in the energy and construction sectors, performing these tasks requires changes in households' energy supply and consumption, such as shifting to the predominant use of RE sources and the implementation of energy-efficient measures to ensure the population's livelihood.

The advantages of using green energy technologies in the residential sector are energy costs reduction, rising energy independence, energy source decentralization, increasing environmental friendliness of energy generation and consumption, the possibility of obtaining additional profits from selling energy surpluses, and others. The importance of energy-efficient changes in the housing sector is due to the fact that it consumes about 40% of all energy consumed by national economies [13].

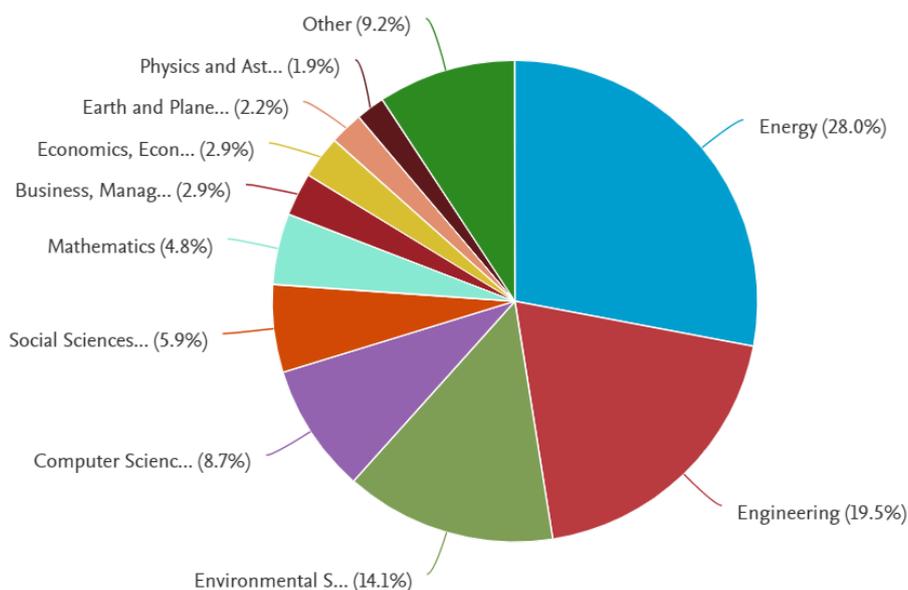
**Analysis of recent research sources and publications.** Many scientists have studied the problems of RE development, including in the household sector. The use of data analysis tools in Scopus and Web of Science databases has revealed current research trends in this area. Figure 1 presents the quantitative analysis of publications on the keywords "renewable energy" and "household" in these databases for 2011-2020. As seen from the figure, the annual volume of articles on RE has grown steadily in the last ten years, especially in 2016-2019. It indicates an increasing interest of scientists in green energy issues and the relevance of research in this area.

The leading countries with the highest number of publications on the RE topic are the United States, Germany, China, India, and the United Kingdom. Figure 2 shows the distribution of articles by fields of knowledge according to the Scopus database. As shown in the figure, the share of economic publications during 2011-2020 was 5.8%, decreasing to 5.4% in 2016-2020. Over the last ten years, the largest number of

studies concerned energy (28.0%), engineering (19.5%), and environmental sciences (14.1%). The share of economic articles on household RE issues is slightly higher, according to the Web of Science database. It amounted to 10.6% in 2011-2020 and 9.5% in 2016-2020. However, like in the Scopus database, energy, engineering, and environmental sciences remain the leading research areas on green energy in households.



**Fig. 1. Number of published articles on household RE issues in Scopus and Web of Science databases (compiled by the author according to Scopus and Web of Science databases)**



**Fig. 2. Distribution of publications on RE issues in households by research areas in 2011-2020 (according to the Scopus database)**

The need to create a technical base for implementing RE projects in the residential sector explains the predominant number of technical publications in the field. With the green energy technologies development, the issues of their implementation in business and household practices, effective management of these processes to ensure the decarbonization of national economies, and the energy independence growth are becoming more acute. Therefore, it is currently relevant to research the application of economic mechanisms to stimulate RE development in the housing sector.

Given the immaturity of most RE technologies, many countries worldwide introduce government support for the industry deployment. It helps make green energy competitive in the market and ensures the achievement of national targets for RE advancement. As a rule, the governments use feed-in tariffs in the initial stages of green energy development [5; 6; 14; 20; 27; 35]. As the RE capacity increases, the

mechanisms of green auctions, green energy quotas, the formation of a market for green certificates, preferential investment in the RE, etc. are applied in the industry [1; 4; 11; 12; 17; 31; 34; 35]. Under favorable climatic conditions, countries usually install feed-in tariffs for solar (SPPs) and wind power plants (WPPs) of low capacity in the household sector. It is because these technologies set minimum requirements for installation, operation, and maintenance of power plants compared to other types of RE sources [10; 19; 21; 29; 30]. As the share of green energy increases, feed-in tariffs become a burden for the state budget and end-users, and there is a need to move to other mechanisms to stimulate RE [2; 6; 22; 23]. In addition, advances in green energy generation technologies, including solar and wind, significantly reduce its cost over time [16]. Therefore, questions about the feasibility of keeping the high feed-in tariffs and continuing to stimulate RE technologies in general require further research.

**The purpose of the article** is to substantiate the need for state support of households implementing RE projects, based on the analysis of experience and evaluation of the effectiveness of solar energy development in the residential sector of Ukraine and Latvia.

**Research results.** Even though Latvia is a northern country, it has solar energy potential, which allows successful deployment of this RE industry on a par with Ukraine. The average annual insolation for Latvia is 1000-1200 kWh/m<sup>2</sup>, while for Ukraine is 1070-1400 kWh/m<sup>2</sup> [15; 24]. In Latvia, the photovoltaic panels provide the maximum electricity generation from April to September, while in Ukraine – from April to October. The advantage of the Latvian climate is cooler summer temperatures, which help avoid overheating of solar modules and increase electricity generation in summer.

Latvia significantly depends on fossil fuels, importing up to 45% of the required energy resources (mainly natural gas) [7]. Ukraine also has energy problems, buying 50% of natural gas from its own needs abroad [26]. Both countries actively develop renewables through economic incentives, but Latvia prefers hydropower, biomass, and wind, while Ukraine focuses on advancing solar and wind, hydro, and bioenergy. As for the housing sector, both former Soviet republics have outdated and energy-inefficient housing stock, which mostly has not been renewed for decades due to lack of investment. Ukraine and Latvia are characterized by population energy poverty due to high utility prices, relatively low incomes, and energy-intensive housing. Therefore, improving energy efficiency and RE development in households is extremely important for both states.

Historically, both countries have initially chosen feed-in tariffs to stimulate the deployment of national green energy sectors. Latvia introduced feed-in tariffs for small hydropower plants in 1995. In 2010, they were extended to facilities generating electricity from hydropower, biomass, biogas, wind energy, and cogeneration technologies that included natural gas combustion. In 2019, the operation of the feed-in tariffs was temporarily suspended and canceled altogether for new installations. In 2020, the government introduced a new mechanism of the Mandatory Procurement Component. It provides funds for purchasing green energy from its producers by including green power in the electricity tariff structure [18].

During the whole period of RE development, solar energy in Latvia received almost no state support, and today its share in the total electricity mix is less than 0.05% (3 mln kWh in 2019) and less than 0.1% among other RE sources [7; 9]. The only weak incentive for households with photovoltaic SPPs is the possibility of selling green electricity surpluses to the local grid at a much lower price than the price of electricity for consumers. One more advantage is the exemption from paying part of the tariff for electricity consumed within the net metering system. Lately, Latvian society popularizes photovoltaic SPPs' installation in the residential sector to reduce household energy costs. These ideas are actively supported by engineering companies that supply SPPs' equipment, banking institutions that offer special loans for RE projects, and energy supply companies that, in addition to performing energy supply functions, provide consulting services in the energy efficiency field. However, given the high prices for SPPs' equipment imported to Latvia and the long payback period of the projects, the population is in no hurry to invest in solar energy.

Ukraine introduced feed-in tariffs for the business sector in 2009 and applied them to the electricity generated by solar, wind, small hydro, and biopower plants. In 2014, feed-in tariffs were extended to household photovoltaic SPPs and WPPs [32]. Today Ukrainian feed-in tariffs are the highest in Europe. They caused a boom in the RE industry of the country. As the most attractive tariffs are for SPPs, both the business and residential sectors accelerated building solar energy capacities [28; 29]. As of the end of 2019, the total number of photovoltaic SPPs in Ukrainian households was 21,968, while at the end of 2020 – 29,931 or 36% more. The installed capacity increased from 553 MW in 2019 to 779 MW in 2020, or 40.9%. The volume of electricity sold by household photovoltaic SPPs at feed-in tariffs increased from 282 mln kWh in 2019 to 733 mln Wh in 2020, or 2.6 times [25]. During 2016-2020, green electricity generation by

household photovoltaic SPPs increased 244.3 times. These results indicate the effectiveness of the applied economic incentives for RE development in the residential sector.

However, several problems accompany such a rapid growth of green energy facilities in Ukraine. In 2020, with the 8%-share of green electricity in the total energy mix, feed-in tariff payments amounted to 26% of the national energy market money turnover [33]. As a result, the Ukrainian government has limited payments for feed-in tariffs and plans to reduce their rates in the coming years gradually. Feed-in tariffs should be brought in line with actual energy generation costs based on the global trends in the RE technologies' cost. In addition, the deployment of mainly SPPs causes disparities in the types of RE sources developing in the country. Moreover, it exacerbates the problems of improving energy infrastructure to increase grid capacity, raises the issue of creating balancing capacity to ensure the stable operation of the United Energy System of Ukraine, etc.

Thus, as follows from the above, the use or lack of economic incentives for the solar energy advancement in the residential sector has pros and cons. The SWOT analysis of the effectiveness of the household photovoltaic SPPs' development in Ukraine and Latvia is given in Tables 1 and 2.

**Table 1**

**SWOT analysis of the effectiveness of the households photovoltaic SPPs' development in Ukraine**

<b>Economic incentive type</b>	<i>Feed-in tariff</i>
<p><b>Strengths</b></p> <ul style="list-style-type: none"> <li>- rapid increase in electricity generation by small photovoltaic SPPs, the overall growth of the RE share in the country's energy mix;</li> <li>- generation of environmentally friendly energy;</li> <li>- fulfillment of Ukraine's international obligations to achieve the RE share in the energy mix and reduce the carbon intensity of the national economy;</li> <li>- increase in the RE sector employment;</li> <li>- independence of households from fluctuations in electricity prices;</li> <li>- energy independence growth of households and the country as a whole;</li> <li>- increase in incomes of citizens who are owners of small photovoltaic SPPs and decrease in their utilities' expenses due to selling green electricity at feed-in tariffs;</li> <li>- stimulation of the local economy's development by investing in small photovoltaic SPP projects;</li> <li>- growth of the housing stock market value.</li> </ul>	<p><b>Opportunities</b></p> <ul style="list-style-type: none"> <li>- achievement of household energy autonomy due to the accumulator equipment installation or use of RE technologies combination;</li> <li>- development of energy supply decentralization processes, reduction of expenses for maintenance and construction of energy infrastructure;</li> <li>- achievement of the country's carbon neutrality in the future, increase in clean energy generation, environmental problems solution;</li> <li>- increase of investments in the national RE industry, employment growth in the sector;</li> <li>- energy poverty reduction;</li> <li>- adjustment of feed-in tariff rates to the actual costs of electricity generated by household photovoltaic SPPs while ensuring normal profits to green energy facilities' owners.</li> </ul>
<p><b>Weaknesses</b></p> <ul style="list-style-type: none"> <li>- instability of electricity generation from solar energy that worsens the balancing of the United Energy System of Ukraine;</li> <li>- increasing burden on the state budget and rising weighted average prices of electricity due to high feed-in tariffs;</li> <li>- deepening energy poverty since only wealthy households can afford investments in RE facilities;</li> <li>- lack of available lending programs for the small photovoltaic SPPs' construction at a low-interest rate;</li> <li>- disparities in solar energy development compared to other RE types;</li> <li>- reduction in feed-in tariff rates planned by the government that decreases the investment attractiveness of small photovoltaic SPPs;</li> <li>- the need for reconstruction and expansion of energy infrastructure to increase the power grid capacity and feed the green electricity to the grid;</li> <li>- long payback periods of RE projects in households.</li> </ul>	<p><b>Threats</b></p> <ul style="list-style-type: none"> <li>- the emergence of a green electricity payments collapse while maintaining inadequately high feed-in tariff rates;</li> <li>- loss of investor trust due to the changes in state payments for the feed-in tariff, curtailment of RE projects in the country;</li> <li>- increase in the payback periods of small SPPs' projects due to the feed-in tariff reduction/cancellation;</li> <li>- high inflation and legislative risks;</li> <li>- deepening energy poverty of the population under the growth of the weighted average price of electricity caused by high feed-in tariffs and lack of accessible funds for investment in RE projects;</li> <li>- risks of accidents in the United Energy System of Ukraine due to deterioration of the capacities' balance and power grids overload;</li> <li>- worsening environmental situation due to involving maneuvering capacities of thermal power plants in balancing the United Energy System of Ukraine;</li> <li>- underdevelopment of other RE types due to the predominant solar energy deployment.</li> </ul>

Table 2

**SWOT analysis of the effectiveness of the households photovoltaic SPPs' development in Latvia**

<b>Economic incentive type</b>	<i>Net metering</i>
<p><b>Strengths</b></p> <ul style="list-style-type: none"> <li>- decrease in household utilities' expenses due to the green electricity generation and subsequent consumption, the opportunity not to pay the tariff part for electricity consumed within the net metering system;</li> <li>- increase in incomes of citizens who are owners of small photovoltaic SPPs due to selling green electricity surpluses to the grid;</li> <li>- generation of environmentally friendly energy;</li> <li>- independence of households from fluctuations in electricity prices;</li> <li>- energy independence growth of households;</li> <li>- stability of the economic situation and electricity prices, which reduces the risks of small RE projects in the residential sector;</li> <li>- absence of financial burden on the state budget;</li> <li>- absence of local power grids' overload due to small volumes of green electricity fed by household photovoltaic SPPs to the grid;</li> <li>- availability of lending programs for the small photovoltaic SPPs' construction at a low-interest rate;</li> <li>- growth of the housing stock market value.</li> </ul>	<p><i>Net metering</i></p> <p><b>Opportunities</b></p> <ul style="list-style-type: none"> <li>- slow development of energy supply decentralization processes, reduction of expenses for maintenance and construction of energy infrastructure;</li> <li>- energy poverty reduction, increasing energy independence of households;</li> <li>- slow increase in the share of household clean energy generation;</li> <li>- stimulation of the local economy's development by investing in small photovoltaic SPP projects;</li> <li>- slow solar energy market deployment in the country.</li> </ul>
<p><b>Weaknesses</b></p> <ul style="list-style-type: none"> <li>- insufficient use of the existing solar energy potential of the country;</li> <li>- lack of a significant contribution of household photovoltaic SPPs in fulfilling the country's obligations to achieve the RE share target and reduce the carbon intensity of the national economy;</li> <li>- sale of green electricity surpluses by households to the local grid at a much lower price than the purchase price of electricity;</li> <li>- long payback periods of SPPs' projects in households, lack of incentives to invest in solar energy facilities;</li> <li>- high investment costs for household photovoltaic SPPs compared to other EU countries;</li> <li>- the need to import equipment for small photovoltaic SPPs in the country.</li> </ul>	<p><b>Threats</b></p> <ul style="list-style-type: none"> <li>- very slow implementation of the existing solar energy potential of the country, preservation and possible deepening of disparities in the solar energy development compared to other RE types;</li> <li>- risks of increasing the instability of the integrated power system due to local power grids' overload when connecting new household photovoltaic SPPs;</li> <li>- the need for reconstruction and expansion of energy infrastructure to increase the power grid capacity and feed the green electricity to the grid;</li> <li>- lack of equipment for small photovoltaic SPPs of domestic production;</li> <li>- almost invisible contribution to the achievement of national goals of the economy's decarbonization.</li> </ul>

**Conclusion.** Feed-in tariff in Ukraine allowed ensuring a significant increase in the RE share in the country's energy mix, involving households photovoltaic SPPs. However, its application has significant drawbacks, which question the feasibility of using this instrument in its current form and in the future (see Table 1). In contrast, the net metering system operating in the Latvian residential sector does not have a noticeable positive impact on implementing the existing solar energy potential (see Table 2). It indicates the inefficiency of the applied economic lever. Therefore, both countries need to improve the state support mechanisms for the industry.

In particular, to interest the population in SPPs' construction, Latvia should exempt households from paying part of the tariff for consumed electricity, which is currently used within the net metering system, and include solar energy in the Mandatory Procurement Component. It will strengthen the economic incentives for the small photovoltaic SPPs' development and create a financial base to increase the households' income from green electricity surpluses fed to the grid. However, the tariff growth for supplied green energy and including SPPs in the Mandatory Procurement Component must be justified so as not to significantly raise the final weighted average electricity price in the country. On the one hand, the increase in tariffs should be sufficient to reduce the payback periods of small photovoltaic SPPs to an acceptable 5-7 years. On the other hand, it should interest the owners of green energy facilities in decreasing their energy expenses, rather than selling generated electricity for profit. Another way to increase the RE projects' attractiveness is to introduce

a favorable investment policy. The latter will ensure the reduction of prices for SPPs' equipment in the domestic market by cutting import duties and encouraging the development of such equipment domestic production. It will decrease the household investment costs while shortening the payback period of projects. An important measure is a state preferential financing of RE projects using subsidies that partially compensate the investment costs of households. Given that solar energy is not a priority for Latvia, no one can expect a rapid boom in the photovoltaic SPPs' construction under the implementation of the provided recommendations. However, these measures can contribute to the growing public interest in small SPPs' investing and changes in energy consumption structure in households while turning them into prosumers. At the same time, it is possible to avoid financial and energy system problems due to high feed-in tariffs like in Ukraine.

Regarding Ukraine, in our opinion, the feed-in tariffs' revision is the first step towards improving the state policy in the national RE sector. It is necessary to bring tariffs in line with the actual price of energy generation based on global trends of RE technologies' cost reduction and normal investor profit. For keeping investors' trust, it is advisable to apply new feed-in tariffs only to new RE projects and preserve high feed-in tariffs for operating facilities since they previously received the tariff frozen until the end of 2029. On the one hand, doing this will be quite expensive for the state. On the other hand, it will ensure social justice in society and trust in government actions. In the future, given the steady trend of cheapening green energy, it is necessary to make a gradual transition from feed-in tariff policy to other support mechanisms. Like in Latvia, one of the key problems of the population is the lack of accessible funds to invest in SPPs. Therefore, the government should introduce preferential financing for investments in household photovoltaic SPPs by providing state compensation for small solar energy projects on the model of the popular Ukrainian "warm" loans program. Due to disparities in the solar energy advancement in the country's residential sector, greater financial support should be given to small RE projects involving wind farms. Moreover, household bioenergy facilities should be added to the list of RE technologies supported by the state. A significant advantage of Latvia is economic stability, which reduces the risks of implementing RE projects in the housing sector. Therefore, Ukraine should develop and steadily implement anti-crisis measures in the national economy. Consistent implementation of the provided recommendations will ensure the balanced deployment of RE technologies in the residential sector and help solve industry's systemic problems.

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**Сотник Ірина Миколаївна**, доктор економічних наук, професор. Сумський державний університет. **Чи потрібне економічне стимулювання розвитку сонячної енергетики у домогосподарствах? Порівняльний аналіз України та Латвії.** Обґрунтовано доцільність державної підтримки домогосподарств, що реалізують проекти з відновлюваної енергетики. Проаналізовано досвід і результати застосування «зеленого» тарифу для розвитку сонячної енергетики у домогосподарствах України. Для порівняння оцінено результативність розбудови геліоенергетики у житловому секторі Латвії, яка має схожий потенціал галузі й застосовує систему чистого вимірювання як механізм економічного стимулювання. Виявлено, що використання високих ставок «зеленого» тарифу в Україні забезпечило стрімке зростання сонячних енергопотужностей у домогосподарствах. Так, за 2016–2020 роки виробництво «зеленої» електроенергії сонячними фотогальванічними електростанціями у житловому секторі зросло у 244,3 рази. Водночас, система чистого вимірювання не здійснює помітного впливу на розбудову геліоенергетики в латвійських домогосподарствах. У 2019 році частка електрики з енергії сонця в загальному електробалансі балтійської країни складала менше 0,05% та менше 0,1% серед інших «зелених» енергоджерел. Система чистого вимірювання в Латвії передбачає можливість збуту надлишково виробленої й не спожитої домогосподарством «зеленої» енергії в локальну електромережу за набагато нижчим тарифом, ніж середня ціна електроенергії для населення. Це збільшує строки окупності малих сонячних електростанцій до 20 років, демотивуючи домогосподарства до інвестування у відновлювану енергетику. Незважаючи на вражаючі результати зростання малих «зелених» енергопотужностей, щедрий «зелений» тариф в Україні створив непомірне фінансове навантаження на державний бюджет, загострив проблеми балансування енергопотужностей та збільшення пропускної здатності електромереж, диспропорції у розвитку різних видів відновлювальних енергоджерел. Натомість система чистого вимірювання, не забезпечуючи значного зростання потужностей геліоенергетики в домогосподарствах, дозволила уникнути проблем, характерних для України. На основі проведеного SWOT-аналізу двох розглянутих інструментів економічного стимулювання розроблено рекомендації для коригування механізмів державної підтримки з метою збалансованого розвитку малої сонячної енергетики у житловому секторі обох держав.

**Ключові слова:** відновлювані джерела енергії, домогосподарство, SWOT-аналіз, «зелений» тариф, система чистого вимірювання, ефективність, сонячна енергетика.

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**Sotnyk Iryna**, D.Sc. (Economics), Professor. Sumy State University. **Do We Need Economic Stimulation of Solar Energy Development in Households? Comparative Analysis of Ukraine and Latvia.** The article substantiates the expediency of state support for households implementing renewable energy projects. The experience and results of the feed-in tariff application for the solar energy development in Ukrainian households are analyzed. For comparison, the effectiveness of the solar energy deployment in the residential sector of Latvia, which has a similar potential of the industry and uses net metering as an economic incentive, is estimated. It was found that the use of high feed-in tariffs in Ukraine has provided a rapid increase in household solar energy facilities. In 2016-2020, the green electricity generation by photovoltaic solar power plants in the residential sector increased 244.3 times. At the same time, the net metering system does not have a significant impact on solar energy advancement in Latvian households. In 2019, the share of electricity from solar energy in the total electricity mix of the Baltic country was less than 0.05% and less than 0.1% among other green energy sources. Net metering in Latvia provides for the possibility of selling household green energy surpluses to the local grid at a much lower price than the average price of electricity for the population. It increases the payback period of small photovoltaic solar power plants up to 20 years and more, discouraging households from investing in renewable energy. Despite the impressive growth of small green energy capacities, the generous feed-in tariffs in Ukraine have created an excessive financial burden on the state budget, exacerbated the problems of balancing national energy system and increasing the power grid capacity, sharpened disparities in the development of various types of renewable energy sources. Instead, the Latvian net metering system, without providing a significant increase in household solar energy capacity, avoided the problems typical for Ukraine. Based on the SWOT analysis of the two national economic instrument sets for solar energy deployment, the article develops recommendations for adjusting the state support mechanisms for the effective advancement of small solar energy facilities in the housing sector of both countries.

**Keywords:** renewable energy, household, SWOT analysis, feed-in tariff, net metering, efficiency, solar energy.

## **UNSHADOWING OF ECONOMIC PROCESSES IN UKRAINE – IS THE MAIN CONDITION FOR THE DEVELOPMENT OF ENTREPRENEURSHIP**

**Viktoriia Vasiuta\***, PhD (Technical Sciences), Associate Professor  
**Karyna Klymenko**, Student  
National University «Yuri Kondratyuk Poltava Polytechnic»

\*ORCID 0000-0002-7469-3968

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**Introduction.** The shadow economy is a fairly widespread phenomenon not only in Ukraine, but all over the world. A high level of shadowing negatively affects the main macroeconomic indicators, distorting them. The shadow economy poses a real threat to the country's economic security, negatively affects its image, competitiveness, and the effectiveness of reforms. In Ukraine, the unshadowing of the economy should become a priority in the implementation of effective state policy.

**Analysis of recent research sources and publications.** Domestic and foreign scientists investigated the mechanisms of economy unshadowing.

The works by G. Erns, P. Gutman, V. Mandibur, V. Mamutov, V. Popovich, V. Predborskoy, A. Turchinov, K. Hart talk about the features of the organizational and legal foundations of unshadowing. The issues of the influence of shadowing on the state of the national economy are given attention in the scientific works by A. Baranovskyi, V. Borodiuk, D. Kaufman, V. Prykhodko, E. Feig, M. Fleischuk, Yu. Kharazishvili, F. Schneider et al.

There is no standard list of measures that are used to unshadowing the economy. They are constantly being improved [5].

One of the important directions of unshadowing the economy is to reduce the level of informal relationships in the labor market, improve fiscal policy and the system for regulating financial services markets, etc..

**Setting objectives.** The purpose of the article is to determine the main directions of the unshadowing of economic processes in Ukraine.

**Main material and results.** The shadow economy threatens the national interests of Ukraine and its economic security. Inaction on the part of the state in matters of reducing the level of shadowing can lead to the transformation of Ukraine into a favorable country for criminal dealers [1].

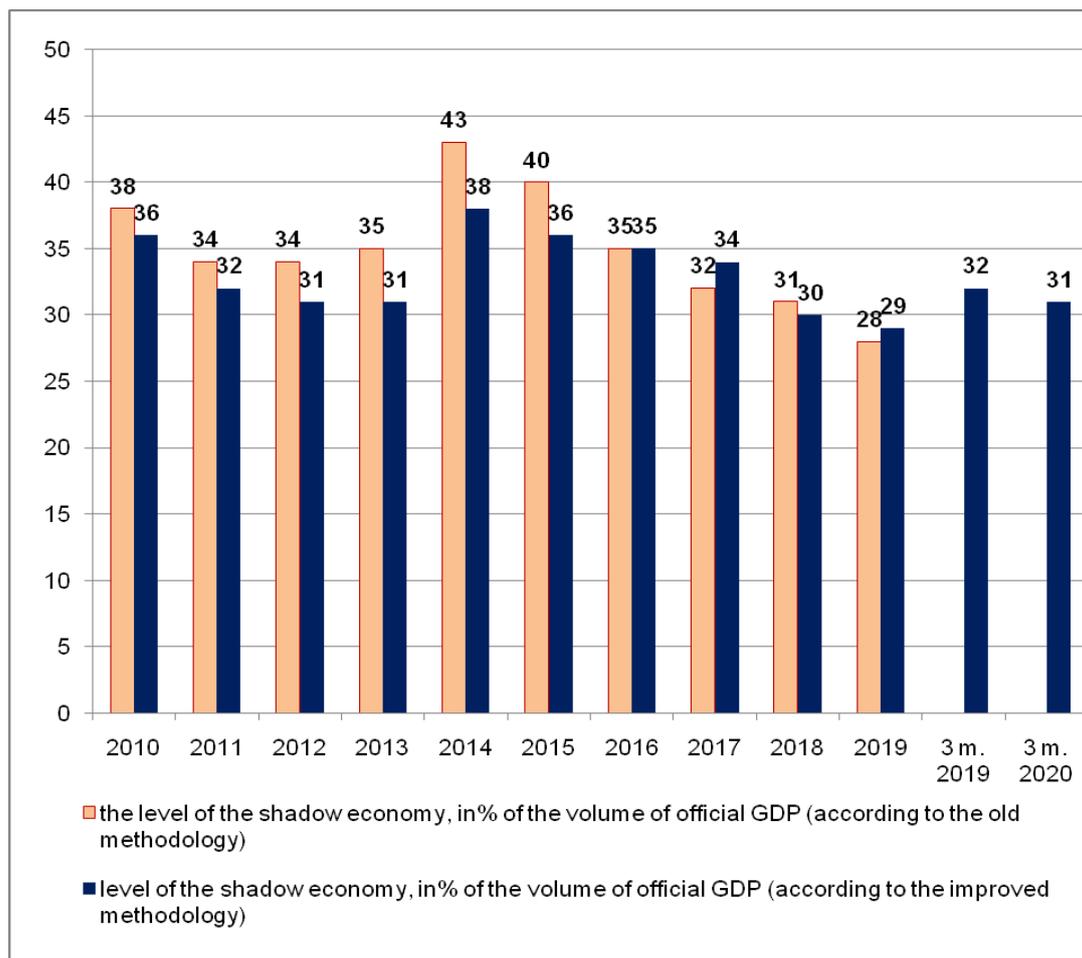
The shadow sector of the economy exists in any country, regardless of the level of development of the national economy [2]. However, in some countries the shadow economy is at a level that does not have a significant impact on the economy (5-12% of GDP), while in others it has a detrimental effect on all socio-economic processes (more than 30% of GDP) [2]. It is to the second category of countries that Ukraine belongs.

According to calculations by the Ministry of Economic Development and Trade of Ukraine, the level of the shadow economy in the first quarter of 2020 amounted to 31% of the official gross domestic product of Ukraine, which is 2% more than in 2019 (Fig. 1) [3].

The level of the shadow economy in 2019 amounted to 28% of the official GDP of Ukraine, which is 3% less than in 2018.

The introduction of quarantine measures due to the spread of the pandemic caused a crisis in the Ukrainian economy. In the face of significant uncertainty due to the spread of the COVID-19 pandemic, businesses are seeking to reduce the risks of losing resources. Therefore, an increase in the level of the shadow economy in Ukraine is expected.

In the first quarter of 2020, there was a decrease in business and investment activity, and losses in the national economy increased significantly.



**Fig.1. The level of the shadow economy in Ukraine for 2010-2020**

The dynamics of the shadow economy has an atypical character with the so-called sectoral characteristics [3].

Three of the four methods used to assess the level of the shadow economy recorded the following data [3].

- the method “population expenditures – retail trade and services” – 29% of the volume of official GDP;
- electric method – 27% of the GDP;
- monetary method – 29% of GDP.

At the same time, the method of unprofitable enterprises showed an increase in the level of the shadow economy to 38% of the volume of official GDP [2].

The highest level of the shadow economy can be observed in such spheres as informal employment of the population, receiving wages in envelopes, the foreign exchange market, concealment of income by enterprises and firms, car sales, market trade, and real estate transactions. The development of the shadow economy leads to a decrease in the volume of financing of social and other expenses to the population, an increase in debt obligations [4].

The most famous levers of the mechanism of unshadowing of the Ukrainian economy are administrative, economic and social levers [5].

Among the measures of administrative pressure, one can single out those that limit shadow activity by punishment and those that stimulate transit to the legal sector of the economy.

Economic measures of unshadowing are based on the creation of a favorable economic environment for the development of entrepreneurial activity on a competitive basis, provide for the use of financial instruments in the organizational mechanism of doing business in order to attract it into the legal environment. The economic levers of unshadowing include financial incentive programs, tax incentives,

cashback, modern and affordable payment methods, etc. [5].

Social activities are aimed at increasing financial literacy, benefits and incentives for business to exist in the formal economy. Among them, one can note the improvement of the service sector in the public sector and the creation of new advantages for both business and individuals working in the official sector of the economy [5].

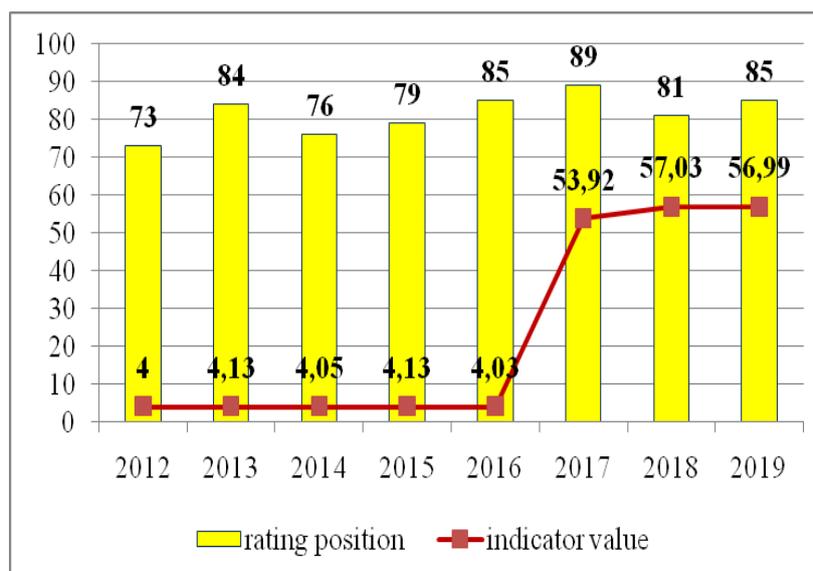
According to the World Economic Forum, which published the rating of the countries of the world according to the Global Competitiveness Index [4, 6], Ukraine deteriorated in 2019 and took 85th rating position among 141 countries of the world compared to 2018 (83rd rating position) (Tab. 1, Fig. 2.).

The Global Competitiveness Index 2019 is topped by Singapore. The top ten includes the United States, Hong Kong, the Netherlands, Switzerland, Japan, Germany, Sweden, Great Britain and Denmark.

**Table 1**

**Rating of Ukraine by the Global Competitiveness Index**

Years	2012	2013	2014	2015	2016	2017	2018	2019
	(among 144 countries)	(among 148 countries)	(among 144 countries)	(among 140 countries)	(among 138 countries)	(among 138 countries)	(among 137 countries)	(among 141 countries)
Rating position	73	84	76	79	85	89	81	85
Indicator value	4,0	4,13	4,05	4,13	4,03	53,92	57,03	56,99



**Fig.2. Rating of Ukraine by the level of the Global Competitiveness Index of the World Countries in 2012-2019**

Among European countries, Ukraine ranked 38th out of 40 countries [6,7]. The closest to Ukraine in the ranking are Montenegro (35th rating position), Albania (36th rating position), Macedonia (37th rating position), Moldova (39th rating position), Bosnia and Herzegovina (40th rating position).

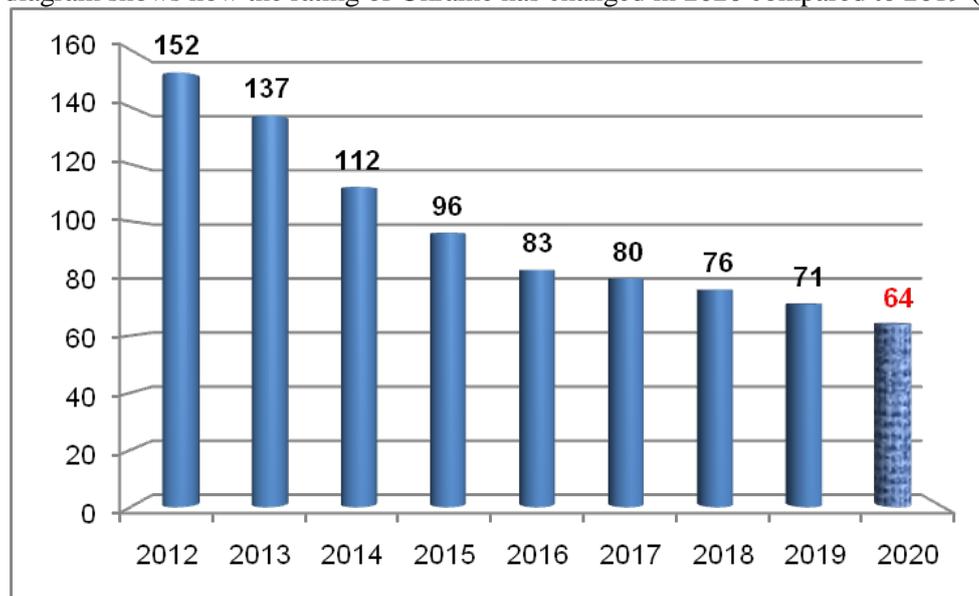
The Global Competitiveness Index consists of 113 indicators that characterize in detail the competitiveness of the countries of the world at different levels of economic development. [8].

The negative factors for doing business in our country are (in descending order): inflation, corruption, political instability, high tax rates, the complexity of tax legislation, instability of governments, difficult access to finance, ineffective state bureaucracy, regulation of the foreign exchange market, insufficient education of workers, poor workforce ethics, insufficient ability to innovate, limited labor market regulation, inadequate quality of infrastructure, crime and theft, poor quality of health care [4].

According to the World Bank's annual «Doing Business–2020» rating [9,10], which describes the level of ease of doing business in 190 countries of the world, Ukraine took 64th rating position in 2020, and

in 2019 it was 71st.

The diagram shows how the rating of Ukraine has changed in 2020 compared to 2019 (Fig.3.).



**Fig.3. Ukraine's place in the «Doing Business» rating for 2012-2020**

As can be seen from this figure, Ukraine's position is at different rates, but is constantly growing. Until 2016, Ukraine had significant growth by 13–25 positions, but the pace was declining. Since 2016, there has been a trend towards a gradual increase in the number of steps in the rating, which it overcomes annually [9, 10].

As part of the calculations of this rating, an analysis of the legal norms applicable to private enterprises is carried out in 12 areas (indicators) of their life cycle.

For the calculations of the «Doing Business–2020» rating, ten of them were included in the aggregate rating of the ease of doing business [9, 10].

The collection and analysis of complex quantitative data on the directions (indicators) of the rating is used to compare the conditions for regulating entrepreneurial activity between countries and in dynamics. By doing this, the «Doing Business» project encourages countries to better regulate and provides measurable benchmarks for reform.

These indicators are used to analyze economic performance and to identify successful business regulatory reforms, and to determine where and why they were effective.

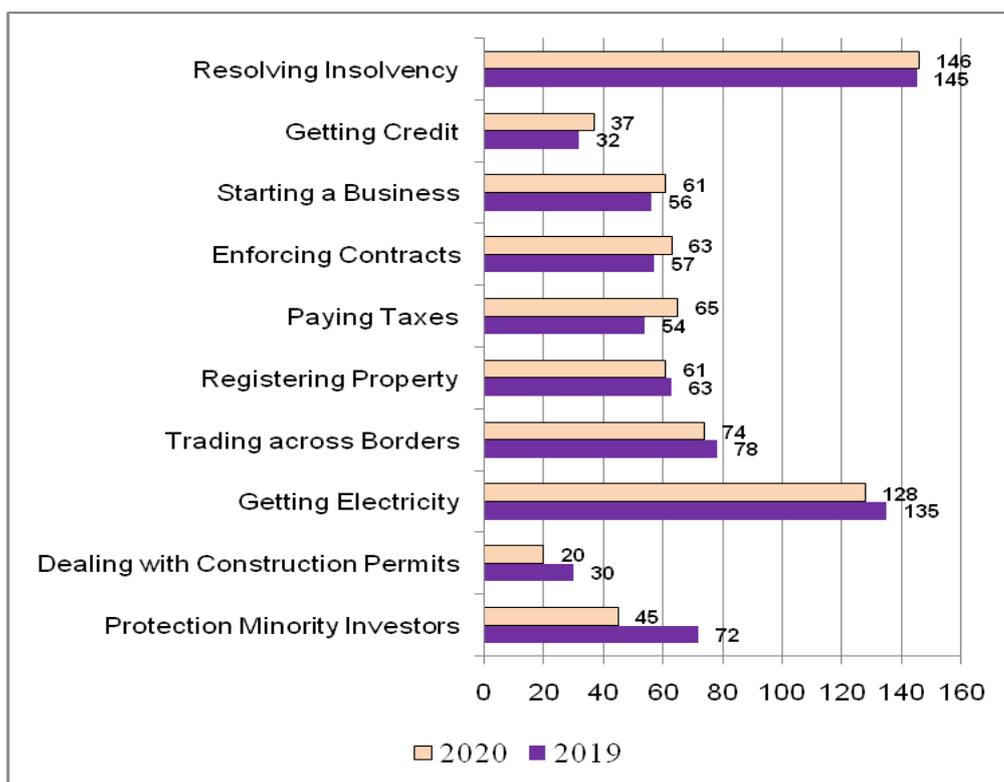
That is, the studies not only point to the problems that hinder the development of entrepreneurship, but also determine their cause and provide recommendations for the implementation of the necessary reforms.

With an increase in the overall rating by 7 positions, Ukraine showed growth in five indicators (Fig. 4) [9, 10]:

- «Protection Minority Investors» + 27 positions (from 72 to 45)
- «Dealing with Construction Permits» + 10 positions (from 30 to 20)
- «Getting Electricity» + 7 positions (from 135 to 128)
- «Trading across Borders» + 4 positions (from 78 to 74)
- «Registering Property» + 2 positions (63 to 61).

In the other five areas, unfortunately, not enough reforms were carried out, so there was a decrease in Ukraine's positions [9, 10].

In general, we can say that there is a slow but gradual approximation of the indicators of Ukraine in the best practices [9, 10].

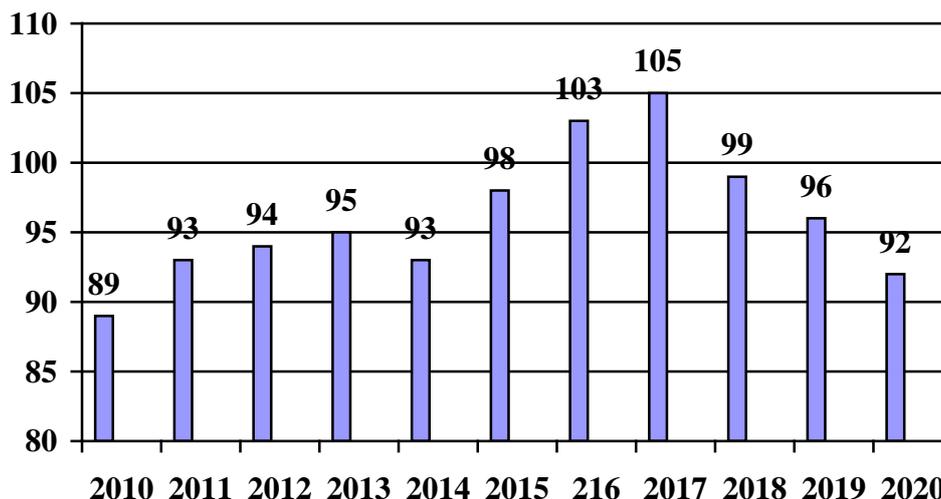


**Fig. 4. Ukraine's rating position in the «Doing Business» rating for 2012-2020 (by indicators)**

Another indicator that characterizes the level of a country's development is Legatum Prosperity Index.

The Legatum Prosperity Index is a combined indicator of the British think tank the Legatum Institute that measures the achievements of countries in the world in terms of their well-being and prosperity.

Analyzing the rating of the countries of the world by this indicator in 2020 [11, 12], it should be noted that Ukraine took 92nd place out of 167 countries. According to this indicator, in 2020 Ukraine worsened its position (Fig. 5).



**Fig. 5. Ukraine's rating position in the International Ranking of Prosperity in 2010-2020**

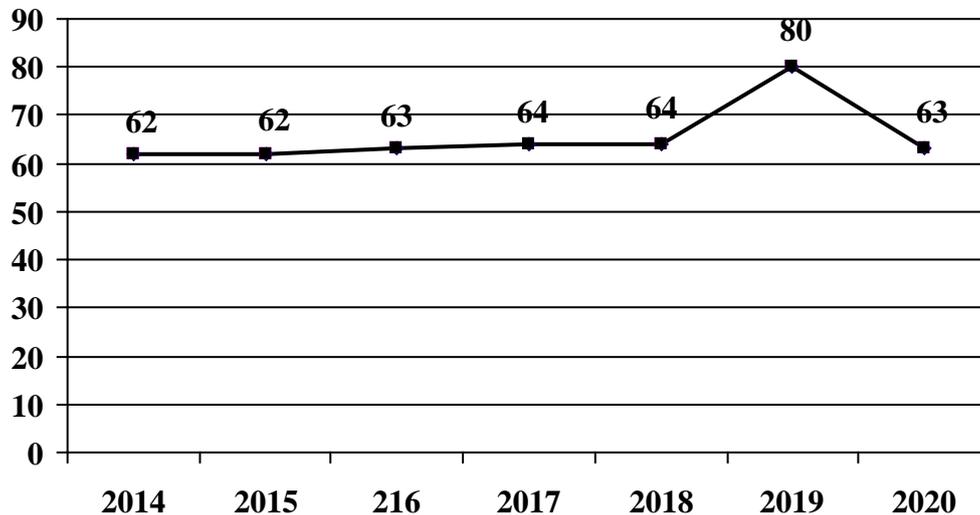
Its closest neighbors are Kyrgyzstan (90th rating position), Guyana (91st rating position), El Salvador (93rd rating position), Turkey (94th rating position) [11].

The last in the ranking were Social Capital (147th rating position), Safety and Security (144th rating position), Investment Environment (119th rating position), Health (115th rating position), Natural

Environment (110th rating position).

The Social Progress Index is the first comprehensive assessment of the level of social development of a country, regardless of economic factors. The index consists of a series of indicators of social development and the environment, reflecting three areas of social development: basic human needs, well-being and opportunities. It illustrates how more than 7 billion people live in 163 countries of the world [13].

According to the level of the Social Development Index of the World Ranking [13, 14], Ukraine in 2020 took 63rd rating position. In 2019, Ukraine ranked 80th among 149 countries (Fig. 6).



**Fig. 6. Social Development Index of Ukraine in 2014-2020**

Among the CIS countries, Ukraine lost to Belarus (47). In the ranking, it sits between Mexico (62) and Sri Lanka (64) and remains in the group of countries with a moderately good quality of life. [13, 14]. According to the study, the Covid-19 pandemic set the world back decades and delayed the eradication of poverty, improved access to education and the implementation of measures to combat climate change until 2092. This is 62 years more than the planned 2030 [13, 14].

Another important indicator in the study of the shadow economy of the state is the Quality of Life Index (Tab. 2).

**Table 2**

**Ukraine's rating position in the ranking in terms of Quality of Life Index among the countries of the world in 2012-2020**

Country of the world	Year	Rating position								
	2012	2013	2014	2015	2016	2017	2018	2019	2020	
	among 51 countries	among 67 countries	among 76 countries	among 86 countries	among 56 countries	among 67 countries	among 60 countries	among 71 countries	among 80 countries	
Ukraine	48	57	61	55	52	59	57	62	65	

According to the rating of the countries of the world in 2020, the top three are led by Denmark, Switzerland, and Finland. [15]. Ukraine ranks 65th among 80 countries. Among European countries, Ukraine took 33rd rating position, unfortunately the penultimate one. The dynamics of the indicator of the quality of life during 2012-2020 is presented in Table 3 and Figure 7.

Table 3

The indicator of the Quality of Life Index of the countries of the world in 2012-2021

Year	2012	2013	2014	2015	2016	2017	2018	2019	2020
Country									
Poland	60,63	90,47	95,19	109,74	153,61	150,21	146,58	147,98	141,83
Russia	59,76	18,50	16,53	28,38	88,31	85,93	103,32	104,94	102,31
<b>Ukraine</b>	<b>12,39</b>	<b>35,05</b>	<b>22,22</b>	<b>20,10</b>	<b>85,56</b>	<b>87,49</b>	<b>95,96</b>	<b>102,34</b>	<b>104,77</b>
maximum value	285,77	215,71	206,23	222,94	208,54	190,37	197,75	198,95	192,67
minimum value	-49,55	-48,28	-39,32	-53,04	63,60	0	81,09	83,98	55,65

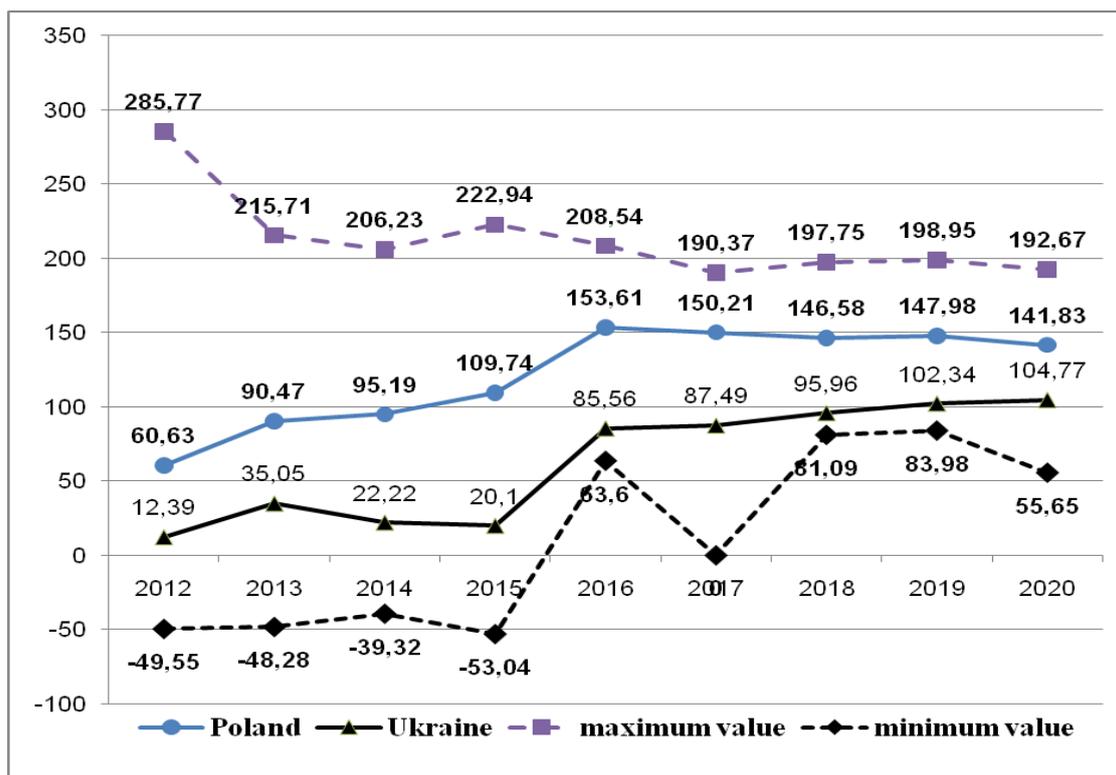


Fig. 7. The indicator of the Quality of Life Index of the countries of the world in 2012-2021

One of the prerequisites for the development of entrepreneurship is economic freedom. Economic freedom is a fundamental human right that provides for the right to control one's own labor and property. People can freely work, produce, consume and invest at their own discretion, having such freedom, only in an economically free society. This freedom is guaranteed and ensured by the state. Economic freedom is expressed in the right to free movement of labor, goods and capital. In 2020, Index of Economic Freedom of Ukraine was 54.90 score. According to the rating of the countries of the world, Ukraine took 133rd rating position among 179 countries of the world, having improved its position (in 2019 – 146th rating position) [12, 16] (Tab. 4).

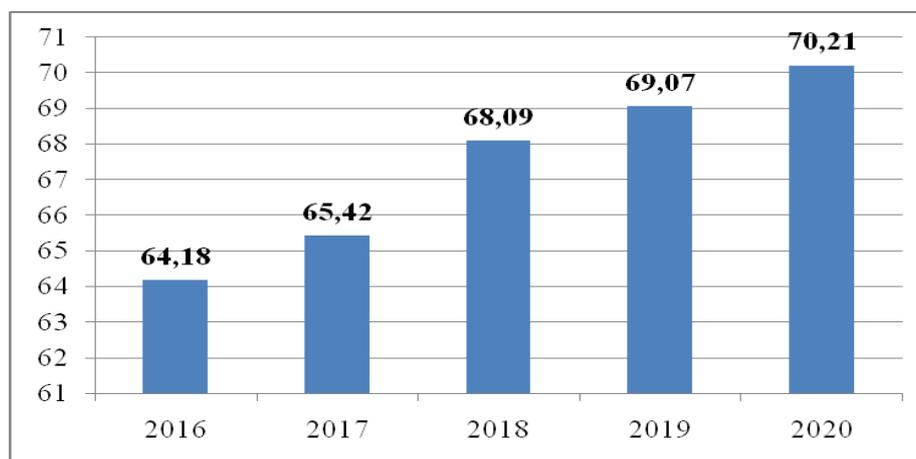
Table 4

The Index of Economic Freedom of Ukraine for 2012–2021

Year	2012	2013	2014	2015	2016	2017	2018	2019	2020
Country									
Poland	60,63	90,47	95,19	109,74	153,61	150,21	146,58	147,98	141,83
Russia	59,76	18,50	16,53	28,38	88,31	85,93	103,32	104,94	102,31
<b>Ukraine</b>	<b>46,10</b>	<b>46,30</b>	<b>49,30</b>	<b>46,90</b>	<b>46,80</b>	<b>48,10</b>	<b>51,90</b>	<b>52,30</b>	<b>54,90</b>

Ukraine is ranked 45th among 45 countries in the Europe region, and its overall score is well below the regional and world averages.

In terms of ease of doing business, Ukraine ranks 63rd in the world with a value of 64.18 score (Fig. 8) [12].

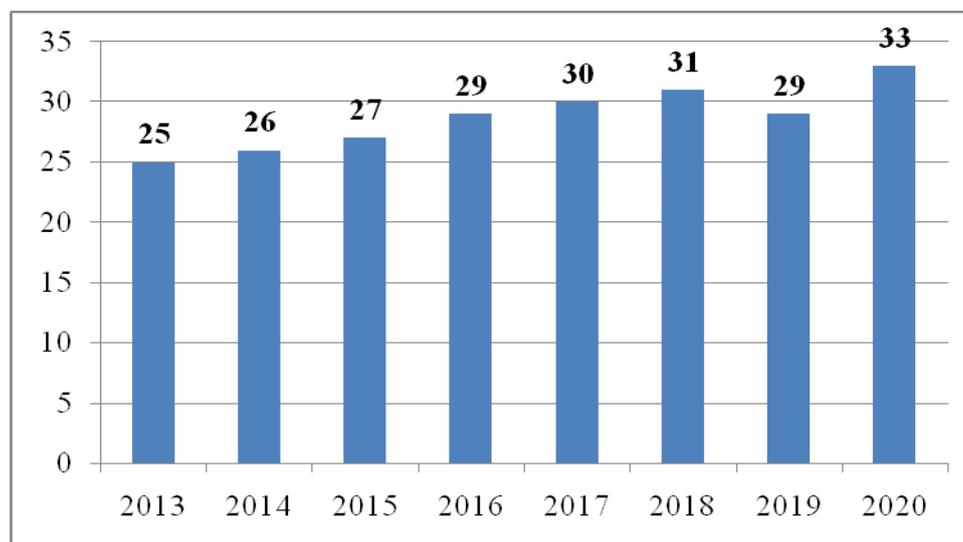


**Fig. 8. Indicator of ease of doing business in Ukraine for 2012-2021**

The situation in Ukraine in terms of this indicator has been improving over the past five years, but the high level of the shadow economy impedes the development of entrepreneurship and the national economy as a whole.

Among the factors shading the economy, which have a high impact, it is worth noting the high level of corruption.

The Corruption Perceptions Index (CPI) is one of the indicators in international rankings [12, 17]. It reflects the level of perception of the degree of corruption seen by business people and analysts in countries. Its value ranges from 100 score (very clean) to 0 score (very corrupt) [12]. According to the international rating, Ukraine took 117th rating position out of 180 countries in the CPI list, the indicator increased by 4 rating position (Fig. 9) [12, 17].



**Fig. 9. Corruption Perceptions Index in Ukraine for 2013-2020**

In terms of this indicator, Moldova is the closest to Ukraine (34 score and 115th rating position). Belarus (47 score, 63rd rating position) and Russia (30 score, 129 rating position) improved their performance compared to 2019 [17].

The Corruption Perceptions Index was determined from 9 different studies. All of them either have not changed or have grown compared to CPI-2019.

In general, an improvement or deterioration of 3–4 score is not considered statistically significant.

In early 2020, Transparency International Ukraine provided 5 recommendations that could improve

Ukraine's CPI performance. As of the end of 2020, none of them have been fully implemented, two have been partially implemented and three have not been implemented. [17].

L.V. Rybalchenko, E.V. Ryzhkov, O.O. Kosyuchenko [4] believe that an important problem for the country is the creation of measures to curb the withdrawal of a significant part of the capital abroad, which poses a threat to the domestic economy.

According to the Basel Anti-Money Laundering Index, Ukraine in 2020 ranks 67th among 141 countries with an indicator value of 5.23 score [18].

This indicator testifies to the existing risks of the emergence and development of corruption and criminal activity related to money laundering and financing of terrorism in Ukraine.

Unshadowing should become the main priority in the implementation of effective state policy in Ukraine. The main measures to unshadowing the national economy should be measures to counteract the legalization and laundering of illegally obtained income; improvement of the existing legal framework on combating economic crime, effective management of finances under state control [4].

One of the directions of unshadowing of the Ukrainian economy is the digitalization of economic processes [5]. There is a clear inverse relationship between the rate of use of digital payments in a country and the level of its shadow economy. The countries that have been most successful in reducing the size of the shadow economy are focused on reducing the use of cash and increasing the number of digital payments per capita, as their growth stimulates the role of actors in the formal economy. [5].

**Conclusion.** All analyzed world rankings indicate unfavorable conditions for the development of entrepreneurship in Ukraine. This is confirmed by the overwhelming number of indicators. The high level of the shadow economy is a big threat to the country's economic security and hinders the economic growth of the national economy.

Unshadowing should become a priority in the implementation of an effective state policy in Ukraine for the coming years. But in recent years, most of the measures proposed by domestic scientists and politicians to unshadowing the national economy have been partially or have not been implemented at all [1].

The creation at the state level of favorable conditions for the development of the legal economy will help to improve the investment attractiveness and competitiveness of the country. The result will be an improvement in the quality of life of the population, an increase in its well-being, and will restore confidence in the institutions of power.

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JEL O17

**Васюта Вікторія Борисівна**, кандидат технічних наук, доцент. **Клименко Карина Вадимівна**, здобувач вищої освіти. Національний університет «Полтавська політехніка імені Юрія Кондратюка». **Детінізація економічних процесів в Україні – головна передумова для розвитку підприємництва**. Висвітлено актуальне питання детінізації економічних процесів в Україні. Зазначено, що високий рівень тінзації негативно впливає на основні макроекономічні показники, спотворюючи їх. Тіньова економіка створює реальну загрозу економічній безпеці країни, негативно впливає на її імідж, конкурентоспроможність, ефективність реформ. У ситуації, що склалася в Україні, детінізація економіки повинна стати пріоритетним напрямом провадження ефективної державної політики.

Тіньовий сектор економіки існує в будь-якій країні незалежно від рівня розвитку національної економіки. Проте в одних країнах тіньова економіка перебуває на рівні, що не має суттєвого впливу на економіку, а в інших – згубно впливає на всі соціально-економічні процеси. Саме до другої категорії країн і належить Україна. Проведено аналіз рівня тіньової економіки в країні, охарактеризовано динаміку цього показника. Виділено основні сфери, у яких найбільше можна її спостерігати. Розкрито сутність основних важелів механізму детінізації української економіки. Здійснено моніторинг рейтингів країн світу, визначено місце України. Результати свідчать про несприятливі умови для розвитку підприємництва у державі, що підтверджується переважною кількістю показників. Зазначено, що основним пріоритетним напрямом провадження ефективної державної політики в Україні повинна стати детінізація. Визначено основні заходи детінізації національної економіки. Наголошено на важливості діджиталізації економічних процесів як одному з напрямів детінізації економіки країни. Це підтверджує досвід країн, які вже досягли найбільшого успіху в зменшенні розмірів тіньової економіки.

**Ключові слова:** детінізація, тіньова економіка, рівень тінзації, валовий внутрішній продукт, підприємництво, рейтинг, діджиталізація.

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JEL O17

**Vasiuta Viktoriia B.**, PhD (Technical Sciences), Associate Professor. **Klymenko Karyna V.**, Student. National University “Yuri Kondratyuk Poltava Polytechnic”. **Unshadowing of Economic**

**Processes in Ukraine – is the Main Condition for the Development of Entrepreneurship.** The article is devoted to the topical issue of unshadowing of economic processes in Ukraine. The analysis of the level of the shadow economy in Ukraine is carried out, the dynamics of this indicator is characterized. The essence of the main ways of the mechanism of unshadowing of the Ukrainian economy is revealed. The monitoring of the ratings of the countries of the world was carried out, the place of Ukraine was determined in them. The results indicate unfavorable conditions for the development of entrepreneurship in Ukraine. The main measures for unshadowing the national economy are proposed. The article notes the importance of the digitalization of economic processes as one of the directions of the unshadowing of Ukrainian economy.

**Keywords:** unshadowing, shadow economy, level of shadowing, GDP, entrepreneurship, rating, digitalization.

# PRODUCTIVE FORCES DEVELOPMENT AND REGIONAL ECONOMY

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## ORGANIZATIONAL AND ECONOMIC BASIS FOR THE DEVELOPMENT OF INDUSTRIAL TOURISM IN THE DNIPROPETROVSK REGION

Liudmyla Bondarenko\*, PhD (Economics), Associate Professor,  
National Technical University «Dnipro Polytechnic»

\* ORCID 0000-0003-4904-7435

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**Introduction.** Recently, such a direction of tourism as industrial tours, which are a common direction in Western Europe and America, has begun to gain more and more popularity. The objects of tourist interest are enterprises that have well-known brands, have the potential of historical and industrial heritage, as well as modern high technology of the production process.

The leading countries by quantity of the number of tourists in industrial tourism in the EU are Germany (more than 66 million tourists), France (16 million), Italy (15 million), as well as the United Kingdom, the Netherlands, Spain, Belgium, Austria, Portugal and the Czech Republic. The growth rate of industrial tourism services reached more than 35% in Latvia, 20% in Bulgaria, 20% in Lithuania, 17% in Estonia, due to the improvement of existing tourism products, the emergence of new tourist routes, improvement of hotel, transport and other related services. And in America there are almost no businesses closed to tourists [9].

Industrial tours abroad are seen not only as popular entertainment, but also as a suitable way to interest the audience with your brands, stimulate the sale of goods and services, as well as stand out from competitors and loudly announce your company.

Industrial tours are a niche for the development of cooperation between local authorities, industrial and tourist enterprises, as well as a convenient platform for the development of public-private partnerships. The development of industrial tourism will contribute to the emergence of new brands and improve the investment climate in the region.

**Analysis of recent research sources and publications.** The theoretical substantiation of development of industrial tourism is carried out by Ukrainian scientists such as: O.M. Melnychenko [5], V.O. Sorochan [11], I.M. Sumatokhina [14], M.V. Zavialova [17] et al. Among the foreign authors who addressed to the topic of industrial tourism, author can mention such as M. Andrade [1], P. Bujok [2], Chow Hsueh-wen [3], Lee Cheng-Fei [4], A.H.J. Otgaar [7], A.R. Szromek, K. Herman [15]. In these research, they consider the problems of rethinking the industrial heritage, prospects for the development of industrial tourism, the importance of industrial tourism as a significant area of tourism in industrial regions and other relevant issues.

It should be noted that in the scientific works of modern researchers, the characteristics and analysis of the features of the development of industrial tourism, as well as the effectiveness of promoting of regional

brands and the economy of industrial enterprises and cities, are practically not presented. In this regard, the relevance of the presented research topic is due to the fact that now in the country's economy there are trends in the search for new and creative technologies for the economic promotion of brands and products. Industrial tourism is such an innovative technology in the tourism market.

**Purpose of the article.** The purpose of this study is to develop theoretical and practical recommendations for the progress of industrial tourism at the regional level.

**Research results.** To determine the further development of industrial tourism, it is necessary to clearly understand the essence of this type of tourism, its place in the development of the regional economy and the interest of stakeholders in it. It should be noted that the concept of “industrial tourism” has not yet been finally formed and there are several approaches to its definition.

Industrial tourism is a specialized field of tourism that combines visits to facilities created by the technology of the past and modern engineering structures, in order to obtain research, psychological or aesthetic pleasure.

Industrial tourism is the organization of individual (group) tours or excursions to industrial objects, taking into account the purpose of travel (satisfaction of cognitive, professional, scientific, business, cultural and other needs of the tourist) [5].

The market of industrial tourism services in modern Ukraine is represented by many tourist resources, such as: objects of complex industrial development, manufactories and factories with accompanying infrastructure and other objects of industrial activity.

According to the indicators of the development of the tourist market of Ukraine, it is possible to establish the effectiveness of the processes of adaptation of the Ukrainian tourist sector to European requirements in the field of industrial tourism, namely:

- the modern methods are used to improve the quality of industrial tourism services and other tourist services in accordance with international standards;
- the measures are being taken to include Ukraine’s industrial heritage in the UNESCO World Heritage List and the European Industrial Heritage Route (ERIH);
- developing cooperation with representatives of international organizations, which contribute to the creation of a competitive tourism product [9].

Many domestic and foreign tourists would be interested to visit industrial enterprises in Ukraine, to dispel the idea that old equipment, that forms production facilities is used, technological processes are not automated and without compliance with quality standards. Visitors could see that modern metallurgical and chemical industries are used, and that enterprises comply with the declared standards and requirements for the quality of their products.

According to the level of tourism resources, Ukraine has all the prerequisites for the intensive development of international and domestic industrial tourism: industrial tourism facilities are located in almost all regions (30% of them are active industrial facilities and 70% are industrial heritage of the pre-revolutionary period). In total, as of 2020, there are more than 50 objects of industrial heritage in Ukraine, where their largest concentration is in Khmelnytskyi, Ivano-Frankivsk, Lviv regions) and more than 200 objects of active industry, the largest number of which are recorded in Dnipropetrovsk, Kyiv, Kharkiv regions, which indicates the possibility of forming a territorially steady and constant tourist flow [16].

There are many cities in Ukraine that are suitable for the development of industrial tourism. There are cities in which there are conditions for the development of one direction of tourism: mining (Marhanets, Oleksandriia, Tokmak), manufactory (Kyiv, Kharkiv, Dnipro, Zaporizhzhia). There are also cities where the developments of tourism in both directions, examples are Kryvyi Rih, Mariupol.

Ukraine owns unique world-famous industrial enterprises, such as “Zaporizhstal” and “Dniprohes” in Zaporizhzhia, “Pivdenmash” and “Petrovskiy plant” in Dnipro, “Turboatom” in Kharkiv and “Mittal Steel” in Kryvyi Rih, the quarry system (Inhulets-Kryvyi Rih district), manganese ore and ferroalloy plants (Ordzhonikidze, Nikopol), etc. [6].

The prospects for the development of industrial tourism in the Dnipropetrovsk region are due to the significant concentration of industrial facilities that are arouse interest of the tourists. Most of the travelers who come to the region are business tourists. Many of them would be interested to look deeper into the production process. This raises the question of the development of this area of tourism, assessing its prospects and resource base.

Despite the advantages for enterprises and regions in the development of industrial tourism at the present stage, there are a number of obstacles and difficulties.

In Ukraine, the direction of industrial tours has not been sufficiently studied, the target audience has not been formulated, there are difficulties with market segmentation and with the formulation of needs, there is lack of centralized statistics of available tours.

The main factor that slows down the progress of industrial tourism in Ukraine is the insufficient development of the tourist infrastructure. Since many enterprises are not located in the central city districts, the road to them lies through “unpresentable” industrial areas, where, as a rule, there are no catering establishments, and large parking areas and comfortable places for mass tourists.

It should also be noted that many regional tour operators are not ready to invest in the development of educational industrial tours, since industrial tourism does not belong to highly profitable types of business, although competition in this tourist segment is not very high, and in some regions there is no competition at all.

Nevertheless, despite the obstacles, industrial tourism in Ukraine should be developed, due to its benefits both for regions and for enterprises, which in turn will increase budget revenues at all levels, increase the number of jobs and stimulate the development of all types of industry, infrastructure and related areas of tourism: educational (with the desire to practice or in the future to work at popular enterprises), business (the desire to cooperate and invest in a successful business), event (the desire to implement joint business projects with promising partners).

These opportunities have all chances to be realized, but for this it is necessary to improve the concept and mechanism for ensuring the development of industrial tourism in Ukraine and in the region.

In foreign countries that developed industrial tourism, government support was actively used. In the pioneer countries of industrial tourism, its prospects were initially assessed by regional authorities, and they also supported its development by adopting appropriate laws and development programs [8].

Considering the above, in Ukraine it is necessary to develop regional (local) programs for the supporting and development of industrial tourism. As a result, tourism industries can expect to receive financial help from two to three sources.

Examples of such kind in other tourist areas already exist. In particular, some cities of the Dnipropetrovsk region receive support within the framework of the program “Development of tourism in the Dnipropetrovsk region for the period up to 2014–2022” [10]. The program was developed taking into account the tourism strategy of the Dnipropetrovsk region until 2020. Within the framework of the Program, a gradual solution is planned, including on the development of industrial tourism, by attracting the private sector, especially outside Dnipro, Kryvyi Rih.

The complex program for the intensification of the development of small and medium-sized businesses in the Dnipropetrovsk region in the Development Strategy of the Dnipropetrovsk region for the period up to 2019–2020 [12] also involves the development and support of small and medium-sized businesses, in particular in the field of industrial tourism.

According to the list of tasks and activities of the Tourism Development Program in the Dnipropetrovsk region for the period up to 2014–2022 in the direction of the development of industrial tourism, the Dnepropetrovsk regional administration proposes the following measures (table).

An important part of planning the development of industrial tourism is the effective implementation of “pilot” projects, which are carried out by the communal enterprise “Representative office of Prydniprovya” and the Dnipro Development Agency.

Communal enterprise “Representative office of Prydniprovya” was created for the development of tourism infrastructure in the region, the revival and preservation of the Ukrainian cultural and spiritual heritage.

The concept of Dnipro Development Agency was to make the city open and accessible to the outside world in order to attract new investment and help to create more jobs. The slogan of the Dnipro Development Agency is “Let's open the Dnieper to the world”. Tourism plays an important role, both as a way to promote the more open and accessible Dnipro brand and as an important industry supporting the urban economy.

For effective work on the formation of a tourist brand within the framework of industrial tourism, executive authorities of the Dnipropetrovsk region, business representatives, heads of industrial and tourism enterprises and contact audiences should be involved.

Table 1

**The list of tasks and activities of the Program of tourism development in the Dnepropetrovsk region for the period up to 2014–2022 in the direction of industrial tourism [10]**

The content of the event	Terms of performance, years	Approximate amount of funding, thousand UAH						Expected result from the event
		Total stage I	2019	2020	2021	2022	Total stage II	
1. Conducting outside exhibitions of tourist opportunities in the Dnipropetrovsk region in the field of ethno-cultural, industrial tourism, etc.	2014 – 2022	1500	70	70	70	70	280	Presentation of the tourist potential of the region.
2. Participation in the international project “European Industrial Heritage Route” (ERIH).	2014 – 2022	56						42000 of tourists will visit the region through participation in the international project “European route of industrial heritage”.
3. Organization and holding of information tours in the regions of Ukraine with the presentation of the tourist potential of the Dnipropetrovsk region.	2014 – 2022	450	90	90	90	90	360	Carrying out of information tours on presentation of tourist opportunities of the Dnepropetrovsk area in other areas of Ukraine (once a year).

The Strategy for activating the tourism potential of the Dnipro city for the period due to 2018–2027 [13] also provides directions for the development of industrial tourism. The main goals of the formed Strategy within the framework of the Industrial Dnieper concept are the creation of a competitive tourist product, the formation of a brand of the Dnipropetrovsk region through the development of industrial tourism, increasing the number of subjects and objects of tourist activity, which will deepen the diversification of the regional economy.

Priority tasks of the Strategy for activating tourism potential are:

- optimization of using of existing, restoration of lost and creation of new industrial facilities;
- attracting investment in the economic activities of industrial enterprises;
- creating conditions for the cultural and spiritual development of citizens;
- systematic implementation of measures to form and promote the brand of the region at the international level, change its image from industrial to a region with diversified economic activities, including tourism.

The operational objectives of the Strategy within the framework of the Industrial Dnieper concept are as follows:

1. Encouraging innovative enterprises of the city to conduct excursions.
2. Establishment of organized excursions to the production in Dnipro city.
3. Promotion of the Museum of the History of the Dnieper Metallurgical Plant, “Interpipe Steel”, PJSC “Evraz DMZ”, “DTEK”, “Bryansk Plant Industrial Zone”.
4. Conducting an annual event within the concept, such as “Industrial Night”, etc. [13].

The regional programs for the development of tourism, which have been worked out, require clear planning at the regional and municipal levels. There is no clearly defined and institutionalized decision to support industrial tourism, and accordingly, there is no corresponding program and financial support.

There is a need to adopt a regional program, which should worked out specific measures to create a material, technical, legal and social base for the development of industrial tourism in the Dnipropetrovsk region, and mechanisms (organizational, economic, financial) support from regional and local authorities. Such a program is developed to create a whole range of prerequisites and conditions to form a favorable climate for potential entities implementing the direction of industrial tourism.

The implementation of the program for the development of industrial tourism in the Dnipropetrovsk region will create a positive image of industrial tourism, activate the region's participation in international tourism projects, tourist information exchange with other regions of Ukraine.

When developing a program, one of the important indicators is to identify the preferences of tourists and how realistic it will be. At first glance, it may seem that when choosing enterprises for the development of industrial tourism, it is necessary to focus attention on those that already have sufficient popularity, such as PJSC "Interpipe", agro-industrial complex "Ahro-Soiuz", PJSC "AVK".

But excursions to these enterprises already have great attractiveness and fully possess the features of "established" cultural and excursion objects. But author of the article speaks of industrial tourism not only as a tourist destination, but also as a stimulus for the development of enterprises, then attention should be paid to those enterprises where the tourist component is completely absent or insignificant is given to it.

Thus, the main goal of developing a program for the progress of industrial tourism is to create a chain of interactions between an industrial enterprise and representatives of the tourism industry, thanks to which the development of this type of tourism will bring benefit to the all participants in the process.

Covering the issue of the development of industrial tourism it is impossible to consider it as a separate segment, because any enterprise is historically associated with the place where it is located. The Dnipropetrovsk region has enormous potential, both industrial and cultural-historical, therefore, combining these two components, you can get a winning portfolio of industrial tourism products in the Dnipropetrovsk region, and this is already the main task of a travel agency.

It is important for the Dnipropetrovsk region to see the general goal of the development of industrial tourism – the promotion of the territory as an open and progressive region. And the organization of tourist excursions to operating enterprises is one of the effective tools for promoting the territory, as well as attracting tourists and investors. This will contribute to the development of the region and the companies located in it. Industrial tourism in the Dnipropetrovsk region has a huge potential for the development of the region and enterprises, as this is a unique opportunity to advertise not only products, but also the territory in a non-standard and memorable way.

**Conclusions.** The existing organizational and managerial mechanism in the field of industrial tourism has no integrality, the legal environment is insufficiently formed, there is no financial, economic, informational and personnel support for the implementation of approved programs for the development of industrial tourism. The structuring of economic relations in industrial tourism should include state, regional, self-development and self-regulation of business structures.

In this regard, it becomes necessary to adopt a regional program, which should work out specific measures to create a material, technical, legal and social base for the development of industrial tourism in the Dnipropetrovsk region, and mechanisms (organizational, economic, financial) for its support from regional and local authorities. Such a program is develop to create a whole range of prerequisites and conditions form to create a favorable climate for potential entities implementing the direction of industrial tourism.

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**Бондаренко Людмила Анатоліївна**, кандидат економічних наук, доцент. Національний технічний університет «Дніпровська політехніка». **Організаційно-економічні основи розвитку промислового туризму в Дніпропетровській області**. Теоретичною та методологічною основою дослідження є наукові розробки вітчизняних і зарубіжних учених, пов'язані з переосмисленням індустріальної спадщини, перспектив розвитку промислового туризму, вивченням індустріального туризму як важливого напрямку туристичної діяльності в промислових регіонах; законодавчі та нормативні акти України в цій сфері, матеріали спеціалізованих наукових конференцій і симпозіумів.

Установлено, що промисловий туризм є перспективним та ефективним у територіальному аспекті, у зв'язку із цим такий вид туризму пропонується розглядати як пріоритетний напрям

регіональної політики як у галузі туризму, так і розвитку промислових підприємств. Розглянуто особливості формування системи організаційно-економічних та інституційних умов і факторів розвитку промислового туризму в Дніпропетровській області. Вивчено регіональні концепції, цільові програми, проекти з питань формування та розвитку промислового туризму в Дніпропетровській області. Обґрунтовано і розроблено практичні рекомендації щодо забезпечення державного управління, стимулювання й підтримки розвитку промислового туризму в регіоні з урахуванням його взаємодії з іншими підсистемами сфери туризму. Сформульовано практичні рекомендації щодо формування ефективної організаційної та інституційної системи розвитку промислового туризму, що включають у себе прийняття комплексної регіональної програми розвитку промислового туризму, створення системи інтегрованого управління розвитком промислового туризму на регіональному та муніципальному рівнях.

Отримані результати дослідження є основою для організаційно-економічного розвитку промислового туризму, здатного підвищити конкурентоспроможність як туристичної індустрії регіону, так і підприємств, що пропонують промислові тури.

**Ключові слова:** промисловий туризм, туристичне підприємство, туристичні послуги, регіональні програми підтримки, туристична інфраструктура, індустріальна спадщина, інноваційні виробничі технології.

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**Bondarenko Liudmyla**, PhD (Economics), Associate Professor. National Technical University «Dnipro Polytechnic». **Organizational and economic basis for the development of industrial tourism in the Dnipropetrovsk region.** The theoretical and methodological basis of the study are scientific developments by Ukrainian and foreign scientists associated with the rethinking of industrial heritage, prospects for industrial tourism, the study of industrial tourism as an important area of tourism in industrial regions; legislative and normative acts of Ukraine in this field, materials of specialized scientific conferences and symposiums.

It is distinguished that industrial tourism is a promising and effective direction in the territorial aspect, in this regard, this type of tourism is proposed to be considered as a priority of regional policy in the field of tourism and development of industrial enterprises. Features of formation of system of organizational-economic and institutional conditions and factors of development of industrial tourism in the Dnipro area are considered. Regional concepts, target programs, projects on the formation and development of industrial tourism in the Dnipropetrovsk region are studied. There are substantiated and developed in the article the practical recommendations for public administration, stimulation and support of industrial tourism in the region, taking into account its interaction with other subsystems of tourism. Practical recommendations for the formation of an effective organizational and institutional system of industrial tourism development are formulated, which include the adoption of a comprehensive regional program for the development of industrial tourism, the creation of an integrated management system for industrial tourism development at the regional and municipal levels.

The results of the study are the basis for organizational and economic development of industrial tourism, which can increase the competitiveness of the tourism industry in the region and enterprises offering industrial tours.

**Key words:** industrial tourism, tourist enterprise, tourist services, regional programs of support, tourist infrastructure, industrial heritage, innovative production technologies.

# ECONOMICS AND BUSINESS ADMINISTRATION (according to the economic activity types)

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## GASTRONOMY AS A FACTOR OF COMPETITIVE ADVANTAGE OF CULTURAL TOURISM SERVICES

Iryna Chernysh\*, Doctor of Sciences (Economics), Professor  
Viktoriia Makhovka\*\*, PhD (Economics)  
Maksymeiko Nataliia, Student  
National University «Yuri Kondratyuk Poltava Polytechnic»

\* ORCID 0000-0001-6565-5292

\*\* ORCID 0000-0001-7985-7792

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**Introduction.** The constant and rapid development of the tourism industry on the scale of the world economy gives good reasons to consider the tourism industry as one of the most important factors contributing to the recovery of the national economy of Ukraine in the post-pandemic period. The tourism sector significantly affects the formation of both small and medium-sized businesses, contributes to the socio-economic development of cities and regions. In addition, the production, information, transport and utilities spheres are being improved. Gastronomic tourism is currently one of the most promising areas of tourism. Gastronomic tourism is one of the types of tourism that provides for familiarization with national dishes, as well as with the process and technology of their preparation. A large number of not only Ukrainian, but also foreign scientists have devoted their work to this particular type of tourism. Research in this area focuses on the study of history, culture, cooking technology, as well as the customs of their use. Gastronomic tourism is attractive from the point of view of organizing tourist activities, since in addition to getting acquainted with traditional cuisine, the traveler can directly take part in the preparation of national dishes, as well as visit a large number of culinary exhibitions, festivals, and take part in the tasting process.

**Latest research papers and publications review.** The works of many domestic and foreign scientists, in particular E. Maslov, D. Basyuk, V. Boyko, A. Lyubitseva, T. Sokol, S. Canonists, G. Vishnevskaya, are devoted to the study of the essence and significance of gastronomy in the tourism sector.

**Problem statement.** Despite the rather long existence of gastronomic tourism and its popularity among people, there is still no single definition of "gastronomic tourism". This type of tourism is not singled out as a separate one, but is related to cognitive tourism. Accordingly, there is no separate category of tourists who go on gastronomic trips.

**Main material and investigation results.** Today tourism is considered one of the main and most important sectors of the world economy. The tourism sector and its development have a multiplier effect in economic terms, and is also an ideal means of economic development, since it can directly or indirectly influence the development of other sectors of the economy. This is one of the few areas that, despite the pandemic and all the restrictions, continues to develop and the tourism product is still popular.

There are many types of tourism, but gastronomic tourism is considered one of the most interesting. With its help, you can learn the culture of the area deeply: in addition to visiting the location, a person has the opportunity to do the most important thing - to taste dishes, dishes or products for which the area is famous for everything, to discover new tastes and combinations, to delve even deeper into history (if these are dishes from past) or track the development of the cuisine of the people. With regard to the definition of gastronomic tourism, there is no such single one. The Law of Ukraine "On Tourism" does not distinguish it as a separate type, but refers to the cognitive one. But in the world literature you can find the definition of such concepts as "culinary tourism", "gastronomic tourism", "restaurant tourism", "wine - gastronomic tourism".

M. Hall and R. Mitchell [8]

- Gastronomic tourism is a type of tourism that includes visits to food producers, food festivals, restaurants and special places associated with certain foods and food tastings; observation of cooking and cooking processes

Rasulova A. [9]

- Gastronomic tourism is a specialized type of tourism associated with acquaintance with the history, technology and culture of consumption of national dishes and products, as well as training and raising the level of professional knowledge in the field of culinary

Global Report on Food Tourism [2]

- Gastronomic tourism implies that all of the above should be the main reason or motivation for travel for visitors to a particular tourist destination

Korkuna O.I. [4]

- Gastronomic tourism can also be interpreted as one of the types of cultural tourism, because gastronomy is a recognized element of culture.

World Association of Gastronomic Tourism [5]

- Gastronomic tourism is travel to gain an authentic experience based on a culture of eating or drinking; discovery of unique places and their culture through national cuisine

Basyuk D.I. [3]

- Gastronomic tourism is a type of tourism related to acquaintance with production, technology of preparation and tasting of national dishes and drinks, and also culinary traditions of the people of the world.

**Fig. 1. Terms used to denote gastronomic tourism  
(grouped by the author on the basis of [2, 10-15])**

The concept of "culinary tourism" was first introduced in 1998 by Lucy Long. In 2001, Eric Wolf published the first article on culinary tourism in the world, and in 2003 the International Association for Gastronomic Tourism was established. (The International Culinary Tourism Association).

Culinary tourism as an industry was not talked about until 2001, until Eric Wolf, president of the International Culinary Tourism Association (ICTA), published the White Paper on Culinary Tourism. Despite the fact that scientists have previously written about culinary tourism and wine tourism, until 2001 their works were very rarely published and not published in business journals. Then, in 2003, under the guidance of a group of advisers, Eric Wolf founded the International Culinary Tourism Association, and in 2006, ICTA founded the International Culinary Tourism Institute. The International Culinary Tourism Association is considered a global authority with resources and information on food, beverages and tourism staff worldwide.

The World Food Travel Association defines food tourism as travel with the aim of obtaining an irreplaceable experience that is based on the culture of food or drink consumption; discovering unique places and their culture through national cuisine. Gastronomic tourism is becoming an important phenomenon not only from the social and cultural point of view, but also from the economic side. Traveling to taste, culinary itineraries, discovering new ways of cooking, visiting famous places with culinary traditions and culture, or discovering places related to food industries are some of the most important motivations for people to travel.

M. Hall and G. Mitchell give the following definition: Gastronomic tourism is a type of tourism that includes visits to food producers, food festivals, restaurants and special places associated with certain food products and tasting dishes; supervision over the processes of production and preparation of food [8].

As for domestic scientists, D.I. Basyuk defined gastronomic tourism as a specialized type of tourism associated with familiarization and tasting of national culinary traditions of the countries of the world, is a synthesis of ecology, culture and production [3].

V.V.Kornilova gives the following definition of gastronomic tourism as a type of tourism associated with familiarization with the production process, cooking technology and tasting of national dishes and drinks, as well as culinary traditions of the peoples of the world.

From the organizational point of view, this type of tourism involves getting acquainted with the features of cooking technologies of local products and dishes, history, traditions of their consumption, as well as the opportunity for travelers to participate in cooking national dishes, attending culinary festivals and competitions. Gastronomic tourism can also be called an auxiliary tool that helps in understanding the cultural heritage of countries and regions of the world, as the dishes of national cuisine are one of the elements that reflect the way of life, worldview, traditions of ethnic groups [2].

Also Kuklina T.S. gives its definition of "Gastronomic tourism": "gastronomic tourism" - a type of tourism, interconnected with the movement of different countries in order to get acquainted with national dishes, products, drinks [4].

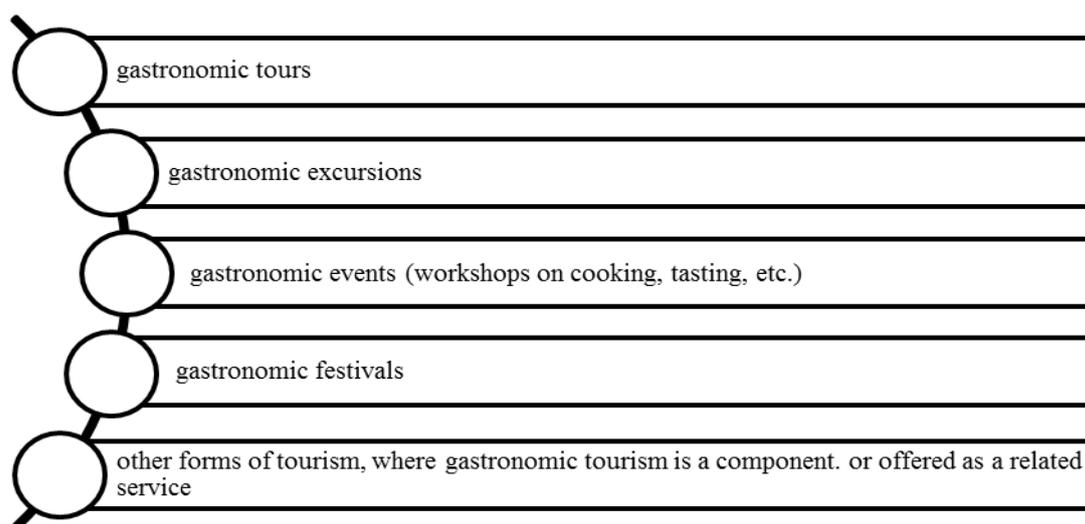
After analyzing the definitions from foreign and domestic scientists, we can conclude that gastronomic tourism is a trip to special places or countries to get acquainted with the peculiarities of local cuisine, culinary culture and culinary traditions, and, most importantly, to taste dishes and products that inherent in this area.

The difference between gastronomic tourism as an independent type consists in the following features:

1. This type of tourism is an integral part of each tour, only the main motive is different - acquaintance with gastronomic traditions, tasting dishes;
2. Any locality (country, region, city) has all the conditions for development;
3. Gastronomic tourism allows for the promotion and advertising of local food and food producers [2].

Accordingly, the main consumers of a gastronomic tourism product can be ordinary tourists who like to try something new (new dishes, new countries, etc.), real gourmets, or persons whose work is related to cooking, representatives of the tourism sector, independently strive organize and market their own gastronomic tours [5].

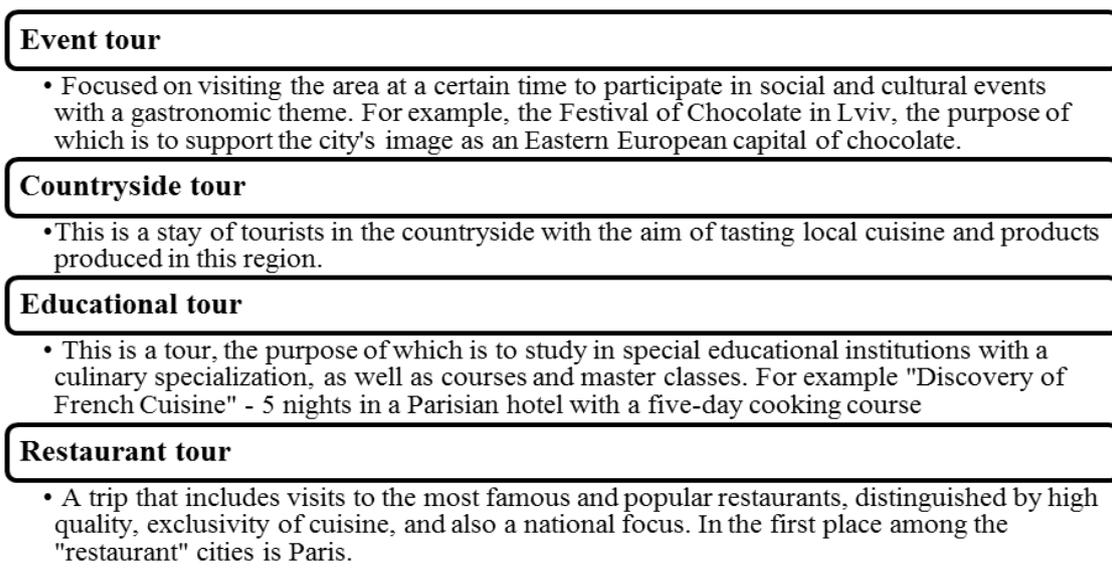
Gastronomic tourism is closely interconnected with rural and green, ecological tourism, the development of a network of green estates, which can also serve as a basis for gastronomic tourism, as they provide food services, namely the preparation of traditional dishes. In fig. 2 presents the main forms of organization of astronomical tourism.



**Fig. 2. The main forms of organization of astronomical tourism (systematized by the author on the basis of [5])**

The development of gastronomic tourism is also associated with the development of cultural and cognitive. If the area has a developed cultural and cognitive potential and receives a large number of tourists for this purpose, it is likely that these people will later be interested in gastronomic tourism. The features on

which culinary traditions depend are not only cultural but also climatic and historical factors. The world leaders in gastronomic tourism include Spain, China, Japan, Italy and France.



**Fig. 3. The main directions of gastronomic tourism (systematized by the author [7])**

Tourism continues to develop as part of the modern economy, and food is becoming an increasingly important component. The importance of gastronomic tourism was demonstrated at the 1st UNWTO World Food Forum, organized by UNWTO in 2015 and located in the center of gastronomic tourism - San Sebastian, Spain. The level of attendance was such that it was re-organized in 2016 as the 2nd UNWTO World Forum on Gastronomic Tourism (note the change of name from food tourism to gastronomic tourism, this time in Peru. The 3rd Forum returned to San Sebastian in 2017, and, fourth in Thailand in 2018.

Gastronomic tourism is classified on several grounds, which will be discussed below.

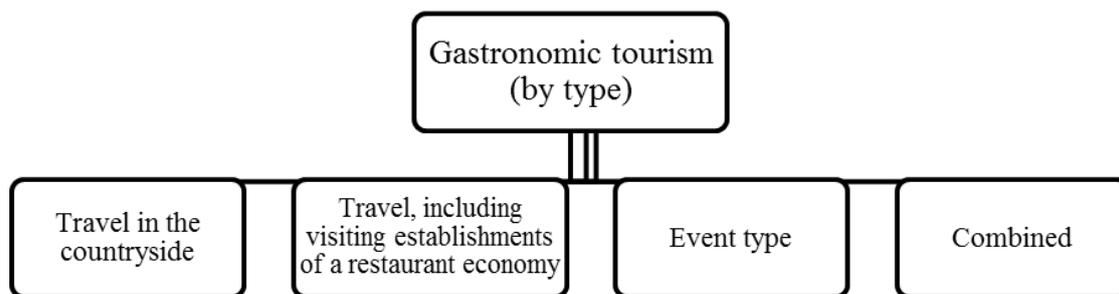
First of all, let's define the main directions of gastronomic tourism.

They are shown in Figure 4 "Main directions of gastronomic tourism".

Gastronomic tourism is classified according to the following characteristics: type; by regions; on purpose; by organizational form.

As shown in Figure 3 "Characteristics of gastronomic tourism by type", gastronomic tourism is divided into 4 groups:

1. Travel to get gastronomic experiences in the countryside. This type involves tasting homemade dishes prepared by residents of the locality to which the trip takes place, as well as home-made national dishes of the country (or region, locality). This species can also be considered as part of green rural tourism.
2. Travel, which involves obtaining gastronomic experiences with visiting restaurants. Basically, this type of gastronomic tourism involves tasting gourmet dishes in restaurants (restaurants, cafes, etc.) in order to find new flavors and get an unforgettable experience of food;
3. Event type of gastronomic tourism. This type necessarily includes attending events related to gastronomy (festivals, fairs, gastronomic exhibitions, etc.);
4. Combined view. It implies a combination of several species mentioned above.



**Fig.4. Characteristics of gastronomic tourism by type**

Gastronomic tourism can also be characterized by regions. Characteristics of gastronomic tourism by region: Asia-Pacific; European; African; American.

Table 1 "The main objects of world gastronomic and culinary heritage of UNESCO as of 1.01.2021" shows the countries and their features in the field of gastronomy and cuisine.

**Table 1.**

**The main objects of the world gastronomic and culinary heritage of UNESCO as of 01.01.2021**

<b>Tourist subregion of the world</b>	<b>Country</b>	<b>Object</b>
Southern Europe	Greece	Mediterranean diet, Patsa and Magiritsa, Souvlaki, Hemista
	Spain	Paella, Gazpacho, Teruel migas
	Italy	Technology of Neapolitan pizza (base dough, raw tomatoes, fresh mozzarella cheese, fresh basil and olive oil); Paste. Tagliatelle, fusilli, penne, spaghetti; Gelato
	Croatia	The art of baking gingerbread in northern Croatia
Western Europe	Czech Republic	Oil walk around the houses near Hlynetsk
	Switzerland	Winemaking festival in Veva
	Great Britain	Fish and Chips, Mince pies, Haggis
	France	Traditional French cuisine (onion soup, duck confit, burgundy meat)
	Belgium	Feast of bread and fire in Gerardbergen
		Equestrian shrimp fishing in Ostyunkerkerk
The culture of beer consumption		
Central Asia	Tajikistan	The technology of cooking and the culture of use of shish kebabs
	Uzbekistan	Technology of cooking and culture of pilaf consumption
	Azerbaijan	Dolma cooking technology, bread cooking and serving technology (pita, noodles, etc.)
	Mongolia	Airan
	Iran	Technology of preparation and giving of a bread cake
	Kazakhstan	
	Kirghizia	
South Asia	Iran	
West Asia	Turkey	Coffee making technology; keshkek, Technology of preparation and giving of a bread cake
	Armenia	Technology of preparation and serving of pita bread
	Georgia	Technology of making wine in clay jugs "kvevri"
	Qatar	Arabic coffee making technology
	Oman	
	Saudi Arabia	
	United Arab Emirates	
East Asia	Japan	Washok cuisine (traditional Japanese cuisine)
	North and South Korea	Technology of cooking kimchi cabbage
Southeast Asia	Singapore	Hacker centers ("shared canteens") (introduced in 2020) - places to communicate.
North Africa	Morocco, Algeria, Mauritania, Tunisia (2020)	Food and Street Food Market in Jama'a-el-Fna Square in Marrakech; couscous
North America	Mexico	Traditional Mexican cuisine (taco, elote, enchilada)
	Japan	Vashoku
South America	Paraguay (2020)	Terere is prepared using a special mixture of Poha Nana (medicinal herbs), crushed and combined with cold water.
	Malta	Frit (2020) (sourdough bread)

For the purpose of gastronomic tourism can be divided into:

1. Ethnic. A gastronomic trip, which aims to get acquainted with the dishes that are typical of the area. That is, national, ethnic dishes and drinks. This type of tourism exists in those countries that have a fairly rich centuries-old history.
2. Wine. This trip is for the purpose of wine tasting. Scientists have even singled out wine tourism as a separate type of tourism and gave a separate definition: wine tourism is a specialized type of tourism, which involves tasting, consumption and purchase of wine directly from the producer. Wine tourism includes a visit to vineyard plantations, a tasting room or cellar; restaurants offering wine tasting; attending wine festivals or other specialized events [4].
3. Cheese - a trip that includes tastings of different varieties and types of cheese in cheese factories, as well as in restaurants that specialize in the sale of cheese. And also visiting cheese exhibitions and festivals, etc.
4. Travel to taste seafood. This is a trip to taste fresh seafood to coastal settlements. This type of tourism is popular in almost all coastal countries and islands.
5. Coffee. This type includes visiting coffee shops, tasting various coffee drinks, visiting coffee plantations, participating in the process of making a drink, coffee master classes. Does not exclude visiting exhibitions where this drink is presented. There are now about 70 countries in the world where the climate is optimal for coffee plantations. Coffee tourism, as the name implies, involves visiting the country where coffee is grown. It also means that you participate in the tasting of different types of this drink. Countries where the culture of consumption and cultivation of coffee is sufficiently developed include Colombia, Brazil, Guatemala, Peru, Indonesia, Costa Rica, Peru.
6. Fruit. It includes visits to fruit plantations and orchards, as well as fruit tasting.
7. Mixed. This type involves a combination of several types of gastronomic tourism, described above.

Characteristics of gastronomic tourism by purpose	ethnic
	wine
	cheese
	tasting of seafood
	coffee
	fruit
	mixed

**Fig. 5. Characteristics of gastronomic tourism according purpose [8]**

By organizational form:

1. Organized. This is a specialized gastronomic tour organized by a travel agency that cooperates with restaurants, producers of certain food products, organizers of gastronomic events and festivals, farm owners, etc .;
2. Amateur. Organized directly by tourists without the help of travel agencies.

**Conclusions.** Therefore, on the basis of the above material, it is advisable to conclude that gastronomic leisure is a type of tourist activity, interconnected with travel to different countries in order to get acquainted with national dishes, products, drinks. The development of gastronomy as an important component of cognitive tourism has significant prospects for development, as the industry is able to perform such tasks as cognition, education, recreation, human culture, gastronomic interest and discovery of gastronomic features, generally has an impact on personality formation and development.

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**Черниш Ірина Володимирівна**, доктор економічних наук, професор. **Маховка Вікторія Михайлівна**, кандидат економічних наук. **Максимейко Наталія Ярославівна** студентка. Національний університет «Полтавська політехніка імені Юрія Кондратюка». **Гастрономія як фактор формування конкурентних переваг послуг пізнавального туризму.** Досліджено особливості гастрономії як фактору формування конкурентних переваг послуг пізнавального туризму. Визначено, що гастрономічні послуги використовуються у багатьох сферах туризму та дозвілля, зокрема у формі послуг харчування під час подорожі, а також як окрема мета подорожі для пізнання кухні певного міста або регіону, країни в цілому. З'ясовано основні підходи до визначення сутності поняття «гастрономічний туризм». Зазначено, що його необхідно розуміти як невід'ємну складову будь-якої поїздки чи подорожі. Гастрономічний туризм являє собою спеціалізований вид туризму, пов'язаний з ознайомленням з історією, технологією та культурою споживання національних страв і продуктів, а також навчанням і підвищенням рівня професійних знань у сфері кулінарії. У результаті дослідження було визначено основні складові гастрономічного туризму, які характеризують його зміст як вид пізнавального туристичного дозвілля: культурне споживання; самоосвіта; неформальне спілкування; задоволення гастрономічних потреб; пізнавальна діяльність тощо. Проаналізовано основні види гастрономічного туризму за різними класифікаційними ознаками. Складова кулінарної діяльності в соціокультурному житті людини виражається у враженні, емоції, стані, що охоплюють туриста під час відпочинку. На основі цих реакцій турист переусвідомлює, відчуває, осмислює кулінарні особливості, дає оцінку гастрономічним особливостям місцевості й наданим послугам харчування.

Перспективами подальших досліджень є визначення потенційних напрямів розвитку гастрономії у сфері туризму, підвищення її якості та сервісу з урахуванням потреб сучасних споживачів туристичного продукту.

**Ключові слова:** туризм, гастрономія, гастрономічний туризм, гастрономічна подорож, кулінарія, гастротуризм, відпочинок.

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**Chernysh Iryna**, Doctor of Economics, Professor. **Makhovka Victoria**, PhD (Economics). **Maksimeiko Natalia**, student. National University "Yuri Kondratyuk Poltava Polytechnic". **Gastronomy as a Factor of Competitive Advantage of Cultural Tourism Services.** The purpose of the article is to study the features of gastronomy as a factor in the formation of competitive advantages of cultural tourism services. The authors determined that gastronomic services are used in many areas of tourism and leisure, including in the form of catering services during the trip, as well as a separate purpose for travel to learn the cuisine of a particular city or region, the country as a whole. The article examines the main approaches to defining the essence of the concept of "gastronomic tourism". It is stated that the concept "gastronomic tourism" must be understood as an integral part of a trip or journey. As a result of the study, the main components of gastronomic tourism were identified, which characterize its content as a type of cognitive tourist leisure: cultural consumption; self-education; informal communication; satisfaction of gastronomic needs; cognitive activity and the like. The types of gastronomic tourism are analyzed on the basis of various classification features. The component of culinary activity in the socio-cultural life of a person is expressed in the defeat, emotions, condition, covering the tourist during the holiday. Based on these reactions, the tourist feels, comprehends the culinary features, assesses the gastronomic features of the area and the food services provided. Prospects for further research are to identify potential directions for the development of gastronomy in the field of tourism, improving its quality and service, taking into account the needs of modern consumers of tourism products.

**Key words:** tourism, gastronomy, gastronomic tourism, gastronomic travel, cooking, gastrotourism, food tourism, rest.

## MODELS AND METHODS OF THE ENTERPRISE ECONOMIC DEVELOPMENT

**Olha Komelina\***, Doctor of Sciences (Economics), Professor  
**Oleksandr Marchenko\*\***, PhD (Economics), Associate Professor  
**Alina Chaikina\*\*\***, PhD (Economics)  
National University "Yuri Kondratyuk Poltava Polytechnic"

\*ORCID 0000-0001-9297-4985

\*\*ORCID 0000-0002-3342-0525

\*\*\*ORCID 0000-0003-3821-2079

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**Introduction.** The effective resistance of the enterprise to changes in the external environment is possible only under the conditions of preventive measures to preserve its viability and ensure competitiveness, i.e. under conditions of constant economic development of the enterprise. In the current business environment, traditional methods of enterprise management are not fully suited to the rapidly changing competitive environment in foreign and domestic markets. The optimal process, which is aimed at the survival and stable operation of the enterprise in such conditions, is economic development. This development is an important condition for the efficiency of domestic enterprises in competition in domestic and foreign markets. The complexity of the enterprise economic development problems has led to the fact that the study of modern models and methods of enterprise economic development is insufficient, which determines the relevance of this work.

**The main purpose** of the article is to study the economic essence of enterprise development and the selection of models and methods at the enterprise level. The achievement of this goal will be done through the analysis of business process modeling, reengineering methods, benchmarking, restructuring processes at the enterprise.

**Analysis of recent researches and publications.** The works by both domestic and foreign scientists are devoted to the questions of the enterprise development directions substantiation: H.F. Binner, I.V. Tiukha, Yu.S. Pohorielov, L. S. Zapasna, O.H. Melnyk, O.V. Mukan, M.L. Zlotnik, A. H. Drabovskiyi, L.V. Ivaniuta, M.I. Petrenko, O. V. Komelina, L. P. Artemenko, N. L. Zikin, L. Yu. Hordiienko.

Despite the significant number of scientific papers in the field of management of enterprises' economic development, the models of enterprises economic development features of business process modeling, reengineering, benchmarking, restructuring processes that affect enterprises' economic development are still unexplored.

**Results.** In our opinion, enterprise economic development should be understood as the introduction of a system within the enterprise, which includes business process management, reengineering, benchmarking, and restructuring processes. Such a system as a whole ensures economic stability and survival of the enterprise in market conditions.

Signs of the enterprise socio-economic development should be considered in the economic sphere economic growth as the quantitative side of the economic system, characterized by expanding its scale (increasing production and sales, expanding market share, increasing income, etc. [1].

Enterprise development is a rather complex concept, which on the basis of content analysis is proposed to be understood as a long-term set of processes of quantitative and qualitative changes in the enterprise, which lead to its improvement by increasing enterprise potential, adaptation to the external environment and internal integration which helps to increase the company's ability to counteract the negative effects of the external environment and its viability [2].

Economic development of the enterprise should be considered as the development of the enterprise business units, in which certain business processes take place. The business unit is an integral part of the enterprise. An enterprise may consist of one or more business units. Business organization, i.e. the structural and functional form of the enterprise and individual structural units, as well as distribution of tasks within and between units may be different. The economy of business units is defined as the ratio of output to costs (both are accepted in monetary terms) over a period of time. This indicator allows controlling the degree of business success [3].

Business process management is proposed to be considered in terms of gradual development and implementation of a new methodology of enterprise management using economic and mathematical modeling of business processes in order to adapt it to changes in the internal and external environment, international market requirements, as well as expansion and higher performance efficiency [4].

To optimize business processes, a systematic approach should be applied, which provides comprehensive coverage of all areas and activities of the enterprise, and formed by all existing functions of enterprise management [5].

For the effective flow of business processes in the enterprise, it is necessary to model them. Modeling is carried out in the following sequence: definition of the business process manager; defining boundaries of the business process; identification of “exits” and customers of the business process; identification of “inputs” and suppliers of the business process; identification of resources required to perform the business process; technological description of the business process; development of indicators for assessing the business process, its results and customer satisfaction with the business process; a description of the business process manager’s work to analyze and improve it, as well as the manager’s reporting to his management.

Modeling of business processes at the enterprise is carried out in stages: construction of the enterprise functional model; construction of process model; construction of a quantitative model. The following modeling methods are used: functional modeling, data flow modeling (document flow), workflow modeling.

Management of the enterprise business processes is carried out as constant design of processes, the definition of their “inputs” and “outputs”, sequence of steps, etc. In order to ensure the effectiveness of such management in the enterprise, it is advisable to implement a method of reengineering.

According to the United Nations Economic Commission for Europe, reengineering, depending on the process approach, is divided into basic types of specialized work, starting with the definition and implementation of measures, as well as advice on improving production processes, i.e. the main activity of the enterprise, continuing the management of supply, production of the first samples of the product, their technical refinement and improvement, and ending with integrated reengineering, that is, fully formed products or goods that are sent for sale to foreign markets or shipped to the customer [6].

Business process reengineering (BPR) is the reconstruction or creation of new business processes in order to increase enterprise efficiency. A distinctive feature of this approach, compared to other methods of process management, is the focus on a radical change in business processes, rather than their gradual improvement [7].

Among many goals, the main purpose of reengineering is to gain additional competitive advantages, increase the competitiveness and profitability of the enterprise. The tasks to achieve this goal are the formation of a transparent system of personnel internal interaction and processes of the enterprise to build a transparent and flexible system of internal control. This mechanism allows management not only to make informed operational decisions but also to plan and implement future internal changes, increasing flexibility and ability to adapt to the changing external environment. Carrying out reengineering allows the company to adjust the processes, reducing their duration, which ultimately affects the cost of production and profitability of the company and ensures economic development.

The choice of specific technology for business process reengineering and implementation of specific measures in the enterprise in order to achieve the expected results of its activities should take into account certain key characteristics and criteria for evaluating the effectiveness of reengineering in terms of business conditions [8, 11].

When implementing the method of reengineering, it is first necessary to model the enterprise, and then change this model to address specific current and future challenges. Such changes occur by decisively cutting off irrational links and functions.

As a result of the reengineering introduction, a significant increase in consumer satisfaction is achieved, the focus of production on their current and future needs; radical reduction of the production cycle

duration; radical reduction in the number of processes; reduction of time spent on performance of production functions, and also their cost; significant improvement of quality management and labor organization; increasing the initiative of each individual employee; significant reduction in the number of employees; creating conditions for the introduction of new technologies in production; ensuring the enterprise adaptation to function in the information environment; abandonment of old rules and dogmas in doing business; neglect of existing outdated systems, structures, and procedures at the enterprise; radical change and the search for new ways of doing business.

Reengineering should be used when the company is in deep crisis, or when the current state of the company is satisfactory, but forecasts of its future activities are quite disappointing. Reengineering is also effective when a fairly prosperous but aggressive company seeks to quickly create unique competitive advantages.

The model of the enterprise economic development on the basis of reengineering is implemented at the following stages. At the first stage, the desired from the point of view of future survival and further development of the enterprise image is formed on the basis of its strategies development. This image reflects directions of business development in order to achieve strategic goals. At the second stage, the model of the existing business of the enterprise is created. To this end, an analysis of an existing business is carried out, schemes of its business processes are drawn up at the moment, their efficiency is evaluated according to controlling data, analysis of the organizational environment, and business processes that need radical restructuring are identified. At the third stage, a new business model is being developed. Perform redesign of current business, i.e. implement direct reengineering. To create such a business model, they redesign selected business processes, create more efficient business functions, and define new technologies. Then create the necessary information systems for reengineering, determine equipment and software. At the next stage, new business models are introduced into the economic activity of the enterprise.

The effectiveness of business process reengineering at the enterprise is influenced by a set of conditions, the key of which for Ukrainian enterprises are: organizational (creation of a project group as a holistic organizational structure or separation of those responsible for implementation, necessary taking into account the existing organizational structure of the enterprise; project team; selection of experienced performers and motivation of the company's staff on the feasibility and necessity of reengineering; attracting the best employees who have creative potential and are interested in changes in the company; resource (determination of the necessary resources, first of all personnel and logistical, for reengineering and ensuring their availability); financial and economic (availability of sufficient funds for the implementation of certain measures to reengineer business processes); innovative (providing reengineering of business processes taking into account the enterprise specifics on the basis of the introduction of innovative technologies, innovative goods or services, organizational or marketing innovations) [9, 10].

One of the methods of establishing competitive advantage is benchmarking. Benchmarking is the process of various comparisons and evaluations of one company with others that have achieved greater success, or have taken leadership positions in the same industry or outside it. As a consequence of this process, implement measures aimed at bridging the gap between the enterprise – the reformer and the leader [11].

According to the method of benchmarking, the company compares its products, services, processes with products, services, processes of another business entity. Comparisons can also be made within the enterprise itself. For comparison with the processes or products the enterprise which occupies leading positions is chosen. The condition for achieving the maximum return from the use of benchmarking in the enterprise is a thorough understanding of their own business processes, their parameters, identifying the reasons that hinder the improvement of activities.

Benchmarking as a process has several varieties depending on the objects of comparison. Internal benchmarking focuses on comparing products, services, processes with close or similar counterparts within the enterprise. This type of benchmarking makes it fairly easy to collect data but is limited in comparison, and the results are often biased. External benchmarking is carried out by several single-profile or multi-profile enterprises on the basis of a contract for joint comparative studies of each of them. This type of benchmarking aims to help each other to ensure further successful development.

Benchmarking provides a company with a number of advantages that can play a key role in the economic development of the company and provide a better competitive position. The advantage of benchmarking in terms of enterprise development is that it allows you to develop effective management models and adapt production management methods to market conditions.

Today, companies are starting to resume work step by step, rethink the values and concepts of the company, create new strategies, build business plans. For powerful enterprises, this is possible, but for small businesses, the functioning of the enterprise will remain in question. One of the prospects for a resumption of activity is enterprise restructuring [12].

In the theory and practice of enterprise management, the concept of “transformation” is considered from two points of view. First – as a result of resources transformation into products (finished goods and services). Another considers transformation as a process of systemic organizational and managerial changes (restructuring, etc.) in order to achieve the main goals of the organization, the main of which is to maintain its competitiveness in the market [13].

Restructuring at the enterprise level affects all areas of its activities: from production, technical and organizational systems to financial aspects and property issues. It must ensure the solvency of the enterprise due to reduced costs, increased productivity, the introduction of new technology, modernization of equipment.

Changes that occur at the enterprise as a result of restructuring may relate to modernization, reorganization, adaptation, innovation. Restructuring involves changing the enterprise property, organizational structure of the enterprise, production structure, structure of the production program, structure of borrowed capital, structure of assets, structure of income and expenses, the structure of personnel, information, and other structures.

Restructuring ensures the enterprise's economic development that increasing the level of profitability by optimizing capital and current costs, sales, balanced pricing.

Economic development takes place in the management of the enterprise liabilities, namely its debt, and involves changing the structure of liabilities by deferral of debt repayment, lowering the interest rate on debt, determining a more favorable scheme for debt repayment, replacement of debt with shares, cancellation of shares or all debt, obtaining new loans or guarantees from creditors.

The level of economic development due to the enterprise restructuring should be assessed by its market value. The market value indicator is an important complex financial and economic characteristic and reflects the efficiency of the enterprise, its current state, and expected prospects.

**Conclusions.** The formation of a market economy in Ukraine has significantly affected conditions of enterprise activity: the form of ownership, methods, and principles of state regulation have changed, international competition has intensified. In the current business environment, traditional methods of enterprise management are not very suitable in a rapidly changing competitive environment in foreign and domestic markets. The optimal process, which is aimed at the survival and stable operation of the enterprise in such conditions, is economic development. In this regard, such development is an important condition for the effectiveness of domestic enterprises in domestic and foreign markets competition.

During the twentieth century, the world has developed about a dozen models and methods of enterprise economic development. Among them, the most common were business process modeling, implementation of reengineering, benchmarking, restructuring methods.

Business process modeling allows determining how the company works as a whole, how it interacts with external entities, how organized activities in each workplace. Reengineering makes it possible to ensure the enterprise's survival in an extreme situation, significantly accelerate its reactions to changes in the market environment, primarily in consumer demands, increase the competitiveness of the enterprise.

Benchmarking serves as a tool to improve business practices. Achieving maximum efficiency by business is accompanied by a careful analysis of indicators of their own activities in the dynamics and on the basis of this definition of future action. Restructuring is a radical overhaul of the existing system of production and ensures the creation of such enterprises that are able to produce competitive products, be technically secure, and financially viable.

The introduction of these models and methods of the enterprise economic development provides qualitative changes and updates of its economic system and organizational structure, improving the efficiency of functioning on the basis of improving equipment, technology, and organization of work in all departments, improving the quality of products and services.

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**Комеліна Ольга Володимирівна**, доктор економічних наук, професор. **Марченко Олександр Вікторович**, кандидат економічних наук, доцент. **Чайкіна Аліна Олександрівна**, кандидат економічних наук. Національний університет «Полтавська політехніка імені Юрія Кондратюка». **Моделі й методи економічного розвитку підприємства**. Проаналізовано наукову літературу, що дозволило систематизувати сучасні моделі та методи економічного розвитку підприємства на основні поєднання теоретичних підходів і концепцій менеджменту та практики господарювання підприємств у сучасних умовах. Виявлено напрями досліджень указаних моделей і методів. Ці напрями ґрунтуються на концепціях моделювання бізнес-процесів, реінжинірингу, бенчмаркінгу, реструктуризації підприємств. Запропоновано до впровадження моделі економічного розвитку з урахуванням різноманітних факторів: модель економічного розвитку через моделювання бізнес-процесів, модель економічного розвитку на основі реінжинірингу, методика бенчмаркінгу, методика реструктуризації. Доведено актуальність упровадження сучасних моделей економічного розвитку підприємств з метою ліквідації технологічного відставання України від розвинених країн Європи. Запропоновано подальші дослідження з визначенням найбільш ефективних моделей економічного розвитку для конкретних підприємств у реальних економічних умовах їх діяльності.

**Ключові слова:** моделі й методи економічного розвитку, моделювання бізнес-процесів, реінжиніринг, бенчмаркінг, реструктуризація підприємств.

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**Komelina Olha**, Doctor of Sciences (Economics), Professor. **Marchenko Oleksandr**, PhD (Economics), Associate Professor. **Chaikina Alina**, PhD (Economics). National University “Yuri Kondratyuk Poltava Polytechnic”. **Models and Methods of the Enterprise Economic Development**. The scientific literature was analyzed in the article, which allowed the systematizing of modern models and methods of the enterprise economic development on the basic combinations of theoretical approaches and

concepts of management, the practice of enterprises management under modern conditions.

Directions of the specified models' researches and methods were revealed. These areas are based on the concepts of business process modeling, reengineering, benchmarking, enterprise restructuring. It was proposed to implement the model of economic development taking into account various factors: a model of economic development through business processes modeling, model of economic development based on reengineering, method of benchmarking, method of restructuring.

It was proved the relevance of the modern models of economic enterprises development introduction in order to eliminate technological backwardness of Ukraine from developed European countries. Our further researches will be connected with the definition of the most effective models of economic development for concrete enterprises in real economic conditions of their activity.

**Keywords:** models and methods of economic development, business process modeling, reengineering, benchmarking, enterprise restructuring.

**THE EFFECTIVENESS OF THE INTEGRATED MANAGEMENT SYSTEM,  
BASED ON THE RISK-BASED APPLICATION OF THE REQUIREMENTS  
INTERNATIONAL STANDARD ISO-9001: 2015.**

**Adil Ali Gasimov\***, Director of the Quality Assurance Centre,  
Western Caspian University, Baku, Azerbaijan

\* ORCID 0000-0003-3694-5543

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**Introduction.** Today, when the whole world is faced with external risks (COVID-19 pandemic, inflation, economic crisis, etc.) that dictate the conditions in the health market for us, the topic of applying the risk management system is becoming more relevant and demand. Faced with the manifestation of negative consequences of external risks, there is a threat of an increase in internal (both at the level of potential and at the level of possible) risks in the activities of the organization.

Nowadays, both representatives of large business communities and corporations and representatives of small businesses are unanimously in solidarity in the application of risk management methods at the production level, which is the key to the success of strategic competitiveness. The introduction of a risk management system into the practice of any organization makes it possible to ensure the stability of their development, increase the validity of decision-making in risky situations, and improve the financial situation by carrying out all types of activities under controlled conditions.

**Results.** Risk-based thinking is a mechanism for managing the planning and implementation of measures and methods used by an organization to manage and control risks that affect its ability to achieve planned goals. The concept of risk management was traced in the 9001 version of the standard, representing the requirements for preventive action. In the version of the ISO 9001-2015 standard, the term "risk-based thinking" appears. Risk (according to ISO 9001:2015) is the effect of uncertainty on the result of any activity, in the form of a negative deviation from the expected result. Risk is present in the activities of organizations of any type. However, they are different for each organization. All risk factors at the enterprise can be subdivided, depending on the area of occurrence, into external and internal. The principles necessary for effective implementation of risk management are established in the 5<sup>th</sup> publication of the International Standard ISO-9001:2015 "Quality Management System". A system based on the ISO-9001 requirements model, as a rule, is defined in the format of a strategic goal and direction of senior management to reduce the level of risks of work processes (potential risks) or to prevent and suppress them at the root (potential). Risk analysis statistics in various organizations show that operational risks are potential threats arising from inadequate or unclear organizational processes or deviations from established norms and requirements that arise in work processes due to human error or system errors. At the same time, the influence of external events that negatively affect the activities of the organization is very important. Hence, we can conclude that operational risk management and the process approach to quality management have a lot in common.

Any risk can be characterized by 4 main factors (table 1).

Risk management implies the creation of the necessary culture and business infrastructure for:

- identifying the causes and main factors of the occurrence of risks;
- identification, analysis and assessment of risks;
- making decisions based on the assessment made;
- development of anti-risk control actions;
- reducing the risk to an acceptable level;
- organizing the implementation of the planned program;
- monitoring the implementation of planned actions;
- analysis and evaluation of the results of a risk decision.

Table 1

Main risk factors				
Negative factor		Will happen	Will not happen	Consequences
1.	Event or incident			There is a certain threat of negative impact on the activities of the organization.
2.	Certain risk			Uncertainty
3.	Unambiguous occurrence of risk			There are certain negative consequences for work processes.
4.	Vulnerable point of the organization's activities (or "weak point")			Significant negative consequences that entailed financial, production, resource, reputation and other damage.

Considering the above-mentioned signs and criteria of the risk management mechanism, it should be noted that the need to develop a nonconformity management system and a mechanism for determining corrective actions is a significant factor influencing effective risk management / coordination. This process can be the main source of information about the possible and potential risks that the organization may face in its activities. The use of an integrated mechanism for risk coordination and management of corrective actions will allow you to control the trends of reducing or avoiding risks in the daily activities of work processes.

According to the requirements of clause 10.2 of ISO-9001:2015 “in the event of inconsistencies”, including those related to claims, the organization must determine the methods of response to the identified inconsistency and a mechanism for assessing the necessary actions to determine and eliminate the causes of the inconsistency. This process avoids the recurrence of these kinds of problems. At the same time, the standard clearly defines step-by-step requirements for dealing with existing problems. In particular, the organization should:

- 1) analyze the revealed discrepancy;
- 2) determine the reasons that caused the emergence of nonconformity;
- 3) determine the presence of an identical deviation from the norm of nonconformity or the possibility of its occurrence in other work processes of the organization;
- 4) take all necessary actions in relation to the elimination of the nonconformity;
- 5) analyze the effectiveness of each corrective action taken;
- 6) update, if necessary, the risks and opportunities identified during planning;
- 7) make, if necessary, changes to the quality management system.

A significant factor in the effectiveness of this mechanism is the documentation and maintenance of relevant information databases.

It should be noted that the main goal of corrective actions is aimed at eliminating the causes of nonconformities in order to prevent their recurrence. A detailed analysis of the problem should be aimed at determining the cause of its occurrence. As a rule, in this phase it is desirable to apply the “Ishikawa diagram”, “Five why” or “Paretto” methods. After that, it is very important to determine a plan of corrective actions aimed at eradicating the causes (determining the timing of their implementation and responsible persons).

At the level of centralized management of the management system, it is important to define a mechanism for managing actions in relation to the coordination of potential and possible risks, which acts as a guarantee that, through the means of work processes, the organization is able to achieve its objectives and intended results. It is very important to focus on the methodology for assessing industrial risks. Most organizations use the “Probability and Risk Rating” methodology (5x5 format with color grades) as in table.

For a more effective functioning of the integrated mechanism for dealing with nonconformities and coordinating risks in the organization, a monitoring procedure should be determined (reflecting all the basic principles and a description of the process of conducting internal and external audits and other monitoring methods). Due to the main monitoring goal set for the Quality Control Service – to assess the actual state of work processes, it is possible to identify realized/potential and determine possible risks. Consequently, the applied quality assurance system based on the principles of ISO-9001:2015 requires the use of "preventive actions" aimed at mitigating the possible and potential consequences of identified risks, which is presented in today's light as the concept of "Risk Management". It is for this reason, in connection with the development of the "risk assessment" methodology that the additions made to clause 6.1. “Actions to address risks and

opportunities” ISO-9001:2015 completely eliminated the requirements for “Preventive action” (8.5.3. “Preventive action”) as a separate process and defined it as the main component of the fifth publication of the ISO-9001 Standard.

**Table 2**

<b>Rating of likelihood and risk</b>						
<b>Probability (A) that this can happen</b>	This will happen (in the near future) <b>“5 points”</b> <i>Very likely (&gt;90%)</i>	<b>5</b>	<b>10</b>	<b>15</b>	<b>20</b>	<b>25</b>
	Most likely it can happen <b>“4 points”</b> <i>Probably (&gt;65%)</i>	<b>4</b>	<b>8</b>	<b>12</b>	<b>16</b>	<b>20</b>
	This can happen in exceptional cases <b>“3 points”</b> <i>“50 50” (35% - 65%)</i>	<b>3</b>	<b>6</b>	<b>9</b>	<b>12</b>	<b>15</b>
	It can happen, but on rare occasions <b>“2 points”</b> <i>Unlikely (&lt;35%)</i>	<b>2</b>	<b>4</b>	<b>6</b>	<b>8</b>	<b>10</b>
	It is highly unlikely that this will happen <b>“1 point”</b> <i>(&lt;10%)</i>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>Level (B)</b> <i>Probability (A) x Impact (B) = Overall Risk Score</i>	Minor <b>“1”</b>	Middle <b>“2”</b>	Significant <b>“3”</b>	High <b>“4”</b>	Critical <b>“5”</b>	

By defining the sequence and interaction of the above-mentioned processes, it is possible to schematically display a typical mechanism for the operability of mechanisms for managing nonconformities, coordinating production risks and the procedure for conducting internal audits, displayed in a single form of centralized management of corporate management (fig.1).

It should be noted that the use of an integrated mechanism for managing nonconformities and coordinating risks creates effective conditions for identifying latent deviations from the established rules by the organization itself or the requirements of legislative and international norms.

**Conclusions.** Analyzing data on frequently occurring production risks or frequently occurring inconsistencies, it can be noted that the prevention of risks or most of them are mitigated by the introduction of QMS processes (their level is reduced or the possibility of their prevention is provided), based on the requirements of the International Standard in the field of quality management system.

Potentially effective benefits from the application of a Quality Management System based on the principles and requirements of ISO-9001:2015:

- the organization's ability to consistently provide quality services or products at a high level;
- effective opportunities to increase the level of customer satisfaction;
- effective work on the management and coordination of production risks and organizational capabilities;
- maximum compliance with the established requirements of the corporate governance system.

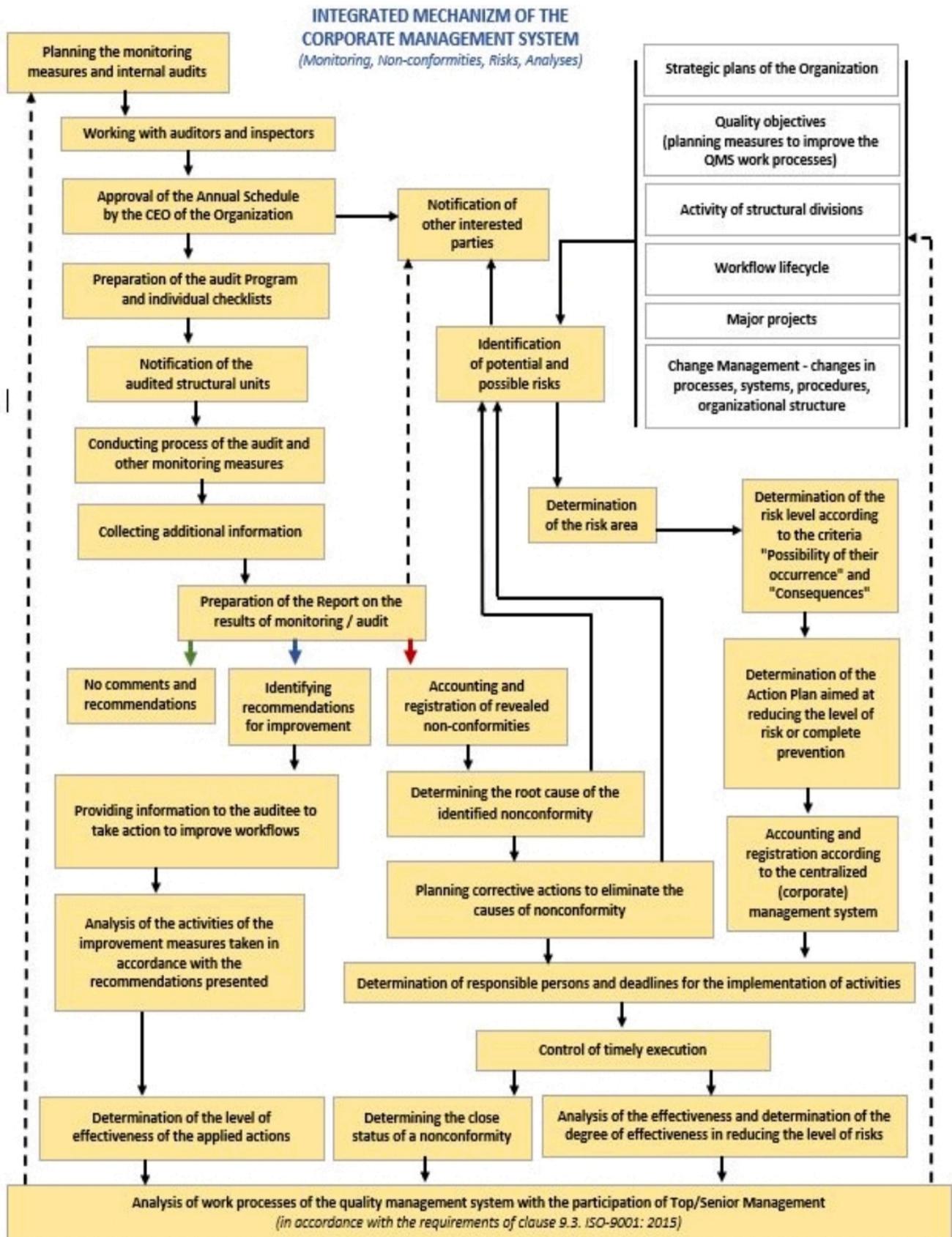


Fig. 1. Integrated mechanism of the corporate management system

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**Гасімов Аділ Алі**, директор Центру забезпечення якості. Західно-Каспійський університет, Баку, Азербайджан. **Ефективність інтегрованої системи управління на основі ризиків, заснованої на застосуванні вимог міжнародного стандарту ISO-9001: 2015.** Розглянуто роль інтеграційних процесів системи управління якістю у галузі цивільної авіації. Ураховано й обґрунтовано процес ефективної імплементації IMS у корпоративному середовищі. Проведено аналіз документа ICAO-9859 та обґрунтовано необхідність упровадження інтегрованої системи корпоративного управління в організаціях, що працюють у цивільній авіації. Доведено переваги використання інтегрованих систем. Висвітлено загальні й конкретні принципи системи управління безпекою (SMS) та системи управління якістю (СМК). Створену систему для ефективної імплементації IMS розглянуто на конкретному прикладі застосування вимог Посібника з управління безпекою.

**Ключові слова:** інтегрована система управління (IMS), система управління безпекою (SMS), система управління якістю (СМК), ICAO, IATA, управління дотриманням вимог, якість, безпека.

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**Gasimov Adil Ali**, Director of the Quality Assurance Centre, Western Caspian University, Baku, Azerbaijan. **The Effectiveness of the Integrated Management System, Based on the Risk-based Application of the Requirements International Standard ISO-9001: 2015.** The article considers the role of integration processes of the quality management system in the field of civil aviation. The process of effective implementation of IMS in the corporate environment is taken into consideration and substantiated. The analysis of ICAO-9859 Document is carried out and the need for the implementation of an integrated corporate management system in organizations operating in civil aviation is described. The advantages of using integrated systems are distinguished. General and specific principles of the Safety Management System (SMS) and Quality Management System (QMS) are highlighted. The created system for the effective implementation of the IMS is considered using a specific example of applying the requirements of the "Safety Management Manual".

**Keywords:** Integrated Management System (IMS), Safety Management System (SMS), Quality Management System (QMS), ICAO, IATA, Compliance Management, Quality, Safety.

## THEORETICAL AND METHODOLOGICAL FOUNDATIONS OF PRODUCTION LOGISTIC MANAGEMENT

Iryna Amelina\*, PhD (Economics), Associate Professor  
National University "Yuri Kondratyuk Poltava Polytechnic"

\*ORCID 0000-0002-3448-4918

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**Introduction.** The activities of any enterprise can be characterized as a constantly repeating process, so logistic management can be considered as a closed management cycle, which is also constantly repeated. As a cyclic process, logistic management is considered from the positions of structural, process and functional approaches that are closely linked [2]. Logistic management is organically linked to the theory and practice of marketing and management, that is, linking the production and sale of goods with real solvent demand for buyers, stimulating implementation by advertising goods, flexible prices and trade margins (discounts), finding new areas of activity to obtain income, etc. Dialectical interaction and interpenetration of logistics, marketing and management are given in aggregate economic effect [3].

The logistic concept proclaims the need to identify individual needs of consumers and respond to them, directing existing resources to their full satisfaction. The fundamental idea is that those companies achieve the greatest success, all productive actions in combination allow to justify expectations of consumers [2]. Since logistics provides consumer requests related to the time and place of availability of products, as well as to accompanying services, it can be argued that logistics management is to manage consumer service [6].

**Analysis of recent researches and publications.** Studying the logistic management is the comprehensive task as there are many factors influencing the logistic processes and activities. Nevertheless, the problem is not new, and for a long time it has been attracting the attention of a large number of scientists, both foreign and domestic.

Problems of logistic management and its impact on the activities of the enterprise are quite popular among scientists. Most of the considered works are devoted to the theoretical concepts of the emergence and development of logistic management, as well as its features depending on the scope. For example, the work by V. V. Hlazun devoted to the features of logistic management of agrarian enterprises [4]. Scientists substantiated and detailed the model of organization of agribusiness system and identified the place of logistic management in it.

N. V. Ivasyshyn and A. O. Palchenko, in addition to the substantiation of the essence of logistic management, was allocated directions of its influence on the functioning of the logistic system of the enterprise [6]. Interesting in terms of the topics of the study is to separate scientists of communication between competitive positions of enterprises with logistic management in the aspect of the implementation of the corporate strategy of a modern enterprise. O. P. Hlybko concentrated on the study of the essence of the concept of "logistic management" through the prism of the thoughts of domestic scientists.

L. S. Holovkova and A. E. Holovkova, analyzing the place of logistic management in the corporation management system, came to the conclusion that "logistics is an inherent active integrating potential capable of combining and improve interaction between such basic functional areas such as supply, marketing, transportation, sale, and between subsidiaries, corporations and its structural subdivisions" [5].

Despite such a significant number of works and attention scientists to issues in logistical management, require a more detailed analysis of the direction of influencing the enterprise with the allocation of basic principles of effective management.

**The aim of the article** is to develop approaches to determining the theoretical and methodological foundations of production logistic management.

**Basic material and results.** Given the fact that logistic activity takes place in a very dynamic environment the state of the logistic system should be constantly monitored, analyzed and evaluated. The

research is devoted to an important and at the same time complicated issue – the process of designing systems of logistics as an important component of the operation of the enterprise.

This problem is not fully understood both at the theoretical level and in the field of practical application of design principles. The purpose of scientific research is to determine the essence, tasks and features of the processes of designing logistic systems. The essence of the concepts of “project” and “design” is considered in the article.

The main tasks of designing logistic systems are determined and possible conditions of their implementation are given. The study found the most important factors determining the success of the project on design of logistic systems. A system of branch logistic functions is proposed. The factors that determine the success of logistics systems implementation are systematized. On the basis of the research, general recommendations for the design of logistics systems at any type of enterprise are generated.

The list of solutions that are accepted in the process of designing logistics systems are proposed. Stages and steps in the design of logistics systems are identified according to the tasks of designing logistic systems. Research results have shown that designing logistics’ systems should take into account the possible risks of implementing a solution and calculate with the help of mathematical models, possible benefits and losses for the enterprise. In addition recommendations to boost the efficiency of designing logistic systems have been distinguished [1–4].

A demanding market and growing competition mean that enterprises need to look for new solutions in the manufacturing process, adapting to customer requirements through systematic product improvement and after-sales service. Measures to improve should be characterized by efficiency, that is, achievement of results, not worse than competitors, but with less costs. Exactly because of this reason entrepreneurs seek to achieve new management and information technology solutions, as well as in other interdisciplinary areas such as telecommunications, automation, robotics, flexible manufacturing systems, materials science and microelectronics. The constituent increase in the efficiency of the enterprise is the development of a logistic system that requires careful preparation. Above all, the key to the efficient operation of logistic systems is the high level of their design.

Implementation of logistic systems and their impact on the functioning of enterprises is considered in the works by: Hemamala et al. [10], Ballou [3], Kuhn and Schmidt [12], Multaharju and Hallikas [15], Göpfert and Wellbrock [8], Han [9] and others.

In modern conditions of functioning of enterprises, aspects related to optimization of their activities play an important role. The introduction of logistic systems in a market economy is an important factor in the development of entrepreneurship. When designing and refining logistic systems, it is necessary to have a sufficient level of data, the accounting of which, as well as collection and processing, must be continuous.

In a broad scientific sense, logistics is considered as the implementation of basic and supportive logistics functions through logistics processes and operations that are associated with changing the parameters of space (location), time, form and properties of logistics (material, information, financial, service) flows from optimal cost of resources. In a narrow practical sense, the enterprise logistic activity covers a complex of processes of supplying material resources, supporting production procedures, inventory formation, warehousing, transportation and sale of finished products.

Logistic management of the enterprise is aimed at optimizing the utilization of production capacity, reducing costs and inventories at all stages of the extended reproduction cycle, accelerating working capital turnover, ensuring the reliable fulfillment of contractual obligations for the supply of finished products and complete satisfaction of consumers in the quality of products and services. This type of management is associated with some difficulties, due to the peculiarities of organization and logistics in enterprises: the diversity, interconnection and interdependence of logistics processes in the enterprise; implementation of logistic processes by different functional units of the enterprise; combination of organizational, economic, technological, technical and legal aspects in logistic activity; significant dependence of the enterprise logistic activity on interaction with the external microenvironment (suppliers, intermediaries, consumers); lack of a clear system for collecting and analyzing information about the organization, efficiency and bottlenecks of the enterprise logistics system.

Making effective management decisions in these circumstances requires the identification, analysis, evaluation and forecasting of logistics problems of the enterprise, most of which are poorly structured or mixed, containing qualitative and quantitative indicators of logistic activities.

Cost-effective organization and management of material flows in a changing market environment should use the basic logistics principles: unidirectional; flexibility; synchronization; optimization; integration of process flows.

The organization and operational management of material flows has a leading role in the operational management of the organization, in the timely delivery of products and especially in order to increase production efficiency associated with the use of production resources in time and space [14].

The logistic capacity planning algorithm is based on an iterative approach – steps 6 and 7 are repeated until a decision is found. This adjustment is performed until the plan receives a significant level of logistics capacity. In the general approach, the process of logistic capacity planning is considered as a set of the following stages: demand is forecasted and other relevant information is investigated on the basis of this the required logistical capacity is determined; the actual logistic capacity is calculated; the difference between the actual and required logistic capacity is determined; alternative plans are offered, which allow to eliminate a certain difference; plan options are compared and the best one is determined; the best plan is implemented and the obtained results are controlled.

Logistic management of the enterprise must meet a number of requirements shown in table 1.

**Table 1**

**Requirements for logistic management of the enterprise**

Requirements	Characteristic
Ensuring rhythmic, coordinated work of all stages of production on a single schedule and uniform output.	Rhythmic work means the optimal (purposeful, in accordance with the laws of the production process) organization in time and space of single, partial and private processes into a single continuous production process, which ensures timely release of each product in the prescribed amounts with minimal production costs.
Ensuring the continuity of production processes.	The continuity of the production process has two contradictory aspects: the continuity of the movement of objects of labor and the continuity of the loading of jobs. The question is which continuity of the production process to prefer in certain conditions.
Ensuring the reliability of planned calculations and the minimum complexity of planned work	It is assumed that within each stage of production, the structure of labor-intensive manufacturing of the product over time does not change. In fact, it changes very significantly. Thus, the preparatory operations are absent at the end of each stage of manufacture of the product, and the final – at the beginning. In the end, the imperfection of the calendar-planned calculations of production at the enterprise leads to known shortcomings: the constant shortage of parts, unforeseen "bottlenecks", the division of labor instead of planning, irregular work, to significant non-production losses of working time.
Ensuring sufficient flexibility and maneuverability in achieving the goal in the event of various force majeure circumstances	In the conditions of imperfect planning at the level of shops and production sites to ensure the implementation of production plans of the organization, all line managers and dispatchers of shops and plant management have to pay much attention to production regulation and redistribution of work to reduce production costs and working time.
Ensuring continuity of planning	Each production unit receives a plan (tasks by volume, nomenclature and deadline), is provided with appropriate resources and aims to achieve the planned end results. To increase the level of planning continuity, management must learn not only to develop monthly plans-schedules of production tasks at each site, but also to be able to keep the production process within the plan-schedule under the influence of various disturbances and restrictions.
Ensuring compliance of the operational production management system (OPM) with the type and nature of specific production	There are developed standard OUV systems. Each of them corresponds to the type and nature of production, but the difficulty of their observance is that the company usually operates different types of production. Even in separate shops it is possible to allocate production with signs of mass, unit and serial production. In market conditions, the need to increase production efficiency necessarily requires an increase in the scientific level of management, automation, its functions, the use of modern mathematical apparatus, computer technology, the creation of integrated enterprise management systems (ISMS).

Source: [1–7].

One of the key points of logistic management of a production organization is the planning of logistics capacity. Adherence to the planning algorithm is an integral part of the successful operation of the production enterprise [5–8].

Strategic approaches to inventory management will be determined, first of all, by the laws of production and final consumption of raw materials and finished products, as well as the processes of replenishment of stocks, their consumption, movement and storage. Inventories are an important element of logistics management as they directly affect:

- forecasting and planning of production activities of the business entity;
- organization of the production process and quality assurance of works;
- support of reliable operation of equipment and its preventive repair [16].

The next, no less important element of the logistics management of the production enterprise are inventories. The great variety of real types of stocks requires strategic planning and coordination of actions for inventory management of the production enterprise.

Inventories of the enterprise are intended for the following purposes:

- formation of a certain independence of the production activity of the business entity from the state of the market of material resources;
- accounting for changes in demand for finished products and their smoothing;
- protection of the business entity from changes in the period of supply of material resources;
- use of advantages of the economic size of the order for purchase of material resources. In fact, the accumulation of stocks at the enterprise should be subject to the principles of logistics: obtaining the necessary material values in the required quantity and quality, in the right place, with minimal costs and the right consumer [23].

If we consider the relationship between enterprise management and logistic management, it is necessary to emphasize the subordinate role of logistic management in relation to the main goal of the organization (accelerated movement of logistics flows).

The main objectives of logistic management of supply, sales and production management are given in table 2.

**Table 2**

**The main objectives of logistic management**

Functional industries	Purposes
Supply management	supply of materials (parts) in accordance with the agreement and terms
	minimization of transport costs from storage of materials to the first workplace
	reducing the volume of purchased parts
Sales management	warehousing of finished products in intermediate warehouses with the lowest costs
	management of production orders in accordance with production requirements
Production management	order management in accordance with production requirements
	minimization of work in progress
	reducing the depth of manufacture

*Source: [1–4].*

The goals that determine the individual parameters of these industries are subordinated to the goals of functional industries. Logistic management optimizes logistic solutions for options between conflicting goals based on the criterion of minimum integrated costs of the organization [16].

The main approaches to the formation of logistic management of the enterprise as an integrated logistic system are to implement certain stages.

According to different functional branches of logistic management, there are internal, external and integrated micro-logistic systems.

External micro-logistic systems deal with issues related to the management and optimization of material and related flows from their sources to destinations outside the production cycle. Such systems include logistic systems for sales and supply of industrial enterprises. The links of these systems are divisions that perform various logistic operations for transportation, warehousing, storage, cargo processing, which together with the distribution network of suppliers constitute an external logistic system. The main task of logistic management in such systems is the coordination of logistic functions and coordination of the goals of suppliers, intermediaries and consumers [15].

The purpose of in-house micro-logistic systems is to optimize the management of material flows in the production system. To manage the system means to ensure purposeful development in changing conditions. The main purpose of the production system is production. Production includes direct technological processes and ancillary operations that are related to the manufacture of products.

In a production system, the planning and control subsystem is a system that provides a subsystem that processes and performs productive work directly related to the conversion of inputs into outputs. The planning and control subsystem receives information that comes from the subsystem that processes and issues a decision on how this productive system should work [17].

Management should be aimed at solving a wide range of problems, which include:

- production capacity planning;
- location of enterprises;
- planning of the business entity and work areas;
- scheduling;
- selection of equipment, its operation, current and overhaul replacement;
- material resources;
- technological process design and control over its implementation;
- working methods;
- inventory management;
- quality control, etc.

In general, the essence of operations management is:

- development and implementation of the general strategy and directions of operational activity of the organization;
- development and implementation of an operating system that includes the development of the production process, decisions on the location of production facilities, design of the organization;
- planning and control of the current functioning of the system [21].
- Thus, the production system can be represented as a system of "cost – conversion – output".
- It meets the criteria of planning, analysis and control, which ensures consistent management of the enterprise. The main tasks solved by in-house logistics for the production system:
  - reduction of stocks of material resources and work in progress;
  - accelerating the turnover of working capital of the firm;
  - reducing the duration of the production period;
  - control and management of the level of stocks of material resources;
  - optimization of technological transport.

All activities of the organization are a complex system consisting of a network of subordinate subsystems.

The structure of the system may include units of the second, third (and so on) levels.

Logistics management by its nature is a set of technical, technological, informational and socio-economic elements.

Direct, feedback between them forms a complex system of relationships [16].

Under such conditions, the position of the organization in the market is determined by the presence of its own institution of management, which would ensure compliance with production, economic and commercial activities to market demand and prospects for its development. Today it is possible to achieve by integrating the functions of logistics, production and marketing.

That is, there is a need to form a coordination center that would manage the integration of numerous material, information, labor and financial flows.

Such a center is the logistic department at the enterprise, aimed at identifying, calculating, optimizing and planning flow processes at all levels [17].

By organizing the movement of materials, information, personnel and finances into a single process, the center achieves a reduction in disruptions and costs of production, economic and commercial activities.

The logistic department of the organization, combining in one management complex issues of logistics, sales and transport of goods, acquires significance that is not inferior to production. This allows:

- to achieve a significant r-Integrated management of the logistic system of the enterprise in order to streamline flow processes seduction i-Integrated management of the logistic system of the enterprise in order to streamline flow processes total costs for the manufacture and sale of products;
- increase the company's ability to quickly adapt to consumer market demands;

– to expand and strengthen guarantees of service of products which are at consumers [19].

The logistics structure of the organization must perform the following mandatory functions listed in the table 3.

**Table 3**

**Functions of the logistic structure of the enterprise**

Functions of the logistics structure of the enterprise	Formation and development of the logistics system in accordance with its conceptual principles and provisions
	Development and implementation of logistics strategy in accordance with the market strategy of the enterprise
	Integrated management of the logistics system of the enterprise in order to streamline flow processes
	Coordination of interconnected functions of enterprise management
	Solving problems of specifics of the enterprise

*Source: developed by the author.*

The issue of principle and management is important in determining the approaches to the organization of logistics in the business entity. Management, in turn, is centralized and decentralized, which depends on the size of the entity, the scale of its activities, the concept of management, the economy, the market situation, the level of intra-system and intersystem integration, and so on.

Centralization of logistic management involves the presence of a logistics service directly subordinate to the top management of the enterprise [14].

The advantages of this approach in logistic management include the ability to attract highly efficient information systems. This radically changes the relationship between the functional units of the entity.

Decentralized logistic management, on the contrary, assumes that all issues related to logistics are resolved at the level of individual units of the enterprise [17].

This approach is more acceptable for large enterprises, where there are some problems with the manageability of its centralized organizational structure. Thus, with a fairly diversified production structure the organization is considered the most rational to leave the distribution function for a certain independent unit that provides operational customer service.

To achieve a high level of coordination of logistic activities within the enterprise use the following management strategies:

- optimization of the existing logistics system;
- search for new modern methods of coordination in the existing logistics system;
- reorganization of logistic management services [17].

Therefore, the goal set by the company in organizing its logistic activities to achieve the greatest coordination of the flow of goods and services should be in the interests of both suppliers and consumers.

Currently, the world's most popular is a mixed, diversified economy, in which government regulation and regulated market mechanisms for private enterprise coexist. Mainly through the tax system and administrative action in the core, basic sectors of the economy, as well as in the social sphere.

For the successful functioning of the economy in regulated market relations, those areas of knowledge that deal with market problems, as well as the problems of product movement from producers to consumers are important. These areas of knowledge include logistics and marketing [16].

The main goal of managing the logistic system of the enterprise is to achieve a high level of its system characteristics: viability, innovation, integration, reliability and adaptability by improving the application characteristics that reflect the quantitative parameters of the components of the logistics system, organization of its functioning and contribution.

The quantitative parameters of the components of the logistic system reflect the capacities and technical characteristics of the logistic assets of the enterprise, which include warehouses, transport, equipment (technological, lifting and transport, equipment for identification and determination of weight of goods), logistic information systems and stocks.

Characteristics of the organization of functioning of the logistic system describe its goals and objectives, logistics strategy, enterprise logistic management system and its organizational structure, characterize the logistics technologies used in the areas of supply, production and distribution, personnel potential of logistics units and their organizational culture.

This can be explained by the fact that in market conditions the leading place belongs to economic management methods, which focus the activities of business entities to meet market demand for goods and

services. Moreover, all parts of the logistics chain, from the production of raw materials, including their processing and manufacture of products suitable to meet market demand, and ending with the sale and after-sales service of these products, should focus on the needs of end users.

The economic methods of logistic management in a saturated market should include marketing, analysis and planning, commercial calculation, market pricing, accounting standards and more. Economic management methods are a set of tools and instruments that purposefully influence the creation of conditions for the functioning and development of entrepreneurship.

The levers of the economic mechanism correspond to the socio-economic nature of the enterprise and are one of the factors in the development of production and exchange on a market basis. Therefore, it is especially important to study the new that is introduced in practice in the context of commercial calculation as an important method of management. According to the definition by N. H. Chumachenko, it synthesizes both management functions and economic levers and tools that are aimed at comparing costs and results and ensuring the profitability of production.

According to the results of scientific research by L. V. Frolova, the greatest attention in logistic management is used by economic methods, because logistic relations are the main component of market relations, and they are based on the needs of consumers. Economic methods of managing logistic processes and flows of enterprises are carried out using special levers of tools used by company owners.

The specific set and essence of economic levers and tools of logistic management is determined by the specifics of the logistic system, which is the company.

Economic methods of logistic management can be grouped according to the following features, which are given in table 4.

**Table 4**

**Classification of economic methods of logistic management**

Signs of logistic management	Economic methods
Compliance with logistic management functions	monitoring; planning; forecasting; analysis; control.
Market mechanisms of management	marketing; market pricing; exchange equivalence; competition; commercial calculation; focus on meeting the effective demand for goods; services and labor resources.
Quantitative estimates	provide economic and statistical methods; economic and mathematical modeling; functional-cost analysis; methods of assessing the level of service; inventory control and management; system analysis; cybernetics; operations research; prognosis; qualimetry; risk management, activity optimization.

Source: [6].

In general, it is expected that on the basis of logistical approaches, economic methods should be embodied in the practice of production structures of producers and industrial consumers, also in the system of commercial intermediaries and enterprises. These methods ensure the economic interest of economic entities in improving the efficiency of the final results of economic activity through savings and profits from logistics operations and services [18].

Another group of tasks to improve material flows relates to the interaction of commercial intermediaries with each other, with other members in the commodity market and transport companies, the

development and improvement of the efficiency of the warehousing system. The solution of these problems is also greatly facilitated by logistical forms and methods of management.

The economic mechanism of functioning and development of enterprises involves the use of the method of commercial calculation. Based on the global economic policy and goals of the enterprise, in particular in the field of profitability of production and sales, distribution of investments and location of production; financing and crediting; development of technology, personnel policy, policy of acquisition of new enterprises and capital structure, etc. [14].

The adoption of centralized decisions on these issues is combined with a differentiated approach to individual units depending on the nature and content of their activities, the territorial location of enterprises and the degree of participation in the overall production and marketing activities of the enterprise.

In the calculation of commercial use using economic levers and tools such as policies in the field of pricing, production costs, financing and lending. This policy is aimed at obtaining a sustainable profit, which is the ultimate goal of commercial calculation [22].

Identifying the internal relationships of various elements of the economic mechanism of functioning and development of logistics implies the need to consider them in the process of centralized management. This is due to the fact that they are defined and established on the basis of policies developed and implemented at the highest level of enterprise management.

In general, the methodology of logistic management is formed on the basis of integration of scientific approaches and practices of implementation of principles and procedures of production marketing management, delivery logistics and strategy of use of supply objects [14].

The results of the enterprise logistic activity are influenced by a large number of various external and internal factors, which require their constant monitoring and evaluation in order to adjust the goals and objectives, to better adapt to the changing conditions of activity. In the analysis of the environment, more attention should be paid to the factors of the so-called working environment, that is, to those market participants, with whom the enterprise directly interacts in the course of its business activities, forming supply chains. There are the following groups of factors influencing the enterprise logistic activity.

To analyze these factors, models of estimating the factor impact of the external and internal environment are formed, during which all factors influencing the enterprise logistic activity are determined, and the degree of their influence due to their quantification, and also the risks of changing their magnitude are evaluated. The results of logistic activities are evaluated using a scorecard that contains key and local indicators with their subordination and differentiation, which provides a comprehensive evaluation of various aspects, types and characteristics of the enterprise logistics system, taking into account their mutual impact and achievement of goals.

Thus, economic methods of logistic management realize the material interests of human participation in production processes through the use of commodity-money relations.

Realization of separate logistic purposes can be provided by system of branch logistic functions, namely:

- planning of the production program;
- planning of the production process;
- planning of the use of power;
- planning of material flow;
- internal production transportation;
- production control;
- operational management of production;
- ecology of production processes;
- packaging.

Logistics activity takes place in a very dynamic environment, so the state of the logistic system should be constantly monitored, analyzed and evaluated. The goal of improving the logistics system of the company is to increase the efficiency of logistic processes and improve the company's image on the market. The effect of optimizing a logistics system can be as follows: limiting the number of objects, for example, by consolidating them, changing their location or expanding the system by increasing the number of exploited distribution objects. The main criterion for change is to increase the efficiency of the logistics system and minimize overall logistic costs while maintaining the desired level of customer service.

Specialists in logistics seek to ensure the integration of logistics, transport and transmission of information on the movement of goods into a single system, which should increase the efficiency of work in each of these areas separately and intersectoral efficiency in general.

The main cost savings are formed by reducing the volume of inventories of material resources, and time savings – by increasing the speed of delivery [13].

Economic methods must be used to solve important logistical problems or possibly approach this solution.

Logistics can solve a number of problems in the field of circulation, the most important of these problems are:

- determination of the system of optimal proportions between the volumes of production, warehousing and transportation;
- reduction of costs from avalanche-like growth of losses at failures and downtimes;
- establishing a rational level of cooperation in the system of actual production, storage and transportation;
- formation of a rational structure of management information flows without delay in relation to the production process [19].

The formation of such flow processes, flows and systems requires the development and adoption of logistics decisions aimed at ensuring the efficient operation and development of the logistics system of the enterprise in the macro-logistics environment [14].

Economic methods of logistics management are based on monitoring, marketing, commercial calculation, market conditions, competition for markets, etc.

Logistics management is impossible without methods of quality assessment based on the opinions of the jury, experts, consumer expectations, as well as informal approaches that involve the use of the following methods of information: verbal – receiving and transmitting information through negotiations, radio, television, Internet or direct communication with people; written – through newspapers, magazines, reports, etc., obtaining information through economic intelligence [12].

The deep roots of economic competition as a mechanism of market equilibrium have its origins in the material needs and interests of man. Intertwined and colliding, economic interests, and these are the perceived needs of a particular person, highlight the full range of economic relations and the mechanism that balances them – the market. It is in a market-competitive environment that economic interests are formed into a market component of social necessity. Logistics methods are a reliable tool for increasing competitiveness in commodity markets [14].

Industrial and trade enterprises, territorial-industrial complex, set of production and infrastructural elements, as well as connections at different levels (local, regional, state) can act in the system of coordination of interests of economic entities of logistics.

**Conclusions.** Thus, in conditions of fierce competition, the efficiency of the logistic network is not just a requirement, the implementation of which leads to success. It is a necessary condition for the survival of the enterprise. Effective competitive logistic network management solutions help build adaptive logistic networks by providing enterprises with planning and implementation tools that manage enterprise operations and state-of-the-art technologies for organizing and coordinating collaboration to expand these operations beyond the enterprise.

As a result of the implementation of this solution, businesses gain measurable and significant benefits by reducing costs, increasing the level of service and productivity, which ultimately leads to higher profitability of the company, increasing competitiveness.

The modern organization and operational management of production (material flows) must meet certain requirements, namely:

- providing rhythmic, coordinated work of all production units on a single schedule and even output;
- ensuring maximum continuity of production processes;
- ensuring the maximum reliability of planned calculations and the minimal complexity of planned work.

A prerequisite for optimizing the logistic system is the availability of a diagnostic system that would provide the enterprise management apparatus with the necessary data on the state of the subject, which would be the basis for decision making and forecasting for the future. The diagnosis of the operating system will have the effect of detecting its defects. Designing logistic systems should take into account the possible risks of implementing a solution and calculate with the help of mathematical models, possible benefits and losses for the enterprise.

In order to increase the efficiency from the practical results of designing logistic systems, the following recommendations should be distinguished:

1. Intelligent demarcation and correct decomposition of project objectives.

2. When designing a logistic system of an enterprise it is recommended to use information technologies that would allow visualization of the future logistic model for all its participants.
3. Development of an integrated diagnostic system for defects in the functioning of the logistic system.

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JEL D29

**Амеліна Ірина Володимирівна**, кандидат економічних наук, доцент. Національний університет «Полтавська політехніка імені Юрія Кондратюка». **Теоретичні й методологічні основи виробничого логістичного менеджменту.** Розглянуто поняття виробничого логістичного менеджменту як комплексної та комплементарної категорії, зміст якої постійно збагачується. Показано роль виробничого логістичного менеджменту в розвитку діяльності підприємства. Обґрунтовано необхідність вивчення економічно ефективної організації й управління матеріальними потоками в умовах змінного ринкового середовища з використанням основних логістичних принципів. Доведено, що організації та оперативному управлінню матеріальними потоками належить провідна роль в оперативному управлінні організацією, в своєчасній поставці продукції, особливо з метою підвищення ефективності виробництва, пов'язаного з використанням виробничих ресурсів у часі й просторі. Обґрунтовано, що одним із ключових моментів логістичного менеджменту виробничого організації є планування логістичних потужностей. Проаналізовано співвідношення менеджменту підприємства та логістичного менеджменту і підкреслено підпорядковану роль логістичного менеджменту відносно головної мети організації (прискорення руху логістичних потоків). Визначено основні цілі логістичного управління постачанням, збутом та виробництвом. Логістичний менеджмент оптимізує логістичні рішення стосовно варіантів між конфліктуючими цілями на основі критерію мінімуму інтегральних витрат підприємства. Логістичний менеджмент за своєю природою є сукупністю технічних, технологічних, інформаційних і соціально-економічних елементів. Прямі та зворотні зв'язки між ними утворюють складну систему взаємовідносин. Доведено, що виникає потреба у формуванні координаційного центру, який би управляв процесами інтеграції численних матеріальних, інформаційних, трудових і фінансових потоків. Таким центром запропоновано стати підрозділу логістики на підприємстві, діяльність якого спрямована на виявлення, розрахунки, оптимізацію та планування потокових процесів на всіх рівнях. Організуючи рух матеріалів, інформації, кадрів і фінансів у єдиний процес, центр досягає зниження перебоїв та витрат виробничо-господарської й комерційної діяльності. Логістичний підрозділ підприємства, об'єднуючи в один управлінський комплекс питання матеріально-технічного забезпечення, збуту і транспортного переміщення товарів, набуває значущості, що не поступається виробництву.

**Ключові слова:** логістика, менеджмент, логістичний менеджмент, фінансовий механізм, логістична структура, принципи, логістична діяльність.

UDC 65.012.34(075.8)

JEL D29

**Amelina I. V.**, PhD (Economics), Associate Professor. National University “Yuri Kondratyuk Poltava Polytechnic”. **Theoretical and Methodological Foundations of Production Logistic Management.** The article deals with the concept of production logistic management as a comprehensive and complementary category, the content of which is constantly enriched. The role of production logistic management for the development of enterprise activity is shown. The necessity of studying the cost-effective organization and management of material flows in a variable market environment should be based on the main principles of logistics. It is proved that organizations and operational management of material flows include a leading role in operational management of the organization, in the timely delivery of products and especially for

increasing the efficiency of production associated with the use of production resources in time and space. It is substantiated that one of the key points of logistical management of the production organization is the planning of logistic capacities. The ratio of management of enterprise and logistic management are analyzed. It is emphasized the subordinate role of logistic management relative to the main goal of the organization (accelerating the movement of logistic streams). The main objectives of logistic supply, sales and production management are determined. Logistic management optimizes logistic decisions regarding the options between conflicting purposes based on the criterion of minimizing the integral expenses of the enterprise. Logistic management by its nature is a set of technical, technological, informational and socio-economic elements. Direct and backwards connections between them form a complex system of relations. The article proved that there is a need for the formation of a coordination center, which would manage the processes of integration of numerous material, information, labor and financial flows. Such a center is proposed to become a division of logistics in an enterprise aimed at detecting, calculations, optimization and planning of streaming processes at all levels. By organizing the movement of materials, information, frames and finances in a single process, the center reaches a decrease in the interruptions and expenses of production and economic and commercial activity. The logistic division of the enterprise, combining in one management complex of material and technical support, sales and transportation of goods, acquires significance that is not inferior to production.

**Key words:** logistics, management, logistic management, financial mechanism, logistic structure, principles, logistic activity.

## THE THEORETICAL BASIS OF THE SYSTEM OF STAFF MOTIVATION AT THE ENTERPRISES OF SOCIAL AND CULTURAL SERVICE AND TOURISM

Anastasiia Bilousova\*, PhD (Economics)

Valeriia Borodavka

Kristina Nurkevych

National University «Yuri Kondratyuk Poltava Polytechnic»

\* *ORCID 0000-0002-6805-8730*

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**Introduction.** Staff is the driving force of productive activity and development of any enterprise. Companies need to have qualified staff who have high intellectual and professional abilities. For employees to work with maximum efficiency, timely and efficiently perform their tasks, direct their efforts to achieve common goals, it is necessary to motivate them properly.

Staff motivation is a determining factor in increasing their productivity, it is a key element of business success. Motivation in a broad sense is the means that forces a person to go to work with enthusiasm, to perform their duties in good faith, to work for the common good of the enterprise, to make efforts to obtain a positive result. A motivated staff is the main asset of the company and its profitable resource.

At the enterprises of social and cultural service and tourism the staff plays a significant role, even bigger than at the enterprises with other types of economic activity. In the field of tourism, staff has a central role, because employees constantly interact with customers, advise them on various issues, help in choosing a service and more. Therefore, the motivation of staff at the enterprises of socio-cultural service and tourism needs special attention.

**Analysis of recent research sources and publications.** In the scientific literature, to the phenomenon of staff motivation is devoted a large number of works by domestic and foreign researchers. For the last hundred years, motivation has been considered by scientists in various fields in management, economics, philosophy, sociology, human physiology and sociology. This confirms the importance of motivation for both staff and the company. It is believed that the concept of motivation was first introduced into general scientific circulation by A. Schopenhauer in the early twentieth century in the scientific article "Four principles of sufficient cause" [1]. Significant fundamental research on motivation belongs to foreign scholars: E. Donoho [2], D. McClelland [3], D. Pink [4], J. Bentham, F. Taylor, A. Maslow, D. McGregor, J.S. Adams, L. Porter, E. Lawler, W. Ouchy [5]. Among domestic scientists, attention to the of motivation was paid by N.V. Bakalo [6, 7], O.E. Kuzmin [8], A.M. Kolot [5, 9], B.A. Karpinskyi [10], K.A. Kulipanov [11], F.Sh. Urmanov [12], A.S. Ustilovska [13], I.V. Chernysh [14], V.I. Chobitok [15] and others.

Despite more than a century of various studies of motivation, some aspects of its motivation, in particular the peculiarities of staff motivation in enterprises with different types of economic activity, still remain debatable. Therefore, **the article aims** to study the content of the concept of "motivation", to clarify the nature and features of staff motivation in enterprises of socio-cultural services and tourism.

**Main material and results.** The study of the peculiarities of staff motivation in enterprises of socio-cultural services and tourism should be based on the accepted content of this concept, for which a morphological analysis of the content of the concept of "motivation", the results of which are given in table 1.

**Table 1**

**Morphological analysis of the concept of "motivation"**

Author, source	Defining the meaning of "motivation"	Key definition
E. Donoho [2]	management activity of the top management of the enterprise through which influence on the staff is realized for activation of their labour activity for the qualitative performance of the set tasks	management activities
O.E. Kuzmin [8]	a type of management activity that provides a process of motivating yourself and other employees to activities aimed at achieving staff goals and goals of the organization	
A.M. Chisel [5]	a process that initiates, directs and supports purposeful staff behaviour	process
B.A. Karpinskyi [10]	the process of motivating oneself and others to work to achieve personal goals and the goals of the organization	
K.A. Kulipanov [11]	the process carried out by managers and is to identify the forces (motives) and develop incentives that motivate individuals to take action to achieve personal goals and goals of the organization	
F.Sh. Urmanov [12]	one of the most effective management tools that allow you to influence the effectiveness of staff in the context of their job responsibilities	tool
D. McClelland [3]	a tool to influence the work behaviour of staff to obtain the desired results from their work	
A.S. Ustilovska [13]	the driving force that stimulates staff to work effectively to achieve their goals and obtain tangible and intangible benefits	driving force
A.V. Kalinichenko [16]	a set of internal and external driving forces that motivate a person to work, determine the type of his behaviour, focus on achieving goals	
V.Yu. Lisak [17]	a set of interrelated measures that encourage the employee or team to achieve individual and common goals of the enterprise	set of measures
T. Libus [18]	a set of measures that are designed to motivate the workforce of the enterprise to highly productive activities and achieve short-term and long-term goals	
V.I. Chobitok [15]	a set of measures to motivate staff to achieve the goals of the enterprise by taking into account the individual needs of employees and bringing them into line with the goals of the enterprise	

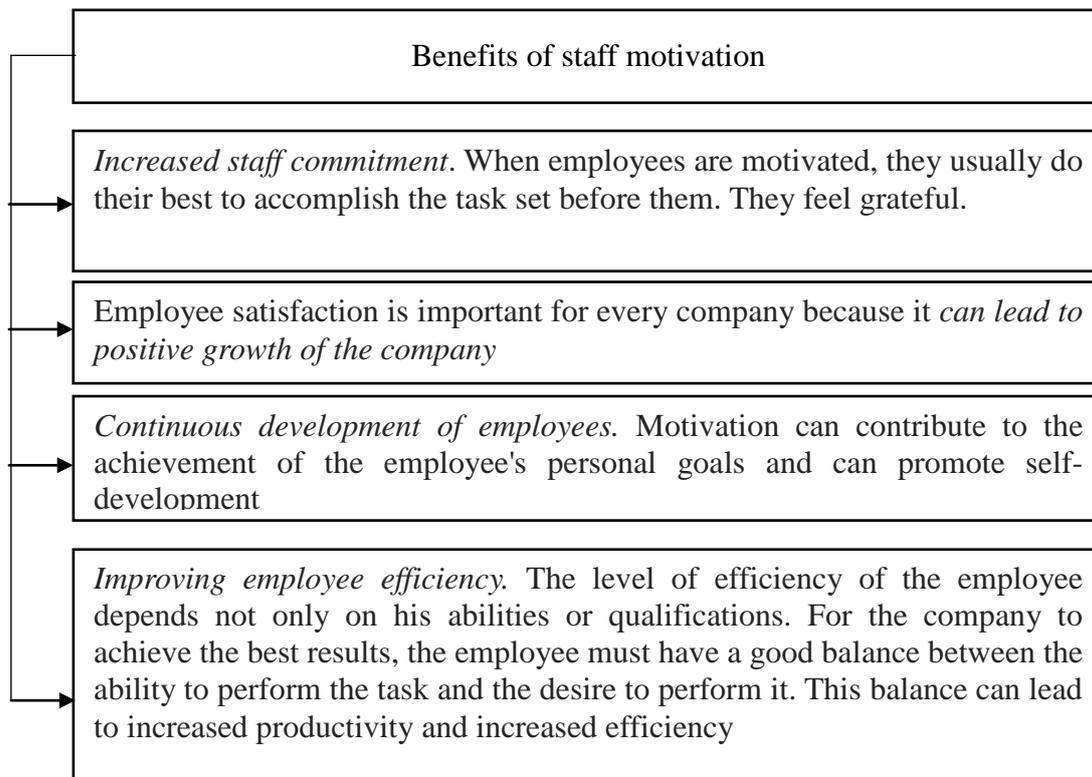
As you can see, scientists consider the meaning of the concept of "motivation" from different positions, focusing on its individual aspects. So, E. Donokho and O. Kuzmin consider motivation as a managerial activity; A.M. Chisel, B.A. Karpinskyi and K.A. Kulipanov – as a certain process; F.Sh. Urmanov, D. McClelland – as a tool to influence staff behaviour; A.S. Ustilovska and A.V. Kalinichenko – as a driving force that motivates a person to work, and T. Libus, V.I. Chobitok defined it as a set of measures to motivate staff to take action. All the considered approaches have the right to exist, and their diversity is explained by the versatility and importance of the concept of "motivation".

Based on the results of the analysis, the own interpretation of the content of the concept of "motivation" was formulated, which served as the basis of the study. Features of staff motivation at the enterprises of social and cultural service and tourism: motivation should be considered as a tool to encourage staff to work effectively and efficiently, which allows you to create a favourable motivational environment in which the needs of both the enterprise and its employees are met.

The motivational environment at the enterprises of social and cultural service and tourism allows not only to encourage their employees to effective and efficient work, balance the interests of employees and the company, but also helps companies attract and retain the best employees. With the help of motivation, the staff not only becomes more loyal to the company but also works much more productively. Thus, according to research published by the international consulting company PricewaterhouseCoopers, the productivity of motivated employees is 57% higher. The profit of such enterprises has increased significantly compared to its competitors, who did not pay attention to staff motivation [19]. From this, it follows a logical conclusion:

when employees feel they are belonging to the enterprise, they work harder (create innovative products and exceed customer expectations). All this, of course, has a positive effect on the profitability of the enterprise.

Fig. 1 provides several key benefits that give companies the motivation of their employees.



**Fig. 1. The benefits of motivating the staff of the enterprise**

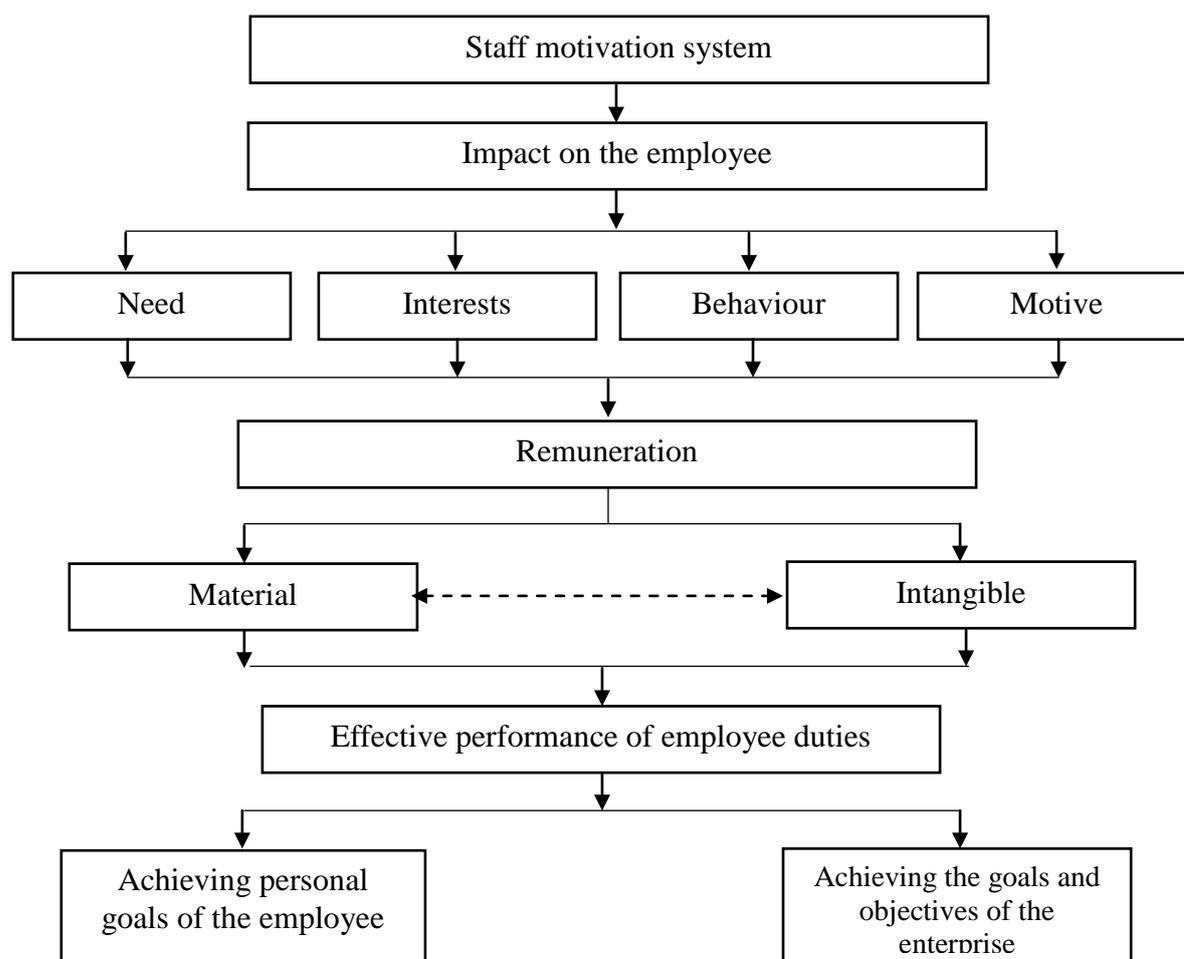
Ultimately, proper motivation of employees leads to an increase in enterprise profits due to increased staff productivity, more economical use of resources and more. The motivation of employees, carried out on a systemic basis, is an important lever of influence on the behaviour of staff, which significantly affects the final results of the enterprise. After all, according to a study by analysts at Harvard Business School, only 10% of employees work well all the time, while the other 90% of staff need proper motivation [20]. And it is through motivation that companies can influence employee behaviour and productivity.

The motivation of the enterprise staff ensures the performance of the following tasks:

- motivating employees to behave properly;
- uniting staff to achieve common goals;
- increasing employee productivity;
- creating a direct link between pay and staff performance;
- retaining the most qualified staff, as well as attracting the best employees (from among those available on the labour market);
- improving the socio-psychological climate in the team.

In enterprises with any type of activity, an appropriate system of motivation must be created. When creating it, an important task is to ensure the balance of interests of staff, owners and managers of the enterprise, which requires analysis and consideration of the needs, interests, behaviour and motives of employees. To solve this problem, the scientific literature describes the relevant models, one of which is the implementation model motivation systems by influencing the needs of staff by V.I. Chobitok [15], fig. 2.

In this model, the basis of the motivation system is to identify the needs and interests of the company's staff. Only if they are studied and further taken into account, it is possible to create a quality system of motivation of the company's staff. This system takes into account the interests of employees at all levels of the staff hierarchy. However, the system of motivation of employees is dynamic, because over time the interests, needs and preferences of employees, their perceptions of the work performed, its importance in their lives.

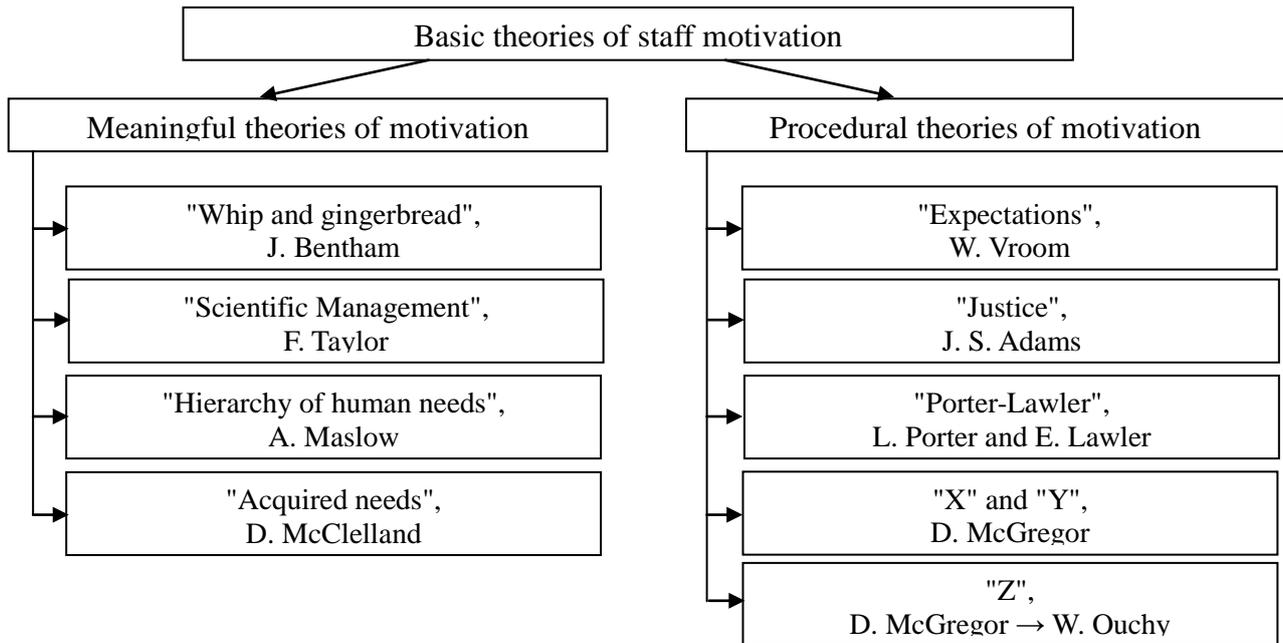


**Fig. 2. Model of implementation of motivation system due to the impact on staffing needs [15]**

The system of motivation of employees of socio-cultural services and tourism should have a theoretical basis, which is in the form of provisions of theories of motivation. Most of the considered theories of motivation were created a long time ago, but have not lost their relevance today. Fig. 3 provides a grouping of the main theories of staff motivation, the provisions of which can be used as a basis for the system of staff motivation in enterprises of socio-cultural services and tourism.

One of the simplest (but this does not mean that ineffective) theories of motivation is the theory by J. Bentham's "whip and gingerbread": if you complete the task, the employee will receive a reward that is "gingerbread", and in violation of the rules, failure to meet deadlines or operations, reduced productivity, the employee is subject to penalties, which is a "whip". The theory of "whip and gingerbread" is one of the oldest, and is still used (and not without success) in modern enterprises. However, given the peculiarities of socio-cultural services and tourism and the requirements for their staff, the use of the theory of "whip and gingerbread" is considered insufficient to create a system of employee motivation and, accordingly, to create a favourable motivational environment.

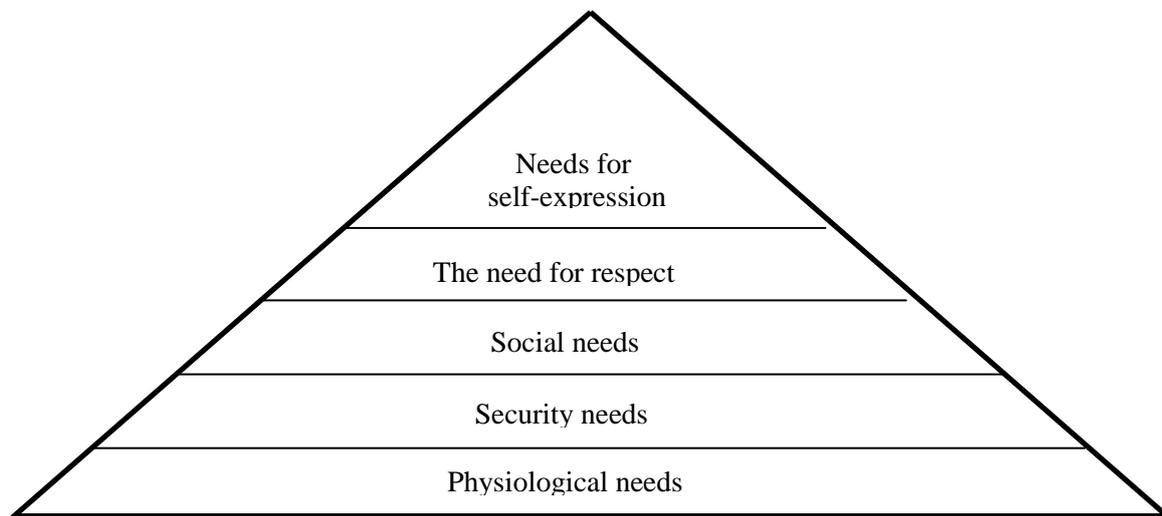
It is also hardly expedient to use as a theoretical basis for the system of employee motivation in enterprises of socio-cultural service and tourism F. Taylor's theory of "scientific management" in which the remuneration of each employee depends on the number of products produced by him. This theory should be used in building a system of motivation in enterprises with other economic activities, because the employee receives a higher reward if he worked in good faith and produced overtime products, but provided the appropriate technical equipment of his workplace.



**Fig. 3. Grouping of basic theories of staff motivation**

A. Maslow's theory of human needs is suitable for the creation of the system of motivation of workers at the enterprises of social and cultural service and tourism according to which needs of people are presented in the form of a hierarchical pyramid (fig. 4).

According to Maslow's hierarchical pyramid, only the satisfaction of lower-level needs motivates a person to meet higher-level needs. However, such a theory practically does not take into account the individual characteristics of a person for one employee in the first place maybe self-esteem and confidence, and for another – safety in the form of job stability. That is why only some and the most general provisions A. Maslow's theory can be used in the formation of the theoretical basis of the system of motivation of employees in the enterprises of socio-cultural service and tourism.



**Fig. 4. Maslow's pyramid of human needs [5]**

Much more suitable for the formation of the theoretical basis of the system of motivation of employees in the enterprises of socio-cultural service and tourism are theories of motivation, in which attention is focused on the needs of a high-level employee. These include the motivation theory of David McClelland, who considered high-level needs to be the desire for success, recognition and power. According to this theory, the personal results of the employee's work, the opportunity to influence his key decisions of the enterprise, his place in it come to the fore.

Informing the theoretical basis of the system of motivation of employees in enterprises of socio-cultural service and tourism, it is also advisable to rely on the provisions of a set of theories of motivation, which are combined into a group of procedural theories: V. Vroom's theory of expectations, J.S. Adams, the theory or model by L. Porter–E. Lawler, the theory by D. McGregor.

V. Vroom's theory of expectations assumes that a person's motivation requires not only the satisfaction of his needs but also taking into account the type of behaviour of the employee, manager and employee who develops the motivation system. According to the theory of justice by J.S. Adams, effectiveness of motivation is assessed not through the prism of the employee's satisfied needs, but by comparing his remuneration with the remuneration of other employees who perform similar work. Accordingly, if two employees have performed the same amount of work, they should receive identical remuneration. Under other conditions, this factor will be assessed as demotivation. However, the provisions of this theory do not take into account the importance for enterprises of socio-cultural service and tourism features of staff's work – the quality of work performed (is a complex indicator), results of their work and timing.

In the model by L. Porter–E. Lawler combined elements of two previous theories: borrowed from the theory of expectations self-assessment of the employee's efforts and expected remuneration;

from the theory of justice borrowed the employee's assessment of the fairness of receiving remuneration by him and his colleagues (this depends on the degree of employee satisfaction).

To some extent echoes the model by L. Porter–E. Lawler, theory by D. McGregor, known as the theory of "X" and "Y".

The provisions of Theory "X" state that staff has an innate tendency to avoid work and therefore require strict management control. Based on this, the main motivator is money, the main style of leadership – authoritarian. According to this theory, the company's management should not trust employees, to exercise almost total control not only of results but also of processes.

The provisions of Theory "Y" states that the staff has internal incentives, seeks recognition and responsibility, it is important for him to be involved in management decisions, career growth, comprehensive trust from senior management. It is believed that employees enjoy their duties and strive to perform them as best they can. Priority among motivating factors is the possibility of employee development, satisfaction with working conditions, rather than monetary reward.

D. McGregor's theory consists of two opposing theories. Obviously, as always, the truth is in the middle. Therefore, the theoretical basis for creating a system of motivation of employees in socio-cultural services and tourism should take into account the provisions of both theory "X" and theory "Y": the importance of remuneration for work performed by the employee, the need to control his actions by management the employee has a sense of involvement in the activities of the enterprise and its management, getting pleasure from the work performed.

There is information that D. McGregor also worked on the theory of "Z", which was to justify the feasibility of combining the personal goals of employees with the goals of the enterprise. However, D. McGregor did not have time to fully develop and publish this theory. But the concepts of this theory had continued to develop by D. McGregor's student W. Ouchy. He identified, in theory, such key motivating factors for employees as helping employees in difficult family situations, involvement in decision-making, the delegation of authority, creating an atmosphere of trust, providing career opportunities, etc.

Thus, the variety of theories of motivation is due to the scale of research conducted by scientists on this issue. Each theory has the right to exist, but when the theoretical basis of the system of motivation of employees in enterprises with a particular type of economic activity will be forming, it is advisable using a symbiotic approach, according to which have selected individual provisions from theories of motivation (Table 2).

An important condition for the validity of the result – a symbiosis of theories of motivation theories – is the consistency of selected concepts, their complementarity (mutual correspondence of provisions, which ensures the formation of ties between them and thus – a fuller picture of the motivation system than the provisions of a single theory).

Table 2

**Symbiosis of the provisions of motivation theories as a theoretical basis of the motivation system employees at the enterprises of social and cultural service and tourism**

Motivation theory	Provisions included in the theoretical basis
J. Bentham's theory of "whip and gingerbread"	Mandatory remuneration for quality performance of tasks (or functional responsibilities) and the inevitability of punishment for failure to meet deadlines, their incomplete or poor performance (especially if it negatively affected the results of the enterprise or contributed to the deterioration of its business reputation)
A. Maslow's theory of human needs	Taking into account the importance and significance of the individual needs of the employee for each level of the pyramid
Procedural theories of motivation	Taking into account the type of employee behaviour, propensity for leadership, its compliance with the style of leadership in the enterprise Fair distribution of remuneration for work performed
D. McGregor's theory (theory "X" and "Y")	Understanding that not every type of work brings satisfaction to the employee The need to use coercion in certain types of work Constant control over the implementation of tasks and functional responsibilities (quality, timeliness, etc.) Taking into account the individual characteristics of the employee in the distribution of tasks and functional responsibilities and, accordingly, in the promotion of work results Balancing individual needs and motives of the behaviour of employees with the interests of the enterprise Encouraging the employee to use his intellectual capital in the interests of the enterprise
Theory "Z" by V. Ouchi	Assistance to employees in case of a difficult family situation Creating an atmosphere of trust, providing opportunities for career growth

In the formation of the theoretical basis of the system of motivation of employees in enterprises of socio-cultural services and tourism, an important requirement for the symbiosis of theories of motivation is the focus on balancing individual needs and motives of employees with the interests of the enterprise.

**Conclusions.** The basis of productive work of the staff at the enterprise with any kind of economic activity is the motivation of its staff. It includes a set of various measures that motivate staff to perform tasks, get the best results, work using the skills available to employees. Without proper motivation, even the most qualified staff will not work at full capacity, and the results of their work will continue to decline.

The motivation of the staff of the enterprise should be carried out on a systemic basis, i.e. not separate and separate measures of motivation of the staff to the qualitative performance of the set tasks, and the measures combined within the corresponding system are necessary.

The system of motivation of the staff of the enterprise should be based on a certain theoretical foundation, the basis of which is laid by the provisions of the developed theories of motivation.

According to the results of the analysis of the most common theories of motivation, a symbiosis of their provisions is highlighted, which forms the theoretical basis of the system of motivation of employees at enterprises of socio-cultural service and tourism.

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УДК 331.101.2:338.48-6

JEL M 120

**Блоусова Анастасія Юріївна**, кандидат економічних наук, доцент. **Бородавка Валерія Валеріївна. Нуркевич Крістіна Владиславівна**. Національний університет «Полтавська політехніка імені Юрія Кондратюка». **Теоретична база системи мотивації персоналу на підприємствах соціально-культурного сервісу та туризму**. Поглиблено проаналізовано наукову літературу й систематизовано поняття «мотивація», з'ясовано сутність і значення мотивації персоналу на підприємствах соціально-культурного сервісу та туризму. Визначено, що поняття «мотивація» науковці розглядають з різних точок зору, концентруючись на окремих його аспектах. На основі проведеного дослідження надано власну інтерпретацію поняття «мотивація»: інструмент заохочення персоналу до вискоєфективної праці через створення сприятливого середовища, яке забезпечує задоволення їх потреб. Наведено ключові переваги, які надає мотивація персоналу підприємствам: підвищена прихильність персоналу може привести до зростання потенціалу підприємства, постійний розвиток співробітників, підвищення ефективності співробітників. Зазначено завдання, виконання яких забезпечує мотивація персоналу. Коли співробітники мотивовані, вони, як правило, роблять усе

можливе. Розглянуто модель впровадження системи мотивації за рахунок впливу на потреби персоналу. Досліджено теорії мотивації, котрі можуть виступати базою для побудови ефективної системи мотивації на підприємствах соціально-культурного сервісу та туризму, наведено їх схематичне групування. У формуванні теоретичної бази системи мотивації працівників на підприємствах соціально-культурного сервісу й туризму розглянуто положення сукупності теорій мотивації: Дж. Бентхема, Ф. Тейлора, А. Маслоу, Д. Макклелланда, В. Врума, Дж.С. Адамса, Л. Портера – Е. Лоулера, Д. МакГрегора, В. Оучі. У формуванні теоретичної бази системи мотивації працівників на підприємствах соціально-культурного сервісу та туризму важливою вимогою до симбіозу положень теорій мотивації є орієнтація на збалансування індивідуальних потреб і мотивів поведінки працівників з інтересами підприємства. За результатами аналізу найпоширеніших теорій мотивації виділено симбіоз їхніх положень, який утворює теоретичну базу системи мотивації працівників на підприємствах соціально-культурного сервісу та туризму.

**Ключові слова:** мотивація, персонал, мотивація персоналу, підприємства соціально-культурного сервісу та туризму, система мотивації, теорії мотивації.

UDC 331.101.2: 338.48-6

JEL M 120

**Bilousova Anastasiia**, PhD (Economics). **Borodavka Valeriia**. **Nurkevych Kristina**. National University «Yuri Kondratyuk Poltava Polytechnic». **The Theoretical Basis of the System of Staff Motivation at the Enterprises of Social and Cultural Service and Tourism**. The purpose of the article is an in-depth analysis of the scientific literature and systematization of the concept of "motivation", clarifying the nature and significance of staff motivation in enterprises of socio-cultural services and tourism. On the basis of the conducted research the own interpretation of the concept "motivation" is given. The key benefits provided by staff motivation to enterprises are presented. Theories of motivation, which can serve as a basis for building an effective system of motivation in the enterprises of socio-cultural service and tourism, are studied, their schematic grouping is given. According to the results of the analysis of the most common theories of motivation, a symbiosis of their provisions is highlighted, which forms the theoretical basis of the system of staff motivation at the enterprises of socio-cultural service and tourism.

**Keywords:** motivation, staff, staff motivation, enterprises of socio-cultural service and tourism, the motivation system, the motivation theory.

# MONEY, FINANCE AND CREDIT

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## THE INFLUENCE OF GOVERNMENT DEBT ON THE FINANCIAL POSITION OF THE STATE

Vitaliia Skryl\*, PhD (Economics), Associate Professor  
Kateryna Shtepenko\*\*, Senior Lecturer  
National University «Yuri Kondratyuk Poltava Polytechnic»

\*ORCID 0000-0003-4064-8146

\*\*ORCID 0000-0002-2677-750X

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**Introduction.** Difficulties on the way to financial stabilization and economic growth of Ukraine are largely due to lack of financial resources. One of the tools to alleviate financial problems and revive the economic situation in the country is external borrowing. In the context of the economic and political crisis in the country, the conduct of hostilities in the eastern part of Ukraine, the spread of the coronavirus pandemic and the forecast of declining domestic GDP, the problem of ensuring the debt security of our country is relevant.

Historically, throughout almost the entire period of independence, Ukraine has been actively attracting foreign loans to cover the budget deficit. As a result, public debt has grown steadily, Ukraine's external financial obligations have increased, which a priori threatens the country's financial security and may lead to default. The problem is that the deficit of the state budget and balance of payments, inefficient mechanism of borrowing and their use, disregard for the objective laws of public external debt management can exacerbate the financial crisis and the collapse of the financial system as a whole.

**Analysis of recent researches and publications.** The scientific works by Ukrainian scientists are devoted to the study of issues related to public debt, analysis and mechanism of its management and maintenance, such as: O.V. Borysiuk [1], N.V. Zrazhevskaya [2], V.P. Kamenska [3], S.L. Londar [4], O.P. Makar [5] et al. In the works by these scientists, the influence of various factors on the formation of public debt, on the areas of public debt management in Ukraine, made an assessment and forecasts of public debt for the future.

**Purpose.** The purpose of this study is to deepen the theoretical aspects and practical recommendations, identify the main problems and possible solutions to Ukraine's debt problem.

**Results.** The problem of external public debt has always been, and remains chronic for Ukraine. In the context of the corona crisis, this problem has acquired new, more complex shapes. A large number of countries, including Ukraine, find themselves in a situation of shortage of financial resources, it takes more than one year for economic recovery. To stabilize the situation, attracting loans from foreign organizations, lenders, countries where there is excess capital has become the only possible alternative.

To analyze the current state of Ukraine's foreign debt, we will use official statistical information. Table 1 shows the structure of the total public debt of Ukraine for 2014-2019.

Table 1

Analysis of the dynamics of the volume and composition of the total public debt of Ukraine for 2013-2019, billion UAH. [10]

Indicator	Years						Deviation (%) in 2019 compared to	
	2014	2015	2016	2017	2018	2019	2014	2018
The total amount of debt	1100,8	1572,2	1929,8	2141,7	2168,4	1998,2	81,52	-7,85
State debt:	947	1334,3	1650,8	1833,71	1860,3	1761,3	85,99	-5,32
internal	461	508	670,6	753,4	761,1	829,5	79,93	8,99
external	486	826,3	980,2	1080,3	1099,2	931,8	91,73	-15,23
State-guaranteed debt:	153,8	237,9	278,9	308	308,2	236,9	54,03	-23,13
internal	27,9	21,5	19,1	13,3	10,3	9,6	-65,59	-6,80
external	125,9	216,5	259,8	294,7	297,8	227,3	80,54	-23,67

The above data show a sharp increase in the amount of total public debt from UAH 1100,8 billion during 2014-2018 up to UAH 2168,4 billion. That is, for the specified analyzed range the public debt has doubled. The amount of public debt decreased only in 2019 by 7,85% compared to 2018, but compared to 2014, a significant increase of 81,52%. Some reduction in public debt in the reporting year is due to the maturity of obligations to creditors. Figure 1 shows the composition and structure of Ukraine's public debt for 2014-2019.

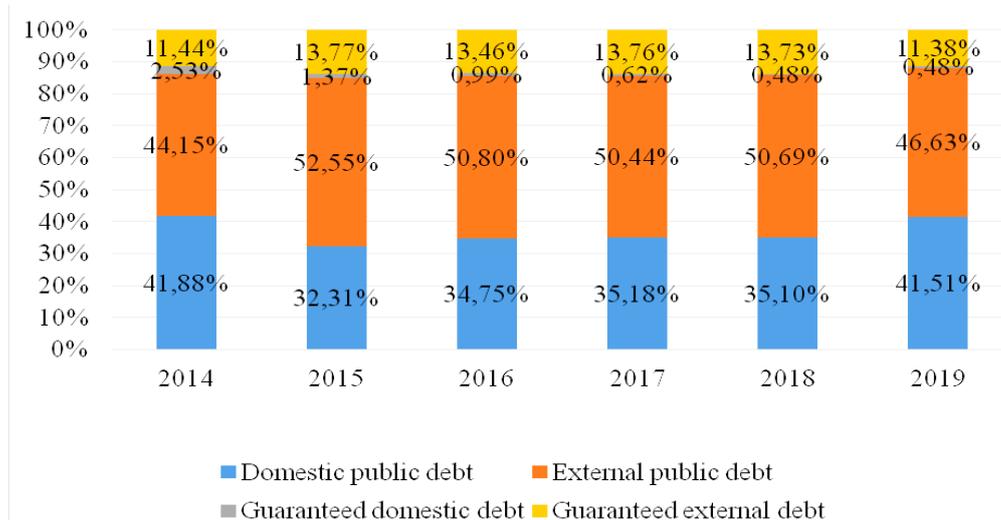
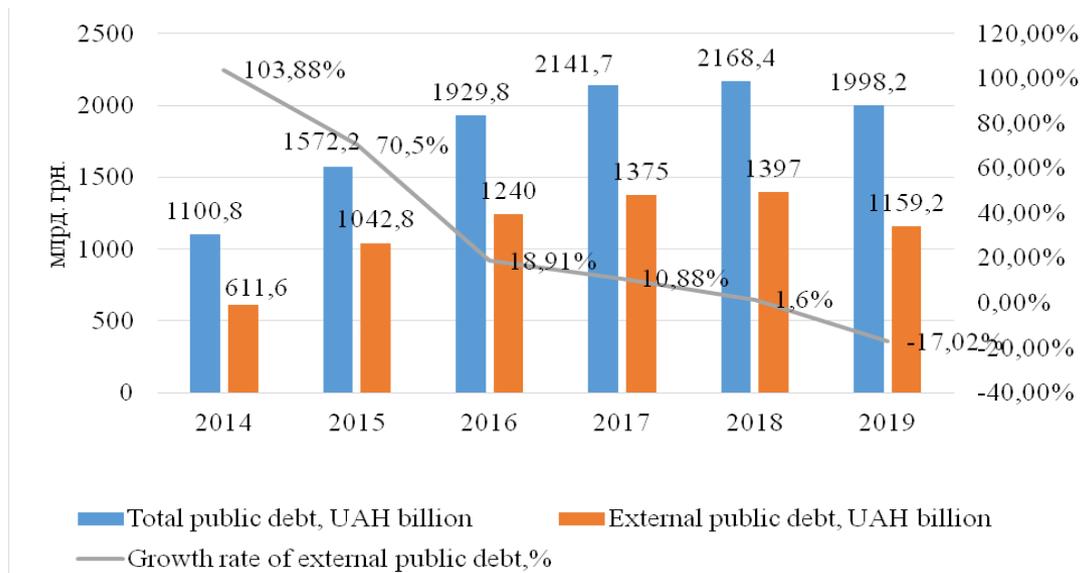


Fig. 1. Dynamics of the composition and structure of Ukraine's public debt during 2014-2019, %

Source: State Statistics Service of Ukraine [12]

As illustrated in Fig. 2.1. data, in the structure of public debt, the total external debt accounts for about 58%. Of these, 46,63% is external public debt and 11,38% is guaranteed public debt. Against the background of declining share of external debt, the share of domestic public debt is growing. Despite some reduction in their share in 2019, the external public debt occupies a significant share. Therefore, the Ukrainian government needs to pay considerable attention to the issue of external debt management. Attracting external credit puts significant pressure on the country's financial security and increases the amount of external debt. In the future, the burden on the country's national economy will only increase, because sooner or later the debts must be repaid.

Let's follow the dynamics of changes in Ukraine's external public debt during 2014-2019 we will present the necessary information on fig.2.



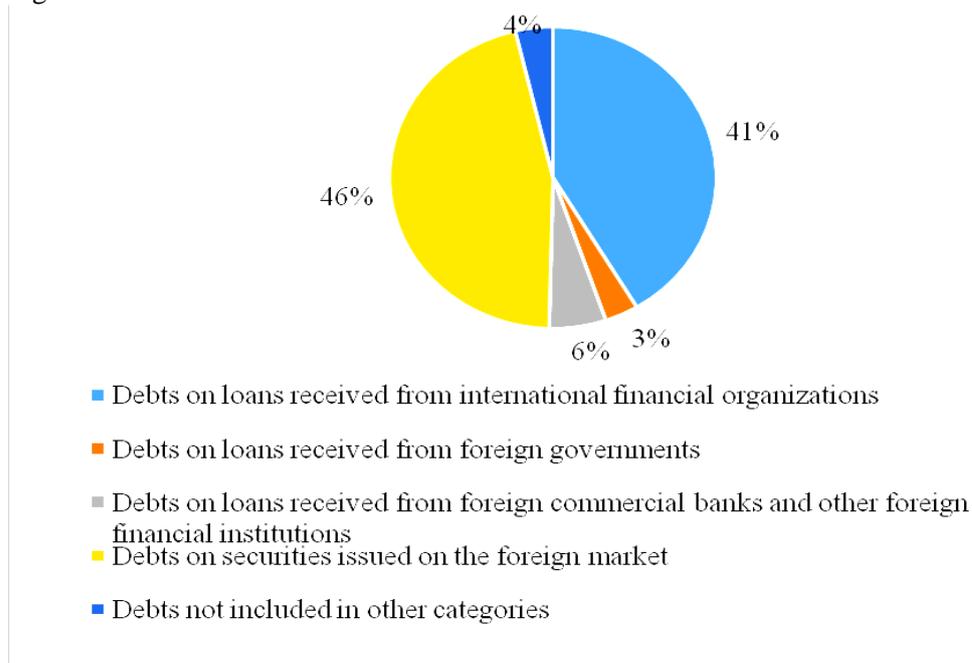
**Fig. 2. Dynamics of changes in Ukraine's external public debt for 2014-2019.**

Source: State Statistics Service of Ukraine [10]

The data in Fig.2 show that the external public debt is more than half of the total public debt. At the same time, during the study period there is a steady upward trend and only at the end of 2019 it was reduced by 17.03%. After all, it is for the period 2019-2021 that the payment of most of the external public debt is serviced. Ukraine managed to cover part of the debt from the state reserves, but by the end of 2020 it was projected to further increase the external public debt due to the projected decline in GDP due to the temporary closure of enterprises due to the spread of coronavirus.

The largest increase in external public debt of 103.88% was observed in 2014, which was caused by the country's entry into a deep political and economic crisis. Thus, the Revolution of Dignity, the flight of the former President of Ukraine abroad, the invasion of foreign troops in the eastern part of the country, the devastation of gold and foreign exchange reserves required the attraction of foreign loans. Without them, our state would not be able to exist and it would threaten the country's financial security.

Figure 3 shows the structure of Ukraine's external debt as of 31.12.2019.



**Fig. 3. The structure of Ukraine's external debt as of December 31, 2019, %**

Source: State Statistics Service of Ukraine [10]

The largest share of external debt is accounted for by debt on securities issued on the foreign market – 46%. In order to ensure the inflow of foreign investment, the National Bank of Ukraine sold securities on foreign markets. In second place in terms of the share of debt is debt on loans received from international financial organizations, which accounts for 41% of all external liabilities.

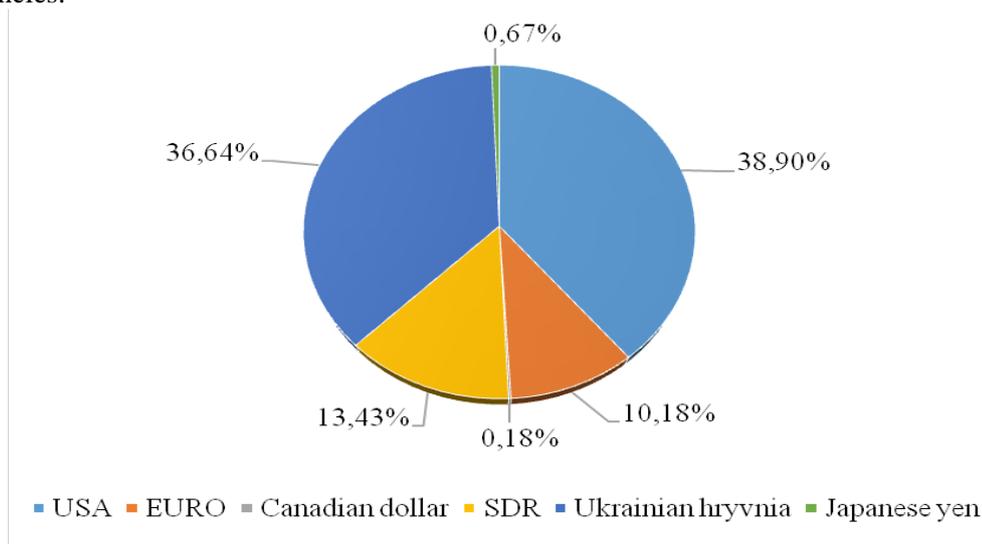
Among the international financial organizations are: the International Bank for Reconstruction and Development, European Cooperation, the International Monetary Fund, the European Bank for Reconstruction and Development, the European Investment Bank and the Clean Technology Fund. These international organizations have become the main strategic partners for Ukraine and have provided and continue to provide financial assistance. In total, debts on securities issued on the foreign market and debts to international financial organizations account for about 87% of all external liabilities or UAH 1018 billion.

Debts on loans from foreign banks account for only 6%. Among foreign banks, there are 4 main ones, to which Ukraine has the largest debt: Cargill, Chase Manhattan Bank Luxembourg S.A., Credit Agricole Corporate and Investment Bank and Deutsche Bank AG London.

Ukraine also has debts to foreign governments in the amount of UAH 38.,58 billion, which is 3% of all foreign debts. Our country owes debts to the governments of Japan, Russia, Poland, Canada, Germany, Poland, France and the United States. Debts not included in other categories account for 4%.

According to the structure of debt, the main creditors of Ukraine are financial international organizations, as well as liabilities on issued securities.

Significant amounts of external debt pose a threat to the country's financial security. It is especially dangerous when a significant share falls on liabilities in foreign currency. After all, the domestic national currency is unstable and has the ability to depreciate. Accordingly, there is an additional threat of debt growth in terms of national currency. It is advisable to show the structure of external debt in fig.4 in terms of repayment currencies.



**Fig.4. The structure of Ukraine's public debt in terms of repayment currencies as of December 31, 2019, %**

Source: State Statistics Service of Ukraine [12]

Analyzing the data illustrated in fig. 4., It should be noted that only 36,64% of public debt is denominated in Ukrainian hryvnia. Whereas 63,36% is accounted for by government bonds denominated in foreign currency. Of these, 38,9% are denominated in US dollars. This is dangerous for the economy of Ukraine. After all, the national currency is unstable and, as a rule, its value is constantly decreasing compared to foreign currency. For example, as of February 4, 2021, the exchange rate of the US dollar against the Ukrainian hryvnia was UAH 28,05, while at the end of 2014 this figure was UAH 16,27 for a dollar (accordingly, the Ukrainian economy in 2021 needs to attract more finances to service foreign debt).

The current size of Ukraine's external debt is quite significant, although in 2019 it did not decrease significantly. All this puts a lot of pressure on the state budget of Ukraine due to the necessary deductions for the fulfillment of obligations. It is in 2019-2027 that the maturities of significant amounts of external borrowings are approaching. Therefore, significant amounts of revenues to the state budget will be deducted

for the repayment of external debt. Table 2 shows the dynamics of debt settlements in 2014-2020, as well as probable forecasts for 2021.

Table 2

## Dynamics of debt settlements in 2014-2020

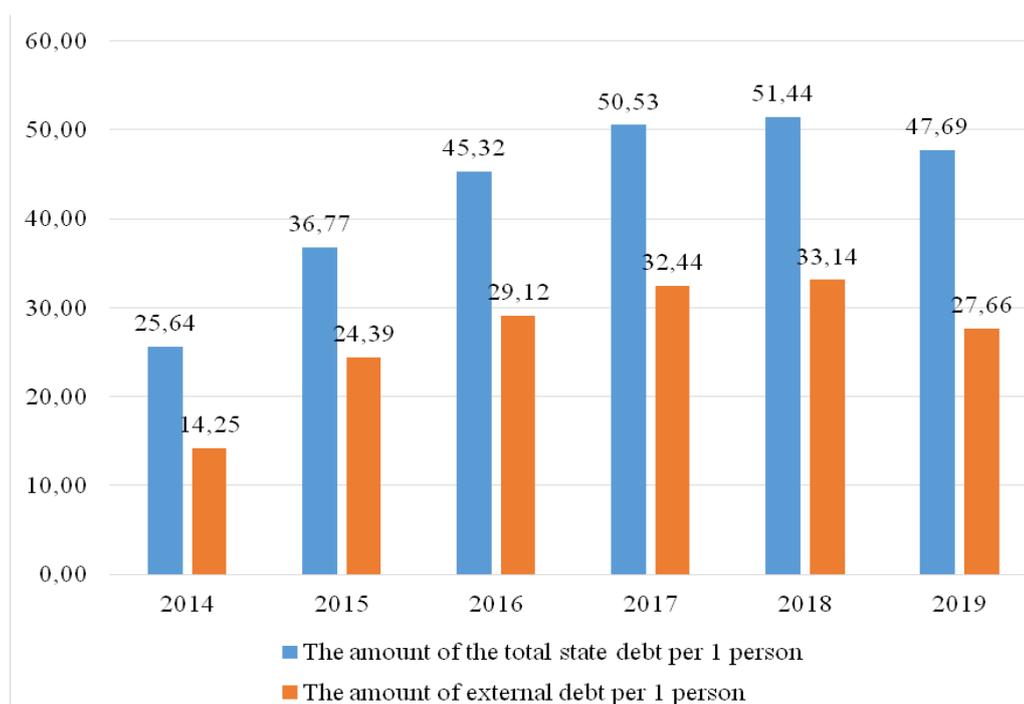
Indicator	Years							
	2014	2015	2016	2017	2018	2019	2020	2021 forecasts
In total, UAH billion	168,8	501,1	207,2	474	351,2	464,5	400,7	434
Public debt service, including UAH billion	48	84,5	95,7	110,4	115,5	119,2	131,6	170,1
external, UAH billion	15,7	28	33,2	40,4	41,7	46,2	49,7	71
domestic, billion UAH	32,3	56,5	62,5	70	73,7	73	81,8	99,1
Repayment of public debt, including UAH billion	120,8	416,9	111,4	363,5	235,7	345,2	269	264
external, UAH billion	52,8	325,4	9	66,5	68,7	83,8	119,5	112
domestic, billion UAH	68	91,2	102,3	297	166,9	261,4	149,5	152
Revenues from government borrowings, including UAH billion	295,2	514,1	307,6	478,6	286,5	411,9	365,1	404,3
external, UAH billion	90,6	415,1	61,2	103,4	112,3	86,2	134	141
domestic, billion UAH	204,6	98,9	246,4	375,2	174,2	325,6	231,1	263,3

Back in 2014, total payments on debt amounted to UAH 168,8 billion, and in 2020, according to the plan, UAH 400.7 billion, which is more than twice as much as in 2014. In subsequent years, debt the burden on the state budget will only increase, as the terms of settlements are approaching the final point every year. To reduce the debt burden, the government began to place Eurobonds on foreign markets, which allowed Ukraine to extend its short-term debt obligations. In particular, in 2018 it placed Eurobonds worth \$ 2,35 billion. with a rate of about 9-10%. Foreign investors actively bought Eurobonds and domestic government bonds placed on the financial market. This testified to the increase of the country's investment attractiveness and allowed to ensure economic growth.

The current situation is stable, but even the greatest experts cannot with 100% probability predict the state of the economy at the end of 2020 and 2021, which are characterized by the spread of coronavirus and the possible global economic crisis. If the national economy continues to decline, GDP declines, and creditors do not make concessions and allow short-term liabilities to be extended, Ukraine will need to attract additional foreign loans to repay term liabilities. This situation will only increase the burden on future generations and the state budget in the coming years. Today there is a high level of uncertainty about the state of Ukraine's national economy and the possibility of effective external debt management.

In the world economy, it is customary to determine the debt burden in the country based on the calculation of debt per capita. This analysis allows you to determine the amount of debt imposed on each citizen of the country. Using the relevant statistics in fig. 5, we present the amount of total public and foreign debt of Ukraine per capita.

According to the above data, each citizen of our state will receive almost UAH 28,000 in 2019 external debt, which is less than in 2016-2018. This is due to the coverage of part of the debt in 2019 to external creditors. Despite the above, this figure is quite high given the fact that theoretically only at birth a child already "lays" a debt of 28 thousand UAH. This is evidence that further external debt commitment will be a major burden on the younger generation.



**Fig.5. The amount of total public and external debt of Ukraine per capita, thousand UAH**

Source: State Statistics Service of Ukraine [13]

**Conclusions.** Given the realities of the current government of Ukraine, it is necessary to pursue a competent policy on external debt service. It is also important to refrain from taking additional loans to cover temporary "holes" in the state budget, because such a policy will not lead to any positive changes. Foreign credit funds should be attracted to the economy of Ukraine in order to finance vital long-term investment projects.

Thus, in Ukraine there is a problem of significant external debt. According to the results of the analysis, it was established that the amount of external debt is almost UAH 2 billion and 67% of all government liabilities. Due to the lack of necessary own revenues, Ukraine resorted to attracting foreign loans. Ukraine's main creditors are international financial organizations, such as the International Bank for Reconstruction and Development, European Cooperation, the International Monetary Fund, the European Bank for Reconstruction and Development, the European Investment Bank and the Clean Technology Fund. The International Monetary Fund, with which Ukraine has signed an agreement on lending for its domestic needs, should be singled out. In terms of 1 person, the amount of external debt is almost 28 thousand UAH. Adding to the difficulties is the fact that most external borrowings were made in foreign currency, as a result of which their maintenance is quite expensive for Ukraine. Some shifts in the reduction of external debt at the end of 2019 were observed, in particular by reducing its size by 8% compared to the previous one. At the same time, the unplanned crown crisis made its adjustments and dealt a significant blow to the economy not only of Ukraine but also of other countries. Therefore, the future of external debt and debt will depend on the state of the economy, which depends on a number of factors.

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УДК 336.275

JEL G21

**Скриль Віталія Вячеславівна**, кандидат економічних наук, доцент. **Штепенко Катерина Павлівна**, старший викладач. Національний університет «Полтавська політехніка імені Юрія Кондратюка». **Вплив державного боргу на фінансове становище держави.** Для України завжди хронічною була і залишається проблема зовнішнього державного боргу. В умовах корона-кризи вона набула нових, більш складних обрисів. Велика кількість країн, у тому числі й Україна, опинилася у ситуації дефіциту фінансових ресурсів, на відновлення економіки необхідний не один рік. Для стабілізації ситуації залучення кредитів з боку іноземних організацій, кредиторів, країн, де існує надлишковий капітал, стало єдиною можливою альтернативою. Здійснено аналіз сучасного стану зовнішнього державного боргу України, виявлено його стрімке зростання. Аналіз структури державного боргу показав, що найбільша частка зовнішнього боргу припадає на заборгованість за випущеними цінними паперами на зовнішньому ринку – 46%. Встановлено, що головними кредиторами України виступають фінансові міжнародні організації, а також зобов'язання за випущеними цінними паперами. Так, значні розміри зовнішнього боргу створюють загрози фінансовій безпеці країни. Особливо небезпечним для нашої країни є те, що 63,36% зобов'язань номіновані в іноземній валюті. Усе це здійснює неабиякий тиск на державний бюджет України через необхідні відрахування на виконання зобов'язань. Прогноз динаміки розрахунків за борговими зобов'язаннями на 2021 рік показав, що якщо надалі стан національної економіки буде погіршуватися, ВВП знижуватиметься, а кредитори не підуть на поступки та не дозволять пролонгувати короткострокові зобов'язання, країні необхідно буде залучати додаткові іноземні кредити для погашення термінових зобов'язань. Така ситуація лише нарощуватиме тягар для майбутніх поколінь і державного бюджету наступних років. Сьогодні існує висока невизначеність стану національної економіки України та можливість ефективного управління зовнішнім боргом.

**Ключові слова:** державний борг, безпека, фінансова безпека, заборгованість, держава.

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JEL G21

**Skryl Vitaliia**, PhD (Economics), Associate Professor. **Shtepenko Kateryna**, Senior Lecturer. National University "Yuri Kondratyuk Poltava Polytechnic". **The Influence of Government Debt on the**

**Financial Position of the State.** The problem of external public debt has always been, and remains chronic for Ukraine. In the context of the corona crisis, this problem has acquired new, more complex shapes. A large number of countries, including Ukraine, find themselves in a situation of shortage of financial resources, it takes more than one year for economic recovery. To stabilize the situation, attracting loans from foreign organizations, lenders, countries where there is excess capital has become the only possible alternative. The article analyzes the current state of Ukraine's external debt. It is revealed the rapid growth of the external public debt of Ukraine. If the situation does not change, then Ukraine will need to attract additional foreign loans to pay off urgent obligations. This situation will only increase the burden on future generations and the state budget in the coming years. Today there is a high level of uncertainty regarding the state of the national economy of Ukraine and the possibility of effective management of external debt.

**Key words:** public debt, security, financial security, debt, government.

## MATHEMATICAL FORECASTING MODELS IN THE FINANCIAL INSTITUTIONS' ECONOMIC SECURITY SYSTEM

Cherviak Anna\*, PhD Student of Finance, Banking Business and Taxation Department  
National University «Yuri Kondratyuk Poltava Polytechnic»

\* ORCID 0000-0002-2747-4041

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**Introduction.** Security as a socio-economic phenomenon is one of the global problems of civilization, which is comprehensive and applying to all spheres of human life. Ensuring the financial institutions' economic security is a purposeful, ongoing process aimed at controlling and monitoring the results of the institution with the detection of any deviations from the norm and their further elimination.

Achieving these goals involves the creation of its own security system, which will guarantee the protection and maintenance of stable economic activity with the detection of all possible manifestations of internal and external threats. If the protection system can be individually formed to the institution specifics, the forecasting methods can be universal. The forecasting application will enable tracing the trend activities of the financial institution and identify possible destabilizing factors manifestations in the next period.

**Analysis of recent research and publications.** The issues of assessing the economic security at financial institutions were investigated Mishin O. Yu. [1], Biloshkurska N.V. [2], Novikova O.F. [3], Zachosova N.V. [4], Migus I.P. [5], Sorokivska Z. [6], Melnyk S.I. [7]. Further research is needed to explain the importance of using mathematical forecasting models in the system of economic security.

**The aim of the article** is to analyze and identify potential forecasting methods to identify threats and prevent their negative impact on the financial institutions' economic security. Determining the role of forecasting in the system of ensuring the institution's stable operation.

**Research results.** Financial market development, the complexity of its infrastructure, competition caused by the increase of the traditional and non-traditional financial intermediary's number, encourages new solutions, technologies and methods. However, the main advantage remains stable operation and economic security of customers. Therefore, modern financial institutions' must make great efforts to develop comprehensive and effective systems to ensure their own economic security, which is necessary for their proper functioning.

Since 2016, the financial market has tended to reduce financial institutions (Table 1), which in turn leads to a reduction in assets of the state financial system. It undoubtedly affects the level of economic security of Ukraine. That is why the problem of domestic financial institutions economic security in general and in times of economic imbalances needs to be studied in detail.

Table 1

Financial institutions quantity in 2016-2021

Financial institutions	Period, year					
	2016	2017	2018	2019	2020	2021
Banks	117	96	82	78	75	73
Insurance companies	310	294	281	233	215	210
Credit unions	462	378	358	337	327	316
Financial companies	809	818	940	986	1031	976
Pawnshops	456	415	359	324	304	298
Leasing companies	202	183	167	157	144	144
Together	<b>2356</b>	<b>2184</b>	<b>2187</b>	<b>2115</b>	<b>2159</b>	<b>2082</b>

\*compiled by the author based on [8]

According to main objectives definition of the institution, the financial institutions' economic security should be described as a set of conditions under which a stable environment, and potentially dangerous threats, are prevented or reduced to a level at which they cannot harm the established order of operation.

The processes of setting goals for the future and making decisions to achieve them in conditions of uncertainty are the starting point of any business entity. Depending on the degree of specification, it can be considered as a sequence of interrelated actions for forecasting, plans and programs. Achieving the pre-set goal is achieved by creating an appropriate structure of elements that enable performing the tasks, based on the established and effective system of internal motivation for effective action aimed at full implementation to plans.

Financial institutions' economic security purpose is to guarantee stable and most efficient operation with parallel provision of potential for future development. Accordingly, taking into account the current requirements for the financial institutions, it is proposed to identify the following components in the economic security system:

1. Digital component is digital transformation of the institution, which enables you to accumulate time, increase productivity and communication between departments and customers.

2. Media marketing component includes not only the "profile" of the institution on the Internet but also in general the dissemination of information in media space, social networks and the right marketing message for potential customers.

3. Energy efficient component includes the company's policy on the implementation of an energy efficiency measures and personal contribution to the energy efficient industry development.

The proposed components are necessary for inclusion to the system of economic security at this stage of state economic policy development, as they totally meet modern global challenges.

Effective financial institutions' economic security management tools need to be developed. This is due to the unpredictability and aggressiveness of the environment. On the one hand, the need for studying economic security management systems is determined by the dynamism of changes in the external environment. On the other hand is resource efficiency. Building a comprehensive forecasting system is an urgent task that requires a variety of approaches and solutions.

In order to form an effective set of measures to prevent threats and minimize their impact on the financial institutions' economic stability, scientists [9] propose to use a predictive mathematical model of exponential smoothing.

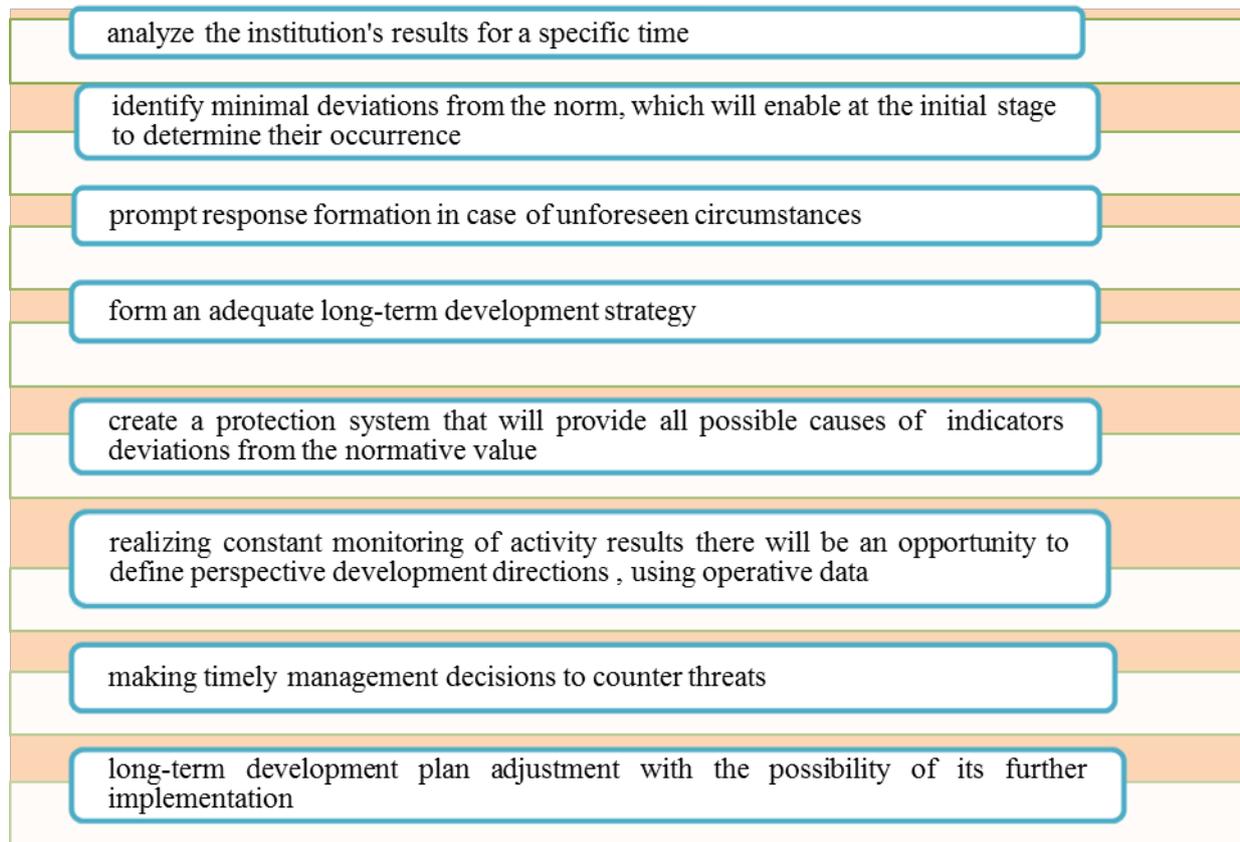
Ensuring the real achievement of institution economic stability is carried out through a continuous process of measuring and evaluating the actual results of activities and their comparison. This is a necessary condition for the implementation of specific measures to control and prevent losses, ensuring the institution's economic security. Thus, receiving the result adjusted to the updated performance indicators, a new forecast is developed.

In addition to obtaining certain parameters possible future estimates of socio-economic processes, forecasting purpose is to analyze what may happen in the implementation of possible forecasts in the future and what consequences it will lead to. Therefore, forecasting can reduce possible risks, improve the quality of management, and ensure the ability to respond quickly to possible changes.

The forecast is based on an assessment of the actual entity situation, and the plan is on the forecast of future changes in its operating conditions, there is a constant need to monitor and analyze key current indicators and forecast their changes in the future. Therefore, the forecast should be revised according to the new information received at any of these stages. It will require appropriate changes to pre-approved plans and programs.

Thus, forecasting is a basic management function and an effective tool for ensuring the economic security of the institution.

In the financial institutions' economic security system (given the realities of today: unfair competition, pandemic, low staff motivation, poor information policy) forecasting occupies an important place. Forecasting methods usage in the economic security system will provide many benefits, which are shown in Fig. 1.



**Fig. 1. Positive aspects of using forecasting at economic security system**

The system of economic security must be considered comprehensively in combination with a short-term and long-term control system. Only with the interaction and simultaneous functioning of these two systems, will an adequate and prompt assessment of the institution's activities be provided.

The financial institution's economic security system must perform clearly defined functions, the main of which are forecasting, detecting and preventing various dangers and threats, ensuring the security of the institution and its staff, preserving its assets, creating a favorable competitive environment, eliminating the consequences of losses, etc. [ 10].

Let us dwell, first, on the usual understanding of forecasting functions and features of their implementation in conditions of uncertainty. Usually distinguish the following forecasting functions [11]:

- information-analytical function, which involves the collection and initial processing of information from various sources (both official and indirect) on the level of various macro-financial indicators that reflect the state and trends of the institution during a certain period of time. The essence of primary processing is to verify reliable information about macro-financial indicators, as well as its systematization, comparison and structuring;

- identification and warning function - aims to identify possible hidden threats to stability and develop certain measures to eliminate their negative impact;

- the regulatory function is to develop measures that enable the assessment of hazards and aimed at eliminating these shortcomings and the development of measures aimed at improving stability indicators;

- advisory function - is the possibility of considering alternative and multivariate measures that are developed as a result of identifying threats in order to prevent them or minimize the consequences.

That is why, in order to make the necessary management decisions in order to ensure the appropriate level of economic security of the financial institution, it is necessary not only to assess the current situation but also to forecast a possible "scenario" of the institution.

**Conclusions.** Today, economic security is the basis for the corporate culture in modern business. Given the instability of the external environment, the pandemic, the socially concerned situation of the population, uncertainty about the future, the financial institution's economic security system reaches a completely different level. Since the main component of the system is forecasting, the main role begins to play analytical work. It is extremely important to control the sources of information and methods according

to which the analytical data is obtained. After all, misinformation can lead to greater consequences than their untimely detection.

Forecasting is the most important element in the system of financial institution's economic security. In addition to the possibility of forming a comprehensive development plan of the institution, the minimum deviation from the norm is also determined. Mathematical forecasting models should apply comprehensively to the institution's financial results and to the system of economic security. During such an analysis, it will be possible to trace the connection between the results obtained.

The system of economic security must identify risks to determine the conditions for sustainable operation of the entity, to model threats and crisis scenarios, to identify factors. The main task is to determine the time, place and probability of a crisis to make operational management decisions.

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**Черв'як Анна Володимирівна**, аспірантка. Національний університет «Полтавська політехніка імені Юрія Кондратюка». **Математичні моделі прогнозування у системі економічної безпеки фінансово-кредитних установ**. Розглянуто систему економічної безпеки комплексно, у поєднанні короткострокової та довгострокової систем контролю. Схарактеризовано необхідність взаємодії й одночасного функціонування цих двох систем для забезпечення адекватного та оперативного оцінювання діяльності установи. Досліджено питання необхідності використання методів прогнозування для забезпечення контролю й моніторингу економічної безпеки фінансово-кредитної установи. Визначено роль прогнозування у системі забезпечення стабільної діяльності установи. Наведено переваги від упровадження прогнозування у систему контролю за стабільністю діяльності. Виділено основні функції прогнозування та особливості їх реалізації в умовах невизначеності. Зазначено необхідність постійного контролю й аналізу основних поточних показників діяльності фінансово-кредитної установи та прогнозування їх змін у майбутньому. Прогноз повинен переглядатися відповідно до отриманої нової інформації на всіх етапів аналізу. Зауважено необхідність оперативної адаптації перспективних планів і проектів розвитку установи

відповідно до результатів прогнозування. Прогнозування визначено як дієвий інструмент забезпечення економічної безпеки установи.

**Ключові слова:** система економічної безпеки, складові системи, прогнозування, математичні моделі прогнозу.

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**Cher viak Anna**, Postgraduate student of Finance, Banking Business and Taxation Department. National University «Yuri Kondratyuk Poltava Polytechnic». **Mathematical forecasting models in the financial institutions' economic security system.** The system of economic security is considered a complex combination of short-term and long-term control systems. The necessity of interaction and simultaneous functioning of these two systems for ensuring adequate and operative assessment of the institution`s activity is characterized. The paper examines the need of using forecasting methods to ensure control and monitoring of financial institutions` economic security. The role of forecasting in the system of ensuring stable activity of the institution is determined. The advantages of introducing forecasting into the stability control system are presented. The main functions of forecasting and features of their realization in the conditions of uncertainty are allocated. The need for constant control and analysis of the main current indicators of the financial institution and forecasting their changes in the future. The forecast should be revised according to the new information at all analysis stages. The need for rapid adaptation of long-term plans and projects for the institution development in accordance with the results of forecasting. Forecasting is defined as an effective tool for ensuring the institution's economic security.

**Keywords:** economic security system, system components, forecasting, mathematical forecast models.

## ЗМІНИ В ДЕРЖАВНОМУ РЕГУЛЮВАННІ РИНКУ СТРАХОВИХ ПОСЛУГ УКРАЇНИ: БЕЗПЕКОВИЙ АСПЕКТ

Володимир Костянтинівич Щербаков\*, старший викладач,  
незалежний директор наглядової ради АТ «Полтава-Банк»,  
Людмила Анатоліївна Свистун\*\*, кандидат економічних наук, доцент  
Національний університет «Полтавська політехніка імені Юрія Кондратюка»

\*\* ORCID 0000-0002-6472-9381

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**Вступ.** Небанківський фінансовий сектор України постійно розвивається – змінюється кількість небанківських фінансово-кредитних установ, зростає вартість їх активів й попит на фінансові послуги з боку споживачів. Трансформація економічного середовища, у т.ч. наслідки пандемії COVID-19, негативно вплинули на український небанківський фінансовий сектор, зокрема на рівень його економічної та фінансової безпеки. Наслідком стало зниження ринкової вартості фінансових інструментів страхових компаній і недержавних пенсійних фондів, що відбилося на прибутковості цих установ та рівні їх сформованих резервів.

Одночасно постійно вдосконалюється система державного регулювання фінансового ринку з точки зору забезпечення його безпеки та стабільності. Адже функціонування фінансового ринку впливає на рівень економічної безпеки країни шляхом акумулювання й перерозподілу фінансових потоків. Зокрема, запровадженню нових підходів до державного регулювання діяльності надавачів фінансових послуг України передували тривалі дискусії, до яких залучалися науковці, представники органів державного регулювання всіх сегментів ринку фінансових послуг, а також професійні учасники ринку. У процесі активно обговорювались можливості застосування різних моделей державного регулювання ринку з використанням провідних світових практик.

**Огляд останніх досліджень і публікацій.** Питання безпеки фінансових установ вивчали такі вчені як: О. І. Барановський, З. С. Варналій, С. Б. Єгоричева, Н. В. Зачосова, М. І. Зубок, С. М. Побережний та інші [6,9]. Підходи та методи організації державного регулювання і нагляду за суб'єктами ринку фінансових послуг знайшли відображення у дослідженнях таких науковців як: С. О. Бірюк, О. С. Журавка, В. І. Міщенко, С. В. Науменкова [5,7,8].

**Метою статті** є аналіз змін в державному регулюванні діяльності надавачів фінансових послуг в Україні з позиції посилення фінансово-економічної безпеки суб'єктів ринку.

**Виклад основного матеріалу.** Поняття безпеки широкі й окремі визначення не можуть претендувати на її однозначне та виключне трактування. Економічну безпеку як дефініцію різні вчені трактують залежно від об'єкта, стану, методів її забезпечення та оцінки. Для досягнення найвищого рівня економічної безпеки фінансово-кредитні установи мають проводити роботу зі забезпечення стабільності й ефективності функціонування головних складових: фінансової, інформаційної, техніко-технологічної та правової тощо.

На сьогодні у банках та інших фінансових установах України склалася певна система безпеки діяльності, яку можна розглядати як стан стійкої життєдіяльності, за якої забезпечується реалізація основних інтересів, пріоритетних цілей, захист від зовнішніх й внутрішніх негативних факторів незалежно від умов їх функціонування. Банківська безпека та безпека небанківського фінансового сектору є складовими фінансової безпеки країни. Саме тому важливим завданням, яке стоїть перед урядом, є забезпечення належного рівня безпеки фінансового ринку як складової національної безпеки держави. Зокрема, державне регулювання і контроль за діяльністю фінансових посередників.

Науковцями і практиками запропоновано різні способи регулювання діяльності ринку фінансових послуг: секторальний, суть якого полягає у створенні органів, які здійснюють нагляд за

діяльністю окремих секторів: банківського, страхового, фондового ринку; спосіб розподілу повноважень у вигляді пруденційного нагляду, в залежності від здійснюваних функцій; спосіб концентрації всіх наглядових функцій в єдиному органі державного регулювання [5,7,8].

Крім того, акцентувалася увага на тому, що при виборі способу регулювання необхідно враховувати цілий ряд особливо важливих параметрів, таких як:

- обсяги відповідних сегментів фінансового ринку;
- рівень розвитку кожного із сегментів;
- ступінь взаємної інтеграції та можливі рівні впливу споріднених ризиків;
- індивідуальні особливості внутрішньодержавного фінансового ринку [7,8].

До недавнього часу в Україні діяв спосіб регулювання ринку фінансових послуг, який за своєю суттю найбільше відповідав секторальному, оскільки Законом України «Про фінансові послуги та державне регулювання ринків фінансових послуг» уповноваженими органами, які здійснюють регулювання на ринку фінансових послуг, визначено:

- Національний банк України – щодо ринку банківських послуг та діяльності з переказу коштів;
- Національна комісія з цінних паперів та фондового ринку – щодо ринку цінних паперів та похідних фінансових інструментів;
- Національна комісія, що здійснює державне регулювання у сфері ринків фінансових послуг - щодо інших ринків фінансових послуг [1].

У зв'язку з прийняттям Верховною Радою України Закону України «Про внесення змін до деяких законодавчих актів України щодо удосконалення функцій із державного регулювання ринків фінансових послуг» [2] відбулися суттєві зміни відносно регулювання ринку фінансових послуг, зокрема й відносно страхового ринку. Зазначеним Законом прийнято ряд питань, які в подальшому можуть бути предметом додаткових дискусій відносно оцінки факторів, що можуть мати істотний вплив на формат ринку страхових послуг в Україні.

Незважаючи на думки науковців відносно необхідності врахування широкого кола параметрів оцінки при виборі способів державного регулювання ринку страхових послуг, Законом було враховано досить обмежений перелік факторів та параметрів, зокрема:

- підвищення ефективності системи державного регулювання фінансових ринків шляхом припинення дублювання функцій національних регуляторів з ліцензування, контролю та нагляду, спрощення й прозорості прийняття управлінських рішень у цій сфері, покращення умов ведення бізнесу з одночасним посиленням відповідальності суб'єктів ринку;
- скорочення кількості регуляторних і контролюючих органів на ринках небанківських фінансових послуг;
- підвищення ефективності державної регуляторної політики, функціональності нормативно-правових актів, спрямованих на створення дієвого механізму державного регулювання і нагляду, зниження витрат діяльності фінансових установ, спричинених надлишковим й неефективним державним регулюванням, забезпечення конкуренції на фінансовому ринку, запобігання діяльності недобросовісних компаній, координованість із сучасними процесами реформування та дерегуляції економіки України [3].

Також даний Закон передбачає передачу ряду функцій Національній комісії, що здійснює державне регулювання у сфері ринків фінансових послуг, в тому числі й послуг на ринку страхування, до Національного банку України. У той же час, виникає питання відносно того, чи були повною мірою враховані обсяги відповідних сегментів фінансового ринку, рівень розвитку кожного із сегментів, ступінь взаємної інтеграції та можливі рівні впливу споріднених ризиків.

У якості обґрунтування даних положень доцільно буде проаналізувати показники окремих сегментів фінансового ринку, регулювання яких до прийняття Закону України «Про внесення змін до деяких законодавчих актів України щодо удосконалення функцій із державного регулювання ринків фінансових послуг» здійснювалось Національним банком України та Національною комісією, що здійснює державне регулювання у сфері ринків фінансових послуг (рис.1).



**Рис. 1. Основні показники діяльності банківської системи та страхового ринку України у 2016-2019рр.\***

\*Складено авторами за [10]

Ринок страхових послуг залишається найбільш капіталізованим серед небанківських фінансових ринків. Аналіз наведених показників дозволяє зробити припущення, що при зміні підходів до державного регулювання, не повною мірою були враховані обсяги відповідних сегментів фінансового ринку, та рівень розвитку кожного із сегментів.

Також необхідно відмітити неврахування можливих рівнів впливу споріднених ризиків, в частині захисту споживачів фінансових послуг за окремими сегментами, що підтверджується наступним:

- певні гарантії користувачів фінансових послуг банківських установ передбачені Законом України «Про систему гарантування вкладів фізичних осіб»;
- суттєві гарантії користувачів фінансових послуг страхових компаній чинним законодавством не передбачені.

Додатково необхідно відмітити проблемний характер питання відносно врахування рівня розвитку кожного з сегментів учасників страхового ринку в частині можливості виконати підвищені вимоги, які в подальшому будуть пред'явлені до них та які стосуються:

- розміру і структури капіталу;
- ліквідності;
- розкриття структури власності;
- наявності персоналу, який би забезпечував належний рівень корпоративного управління;
- інших вимог, які на даний час запроваджуються для банківського сегменту ринку фінансових послуг.

Варто очікувати, що запровадження додаткових наглядових підходів у сфері фінансових ринків, у тому числі й страхового ринку, відбуватиметься з використанням підходів, які Національний банк застосовує до регулювання діяльності банківських установ. Додатковим підтвердженням цьому є прийняття Правлінням Національного банку Постанови №30 від 14.04.2021 року, якою затверджено «Положення про вимоги до структури власності надавачів фінансових послуг» (далі – «Положення про структуру власності»), до яких відносяться і страхові компанії.

Попередній аналіз змісту вказаного Положення дає всі підстави вважати, що учасникам страхового ринку буде необхідно вирішувати цілий ряд принципових питань, пов'язаних із дотриманням вимог нормативно-правових актів НБУ. Адже поряд із загальноприйнятими визначеннями і поняттями, які раніше характеризували діяльність учасників страхового ринку, «Положення про структуру власності» вводить ряд принципово нових понять, з якими раніше учасники страхового ринку не стикалися. Крім того, Національному банку з метою підтвердження або спростування підстав вважати, що структура власності є непрозорою, надано право враховувати інформацію, отриману з офіційних джерел, від страхової компанії, будь-яких осіб у структурі власності страхової компанії, державних органів України та інших держав та/або інших осіб, і яка свідчить про наявність репутаційних, реєстраційних, операційних або економічних критеріїв [4].

Приведення діяльності страхових компаній у відповідність зазначених вище вимог може створити додаткові суттєві ризики для них, адже структура власності компанії може бути визнана Національним банком України непрозорою.

Можливість виникнення додаткових суттєвих ризиків обґрунтовується тим, що відповідно до вимог Закону України «Про фінансові послуги та державне регулювання ринків фінансових послуг», Національному банку України надано право прийняти рішення про анулювання ліцензії, виданої страховій компанії, за наявності певних підстав, в тому числі й при невідповідності структури власності небанківської фінансової установи або особи, яка не є фінансовою установою, але має право надавати окремі фінансові послуги, та/або власників істотної участі в ній, вимогам законодавства України [2].

Наведені вище обставини дають підстави вважати, що найближчим часом страховий ринок може очікувати суттєве переформатування. Це вже зараз підтверджується тенденціями показників діяльності страхованих компаній після їх переходу під регулювання НБУ та до нього (табл.1, рис.2-3).

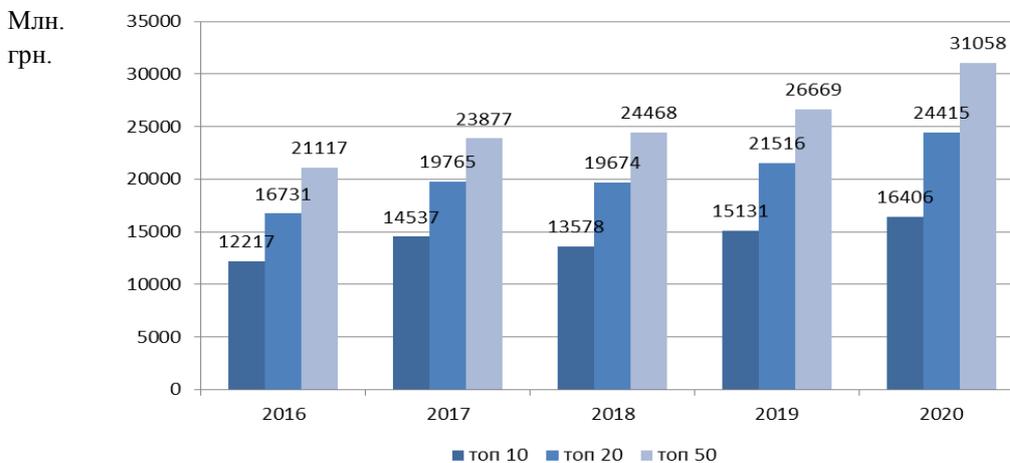
Таблиця 1

**Динаміка активів страхових компаній України у 2016-2020рр.\***

	2016	2017	2018	2019	2020	Відхилення, 2020 до 2016	
						Абсолютне	Відносне, %
Активи, млн.грн.	56 076	57 381	63 493	63 866	64 920	8844	116
Кількість компаній	310	294	281	233	210	-100	68
<b>Динаміка активів страхових компаній в розрізі груп, млн.грн.</b>							
топ 10	13036	15417	18327	17713	23546	10510	181
топ 20	18719	20629	23858	23429	30075	11356	161
топ 50	25214	26776	30098	29697	38848	13634	154
<b>Динаміка частки активів страхових компаній в загальних активах страхового ринку в розрізі груп, %</b>							
топ 10	23,25	26,87	28,86	27,73	36,27	13,02	-
топ 20	33,38	35,95	37,58	36,68	46,33	12,37	-
топ 50	44,96	46,66	47,40	46,50	59,84	14,88	-

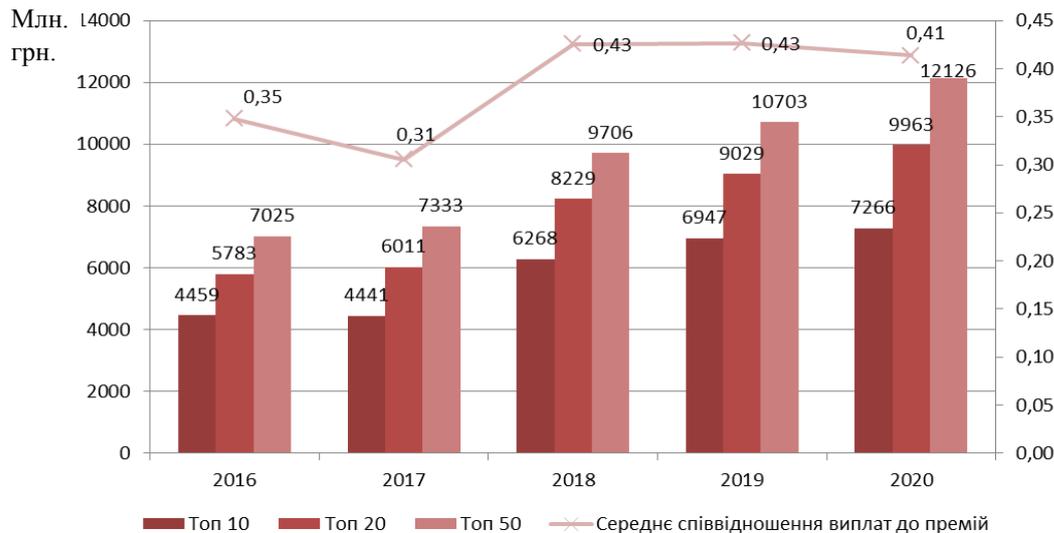
\* Складено авторами за [11]

Спостерігаємо суттєве підвищення частки активів топ 10, топ 20 та топ 50 страхових компаній України у 2020 році на фоні істотного скорочення кількості страхових компаній у 2019-2020рр. Тобто спостерігаємо концентрацію капіталу на рівні лідерів ринку страхових послуг, які змогли виконати регуляторні вимоги НБУ щодо діяльності. Одночасно відбувається стабілізація співвідношення страхових виплат і страхових премій на страховому ринку України. Концентрації страхового ринку сприяло внесення змін в законодавство щодо порядку формування статутного капіталу страхових компаній.



**Рис.2. Динаміка страхових премій в розрізі груп страхових компаній України у 2016-2020рр., млн.грн.**

\* Складено авторами за [11]



**Рис.3. Динаміка страхових виплат в розрізі груп страхових компаній України у 2016-2020рр., млн.грн.**

\* Складено авторами за [11]

Тобто доцільно зробити висновок, що страховий ринок може очікувати суттєве переформатування, внаслідок якого споживачі ринку страхових послуг можуть зазнати певних втрат у випадку відкликання ліцензій у обраних ними страхових компаній, що не зможуть забезпечити дотримання підвищених регуляторних вимог. З точки зору регулятора посилення нагляду має підвищити надійність й рівень безпеки страхового ринку.

**Висновок.** Отже, удосконалення порядку регулювання діяльності страховиків, підвищення вимог до формування статутного капіталу і фінансового стану засновників (учасників) страховиків й осіб, які мають значну частину статутного капіталу, а також до оцінки їх ділової репутації мали на меті в тому числі запобігти використанню страхового ринку для легалізації доходів, одержаних злочинним шляхом. Подальша адаптація законодавства України у сфері страхування до законодавства Європейського Союзу сприятиме підвищенню рівня безпеки страхового сегмента фінансового ринку.

Загалом для підвищення рівня економічної безпеки страхового ринку необхідно: надалі удосконалювати моніторинг діяльності страховиків й посилити контроль за дотриманням страховими компаніями вимог щодо забезпечення їх платоспроможності, фінансової стійкості, статутного капіталу, розміру чистих активів, та осіб, що володіють значною часткою капіталу; посилити вимоги до функціонування систем внутрішнього контролю за діяльністю страхових компаній; гарантувати захист прав страхувальників тощо.

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УДК: 368.036

JEL: G 22, G 28, G 14

**Щербаков Володимир Костянтинівич**, старший викладач, незалежний директор наглядової ради. АТ «Полтава-Банк». **Свистун Людмила Анатоліївна**, кандидат економічних наук, доцент. Національний університет «Полтавська політехніка імені Юрія Кондратюка». **Зміни в державному регулюванні ринку страхових послуг України: безпековий аспект.** Мета статті полягає у проведенні аналізу змін у державному регулюванні ринку фінансових послуг України в контексті підвищення рівня фінансово-економічної безпеки суб'єктів ринку. Узагальнено способи й параметри регулювання діяльності суб'єктів ринку фінансових послуг. Проаналізовано останні зміни у вітчизняному законодавстві, що стосуються нагляду й регулювання діяльності ринку фінансових послуг, зокрема страхового ринку, з точки зору впливу на рівень економічної безпеки. Визначено, що

для ефективної та безпечної діяльності учасників страхового ринку необхідним є врахування рівня розвитку кожного з сегментів в частині можливості виконати підвищені вимоги щодо: розміру і структури капіталу, ліквідності, розкриття структури власності, наявності кваліфікованого управлінського персоналу. Проаналізовано функції НБУ у сфері фінансового нагляду. Увага приділена критеріям прозорості структури власності страхових компаній (репутаційним, реєстраційним, операційним, економічним). Проведено аналіз тенденцій розвитку суб'єктів страхового ринку та оцінено наслідки впливу на них передачі наглядових функцій Національної комісії, що здійснює державне регулювання у сфері ринків фінансових послуг, до Національного банку України. Визначено напрями зміцнення економічної безпеки страхового сегменту фінансового ринку.

**Ключові слова:** ринок фінансових послуг, ринок страхових послуг, фінансові установи, економічна безпека, фінансова безпека, державне регулювання.

UDC 368.036

JEL: G 22, G 28, G 14

**Shcherbakov Volodymyr**, Senior Lecturer, Independent Director of the Supervisory Board. JSC “Poltava-Bank”. **Svystun Liudmyla**, PhD (Economics), Associate Professor. National University “Yuri Kondratyuk Poltava Polytechnic”. **Changes in the State Regulation of the Insurance Services Market of Ukraine: Security Aspect.** The purpose of the article is to analyze the changes in the state regulation of the financial services market of Ukraine in the context of increasing the level of financial and economic security of market participants. The methods and parameters of regulating the activities of financial services market entities were generalized. The latest changes in the domestic legislation concerning the supervision and regulation of the financial services market, in particular, the insurance market, in terms of the impact on the level of their economic security were analyzed. It is determined that for effective and safe activity of insurance market participants it is necessary to take into account the level of development of each of the segments in terms of ability to meet increased requirements for: size and capital structure, liquidity, ownership structure, availability of qualified management staff. Attention is paid to the criteria of transparency of the ownership structure of insurance companies. The article contains an analysis of trends in the development of insurance market entities and the impact on them of the supervisory functions transfer to the National Bank of Ukraine. The directions of strengthening the economic security of the financial market insurance segment were determined.

**Key words:** financial services market, insurance services market, financial institutions, economic security, financial security, state regulation.

# ACCOUNTING, ANALYSIS AND AUDITING

UDC 657.012.32  
JEL M41

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## PREREQUISITES AND FEATURES OF ENVIRONMENTAL ACCOUNTING

**Alla Dmytrenko\***, Doctor of Sciences (Economics), Associate Professor  
**Liliia Tokaiuk**, Student  
National University «Yuri Kondratyuk Poltava Polytechnic»

\*ORCID 0000-0003-3304-8652

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**Introduction.** Preservation of the environment is the main task in modern society and the role of the state in this matter is quite important. Countries around the world are trying to accumulate their forces into a single whole and help improve the environmental situation on the planet. One of the tools to help improve the environment is the introduction of environmental accounting in enterprises. To date, there is no single regulatory and methodological framework that would allow effective implementation of this type of accounting in all enterprises, taking into account the specifics of the business entity, its location and other features.

Therefore, the study of environmental accounting is one of the pressing issues for research in the modern world.

**Analysis of recent research sources and publications.** Ecological accounting was studied by the following national scientists: V.R. Holyk [4], O.P. Kolisnyk [6], O.I. Hrytsenko [5], Yu.V. Shtyk [12] et al.

**The purpose and objectives of the research.** The purpose of the article is to consideration of historical preconditions of development of ecological accounting, definition of features of its conducting, possibilities of introduction in Ukraine.

**Results.** The environmental problem is one of the main at the present stage of development of society. In every area of economic activity, the issue of reducing environmental risks and promoting the formation of public opinion on environmental protection is acute.

All countries are working to improve the environmental situation on the planet. Today, various rankings are created that reflect the effectiveness of countries in combating climate change (Table 1).

**Table 1**

**Climate change countries ranking (first in the overall ranking)**

Place	Country	Mark (max = 100)
1	2	3
1	-	-
2	-	-
3	-	-
4	Sweden	75,77
5	Denmark	71,14

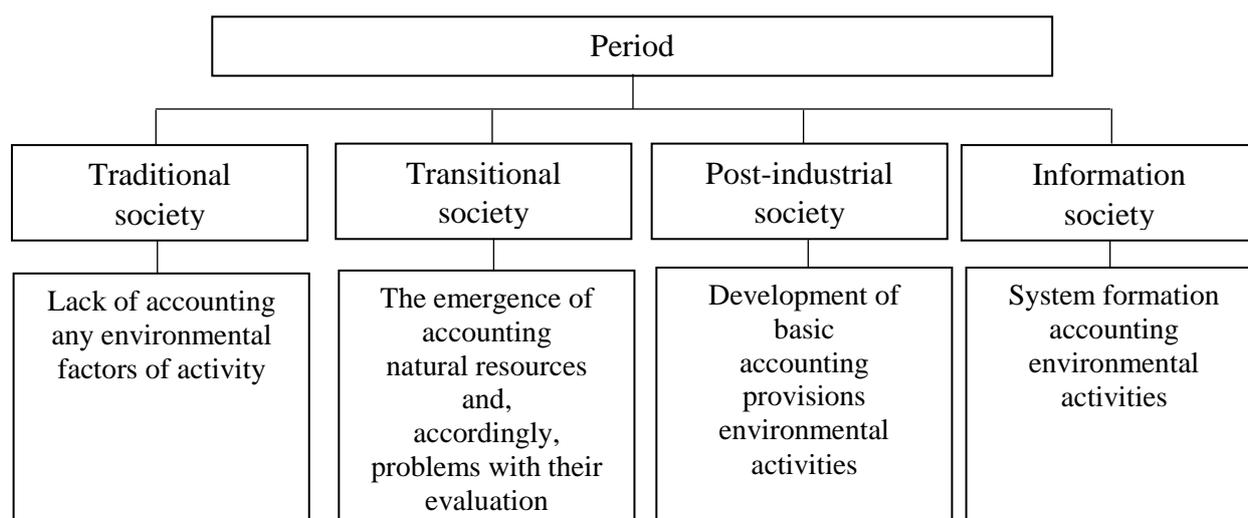
1	2	3
6	Morocco	70,63
7	United Kingdom	69,80
8	Lithuania	66,22
9	India	66,02
10	Finland	63,25
11	Chile	62,88
12	Norway	61,14
13	Luxembourg	60,91
14	Malta	60,76
15	Latvia	60,75
16	Switzerland	60,61
17	Ukraine	60,60

*Developed on the basis of the source [13]*

So, analyzing the table, we can conclude that in 2020, there are no countries that would occupy the first positions in the ranking, so it is necessary to strive to improve activities to improve the environmental condition of the planet.

It is possible to change the state of the environment and ensure the reduction of environmental pollution at enterprises through the introduction of environmental accounting in enterprises.

Accounting in terms of environmental began to take shape naturally with the beginning of human primitive economic activity (Figure 1).



**Fig. 1. Characteristics of the periods of society in terms of its ecological orientation [7, p.49]**

In the period of traditional society, all human efforts were focused on the use of natural resources, mainly on self-sufficiency in food. Preservation of the environment, including the formation of some primitive features of environmental accounting, was not discussed, as the main purpose of society was to save lives.

The transition period is characterized by the fact that society begins to use natural resources as a means of labor, which led to the emergence of accounting. Scientists are beginning to study accounting, especially the assessment of natural resources used.

The period of post-industrial society became a turning point in the development of environmental accounting. This is due to the intensive creation of new enterprises, the expansion of economic activity, the significant spread of heavy industry. The rapid development of economic activity has had a negative impact on the environment: pollution of water and air, the emergence of large landfills, the irrational use of natural resources, the death of some species of plants and animals.

Therefore, society considers it necessary to create a balance between economic and environmental activities. In 1989, the Intergovernmental Working Group of Experts on International Accounting Standards began its work. The main purpose of its activities was to address issues related to the accounting of environmental activities. Gradually, the first requirements were created for accountants to disclose information about the impact of economic activity of the enterprise on the environment.

The information stage is a stage of significant development of public consciousness for the preservation of the environment. The ecological crisis has prompted the development of various environmental programs to save the planet, the study of the ecological situation in all regions and, of course, the development of environmental accounting, which becomes the basis of environmental management in enterprises.

The process of studying the accounting of environmental activities of the enterprise contributed to the emergence of discussions on the terminology of this process. There are the following concepts: ecological accounting, environmental accounting, natural accounting and more. However, the most correct is to use the name environmental accounting.

Scientists have identified different points of view on the definition of environmental accounting.

T.A. Kirsanova believes that environmental accounting – a system of detection, measurement, registration, accumulation, generalization, storage, processing and preparation of relevant information about the activities of the enterprise in the field of nature in order to transfer it to internal and external users to make optimal decisions [12, p. 235].

K.S. Saienko defines environmental accounting as an orderly system of collecting, registering and summarizing information in kind and in monetary terms about natural resources, environmental obligations, business operations of environmental activities of the organization through continuous, continuous documentary accounting of nature management of the business entity [4, p. 219].

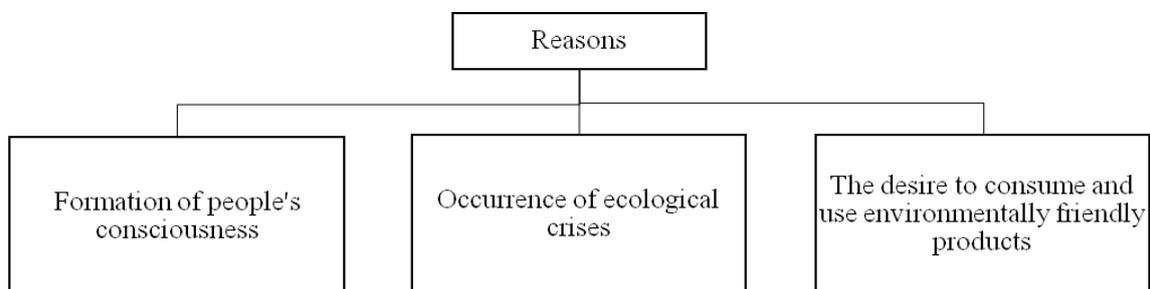
O.V. Ilichova treats environmental accounting as a system that can be used to identify, organize, regulate and present data and information on the state of the environment in kind and value indicators [12, p. 235].

Scientist O.V. Taranicheva believes that environmental accounting is a system that should be used to identify, organize, regulate and present data and information on the state of the environment in kind and value indicators [12, p. 235].

Analyzing the definitions of researchers, we can conclude that the definitions of "environmental accounting" are similar, but have some differences in interpretation. Therefore, in general, it can be established that environmental accounting is a system of detection, measurement, registration, generalization, storage, processing of information about the environmental activities of the enterprise, intended for potential users.

At the modern period of development of society, it is important for the public to obtain information about the activities of the enterprise in terms of ecology: what impact the company has on the environment, cost management methods, waste disposal and more.

Such attention to the state of the environment has certain reasons (Figure 2).



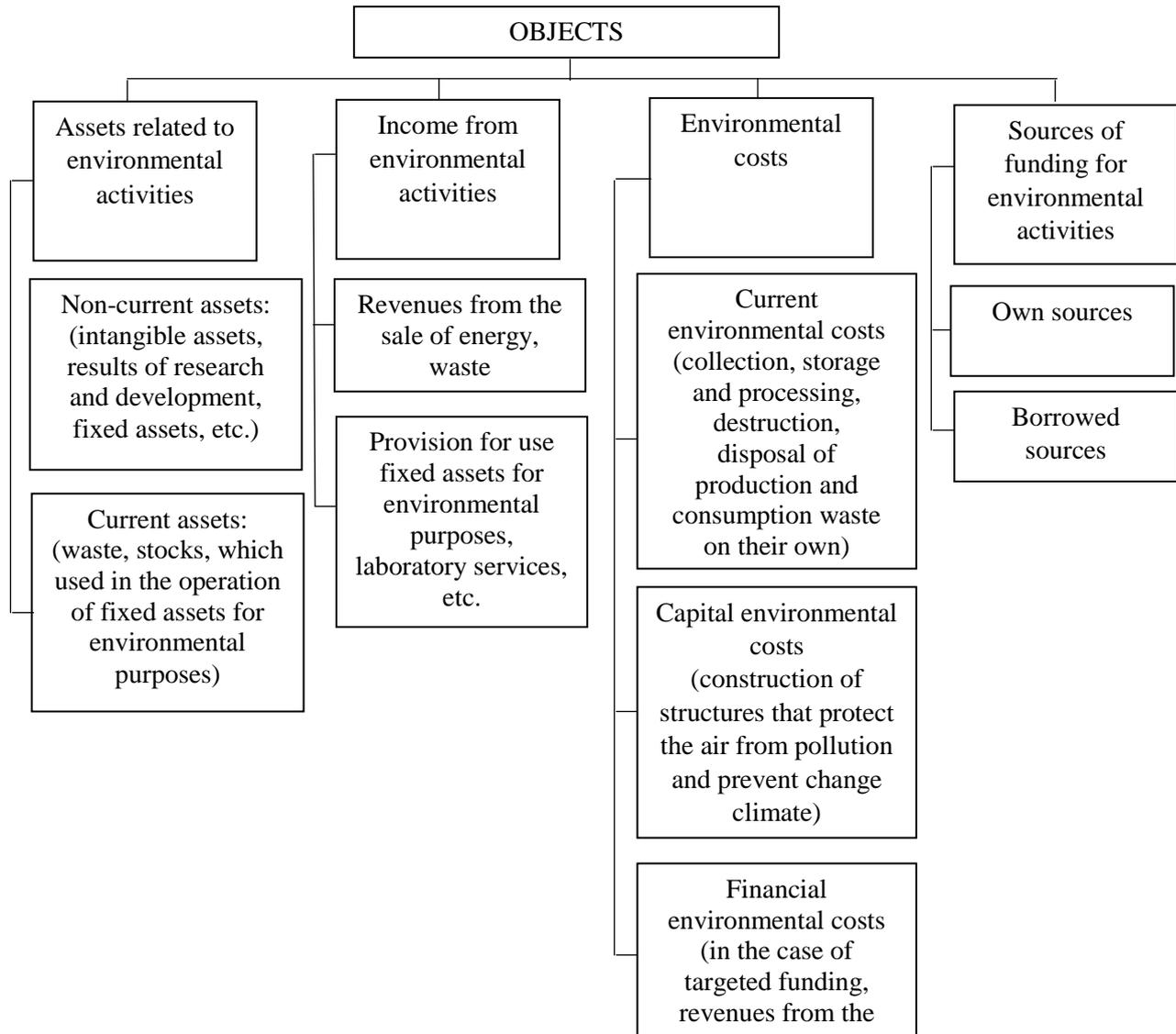
**Fig. 2. Reasons for the formation of public attention to improving the environment**

Environmental accounting can change the state of the environment. This type of accounting should be carried out at all enterprises, especially for large manufacturing and processing enterprises.

Information on environmental activities is very important for external and internal users. The external ones include: state and local authorities, investors, environmental organizations, etc. Internal users are: environmental department, environmental specialists, accounting, management, staff.

The subject of environmental accounting is the enterprise itself, especially when it is large-scale industrial and works closely with the environment.

Objects include: assets related to environmental activities, income from environmental activities, environmental costs, sources of funding for environmental activities (Figure 3).



**Fig. 3. Objects of environmental accounting**

*Developed on the basis of the source [12, p. 236]*

Environmental accounting performs certain functions. The main ones are the following:

1. Optimistic – creating conditions that would promote the best choice of options for effective and safe environmental activities of the enterprise;
2. Motivational – provides information about the environmental activities of the enterprise to stimulate the implementation of solutions to environmental problems and their implementation;
3. Controlling – carrying out measures to manage the costs incurred for the environment.

In addition to the above functions, environmental accounting performs those that are provided for accounting. For example: information (collection, processing and transmission of information about the environmental activities of the enterprise to users in the form of reports), analytical (economic analysis of deviations in different categories), social (global problem solving), evaluation (cost measurement of environmental accounting).

The methods of environmental accounting include:

- methods of accounting (documentation, inventory, evaluation, calculation, invoices, double entry, reporting);

- methods of statistical accounting (collection, control, editing, compilation and grouping of primary statistical environmental data);
- ecological-parametric methods (results of chemical and physical experiments, calculation methods, methods of computer modeling).

An important issue in the study of environmental accounting is the study of the main accounting components in terms of environmental. That is, consideration of the peculiarities of the formation of accounts and reporting. The study of the composition of environmental accounting accounts is reflected in the article by O.E. Shmyhel [11, p. 119]. The author believes that the composition of environmental accounting accounts should depend on the volume of environmental activities at the enterprise (table 2).

**Table 2**

**Environmental accounting accounts**

Characteristics of the enterprise	Accounts
The company has a small amount of environmental activities, does not provide environmental services	Account in class 8 "Environmental activities" to which the following sub-accounts are opened: - material costs; - labor costs of colleagues working in the field of environmental protection; - costs of social insurance for employees employed in the field of environment; - depreciation of fixed assets for environmental purposes; - environmental fees and charges; - other environmental costs.
The company has a significant amount of environmental activities with the use of special shops, providing environmental services	1st class: basic means of environmental protection; depreciation of fixed assets for environmental protection; acquisition of fixed assets for environmental purposes; 2nd class: natural resources (raw materials); 4th grade: financing of environmental measures; reserve capital for investments in the field of environmental protection; 5th grade: long-term environmental commitments; 6th grade: environmental fees and charges; environmental insurance calculations; remuneration of personnel employed in the field of environmental protection; calculations on social insurance of employees employed in the field of environmental protection; 7th grade: income from the sale of environmental funds; income from the provision of environmental services; 8th class similarly as for the enterprises with insignificant volume of nature protection activity.

*Developed on the basis of the source [11, p. 119]*

The effectiveness of environmental accounting, the formation of proper reporting, obtaining positive financial results depend on the proper organization, which is based on the principles (Figure 4).

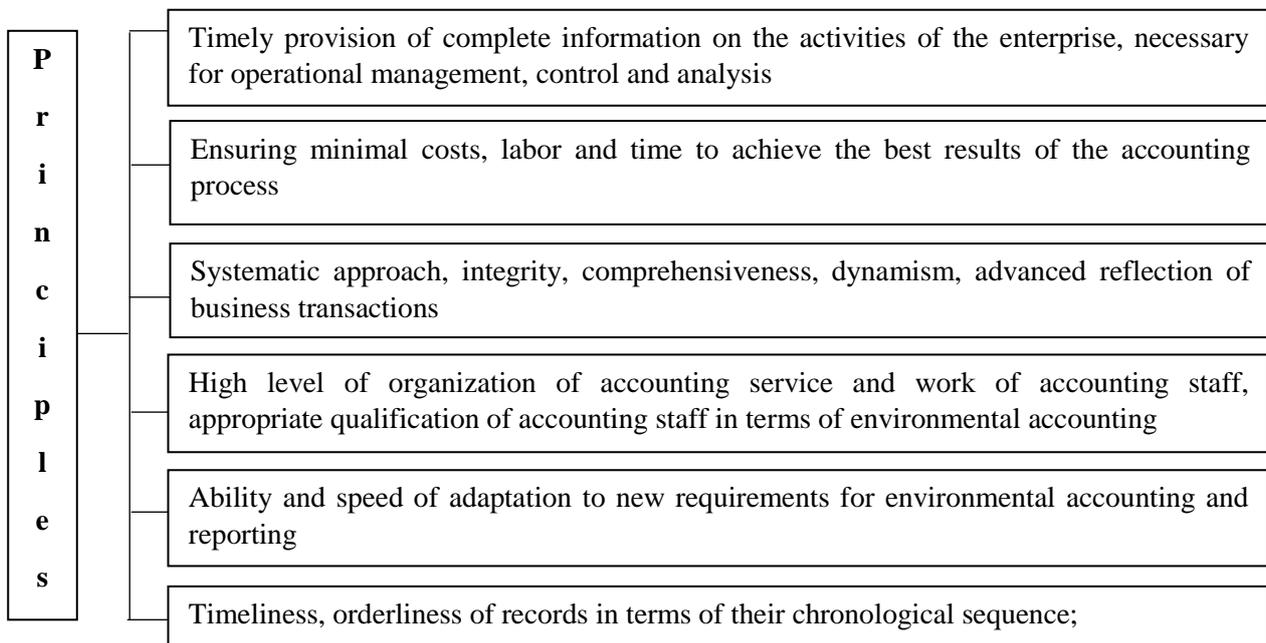
O.E. Shmyhel notes the need to create a new reporting form "Report on the environmental activities of the enterprise", which will monitor the state of environmental activities of the enterprise and provide the necessary information to users. The company may add the following to the reporting: calculation of the fee for environmental pollution, information on air protection, information on water protection, information on land protection, report on waste disposal, information on research in the field of environmental protection, information on restoration and dismantling of equipment, calculation of depreciation of environmental protection equipment, information on other activities in the field of environmental protection (staff training, general administrative activities).

Yu.V. Shtyk, M.V. Shchurenko and A.O. Panasenko [12, p. 236] believe that environmental reporting should have the following components:

1. Accounting: balance sheet (statement of financial position) and statement of financial performance (statement of comprehensive income);
2. Statistical reporting: form № 1 – waste (annual), № 1 – hazardous waste, № 2 – TP (air) (annual), № 1 – environmental costs (annual).

3. Tax reporting: tax returns for the payment of rent for the use of natural resources, for pollution and negative impact on the environment.

4. Reporting on environmental standards: reporting that reveals the level of environmental friendliness of the enterprise [12, p. 236].



**Fig. 4. Principles of environmental accounting**

*Developed on the basis of the source [5, p. 682]*

The main problem of environmental accounting is the complexity of allocating and accounting for costs incurred for environmental activities.

There are two approaches to implementing environmental cost accounting.

The first involves making adjustments to traditional accounting. The differentiation of financial statements to fully, accurately and reliably reflect the impact of environmental management on the property of the entity and its profitability. This approach involves the allocation of environmental costs from the total and the implementation of their division by type and place of origin.

The second approach proposes the implementation of reorganization and expansion of accounting, compiling eco-balance sheets to accurately reflect external environmental costs.

The most acceptable is the introduction of cost accounting under the first approach, as it is the simplest and most feasible today.

Synthetic accounting of environmental costs should be carried out in separate accounts and open the necessary sub-accounts, according to the groups of costs used by the company.

Since today in Ukraine there are no regulations on the accounting of environmental costs, it can be noted that their distribution and write-off must be carried out according to generally accepted methods. That is, the distribution should be carried out in proportion to the wages of workers in the main production, because environmental costs in economic terms are variable overhead costs.

Analytical accounting should be carried out on the basis of classification, which will monitor the level of environmental costs in accordance with the selected groups at the enterprise.

Ukraine is one of the countries seeking to improve the environmental situation in the world and conducts various environmental activities.

The state has a large number of companies that work closely with the environment. The main ones are business entities engaged in agriculture, metallurgy and oil and gas industry. These sectors of the economy contribute to soil pollution due to the introduction of harmful substances, air, water. Therefore, environmental accounting is urgent in today's economy.

N.A. Chuhrii and H.A. Chuhrii [10] formed the relevance of the introduction of environmental accounting in Ukrainian enterprises in terms of three areas of need.

The first direction is economic necessity. It is an environmental activity in support of the state program of environmental control and investment activities.

The second is the ecological necessity caused by the deterioration of the environment and the depletion of natural resources.

The third direction is social necessity, ie maintaining the image of the enterprise and public relations.

Environmental accounting will provide non-economic and economic information for potential users.

Non-economic information will include the following: accounting for the availability of natural resources, accounting for the use of natural resources, accounting for the state of the environment. That is, users will be able to obtain information about what natural resources the company uses and to what extent and what environmental impact is caused by the use of these resources.

Economic information is an accounting of environmental activities, it is a subsystem of accounting, which forms and transmits to users information about business transactions related to the use of the natural environment and the impact of economic activity on its condition [7, p. 52].

The formation of environmental accounting in Ukraine will allow companies to:

- to form the necessary information for planning and forecasting of ecological expenses and incomes;
- create environmentally friendly, safe products and compete with them in the market;
- to form reliable, accurate and complete information about the environmental activities of the enterprise and provide it to potential investors and other external users;
- to prevent negative consequences of economic activity on the state of the environment;
- creation of business plans, projects to improve the environmental performance of the enterprise;
- control and reflection of the results of environmental activities.

Thus, it can be noted that Ukraine has all the prospects for the introduction of environmental accounting. Its creation will help improve the environmental situation in Ukraine and the world, as well as increase the economic situation in the country by creating safe, environmentally friendly and correct products.

**Conclusions.** We concluded that environmental accounting can be a driving force in the fight against environmental crises. But this requires:

- to create a regulatory framework that would reflect the theoretical foundations of environmental accounting and on which the activities of enterprises would be based;
- create a system of chart of accounts. In our opinion, the most correct option would be to make subaccounts to the 8th class of accounts, as in Ukraine there are not a large number of enterprises that would have separate branches engaged in environmental activities and for which it would be possible to expand the general chart of accounts for all classes;
- It is important for businesses to introduce a new form of reporting that would reflect the environmental performance of enterprises. It is advisable to submit it together with the annual financial statements. This will allow to analyze their activities and further make appropriate management decisions in relation to the environmental direction;
- it is expedient to create a separate service that would investigate the issues of environmental accounting, namely: development of regulations, establishment of standards, methods, control over the activities of enterprises, detection of violations of environmental activities.

So, environmental accounting is currently little studied, there is no regulatory framework, it is not used in Ukraine, but its implementation is quite important. Therefore, it is necessary to study this type of accounting and create an effective system of application of environmental accounting by business entities in Ukraine.

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JEL: M41

**Дмитренко Алла Василівна**, доктор економічних наук, доцент. **Токаюк Лілія Олександрівна** студентка. Національний університет «Полтавська політехніка імені Юрія Кондратюка». **Передумови виникнення та особливості ведення екологічного обліку.** Масштаби екологічних проблем, зростання забруднення навколишнього середовища вимагає від керівництва підприємств усунувати їх та заохочувати до пошуку екологічних та економічних інструментів управління на принципах сталого розвитку. Одним з основних інструментів, покликаних розв'язати це завдання на рівні господарюючого суб'єкта, є наукове розроблення і постановка екологічного обліку. На сьогодні немає єдиної встановленої системи впровадження й функціонування такого виду обліку, що може призвести до порушень інформування зацікавлених користувачів звітності щодо екологічної діяльності підприємства. Тому екологічний облік потребує детального дослідження, яке дозволить сформувати у світі злагоджену систему ведення цього виду обліку, а в результаті сприятиме поліпшенню екологічної ситуації на планеті.

Новизною є визначення перспектив впровадження екологічного обліку в Україні та його значення для діяльності підприємств. Досліджено історичні аспекти формування екологічного обліку, шляхи його створення й функціонування, з'ясовано можливості впровадження екологічного обліку в Україні. Розкрито інформацію про шляхи впровадження екологічного обліку, можливий план рахунків, складові екологічної звітності, досліджено питання обліку екологічних витрат. Виділено заходи України щодо збереження навколишнього середовища й описано перспективи впровадження екологічного обліку в державі.

**Ключові слова:** екологічний облік, екологічні витрати, екологічна діяльність, екологічна звітність, рахунки, навколишнє середовище.

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**Dmytrenko A.V.**, D.Sc. (Economics), Associate Professor. **Tokaiuk L.O.**, Student. National University "Yuri Kondratyuk Poltava Polytechnic". **Prerequisites and Features of Environmental Accounting.** The article deals with the problems of environmental accounting. It is very important, because the scale of environmental problems, increasing environmental pollution requires management to eliminate them and encourage them to seek environmental and economic management tools based on sustainable development. One of the main tools designed to solve this problem at the level of the business entity is the

scientific development and formulation of environmental accounting. To date, there is no single established system for the implementation and operation of this type of accounting, which can lead to violations of informing interested users of reporting on environmental activities of the enterprise. Therefore, environmental accounting requires a detailed study that will form a coherent system of this type of accounting in the world and as a result will improve the environmental situation on the planet.

A novelty is the definition of prospects for the introduction of environmental accounting in Ukraine and its importance for the activities of enterprises. The article considers the historical preconditions for the emergence of environmental accounting and the definition of its essence. The information on ways of introduction of the ecological account, the possible plan of accounts, components of the ecological reporting is opened, the questions of the account of ecological expenses are considered. Ukraine's measures to preserve the environment are highlighted and the prospects for the introduction of environmental accounting in the country are described.

**Key words:** ecological accounting, ecological expenses, ecological activity, ecological reporting, accounts, environment.

## **MODERN MAINSTREAM IN AUDIT: RISKS AND THEIR ASSESSMENT**

**Nataliia Poddubna\*, Ph.D (Economics),  
Kyiv National University of Trade and Economics**

\*ORCID 0000-0001-7591-5377

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**Introduction.** The concept of audit risk is one of the most important in audit activities, since the level of audit risk is necessary to plan the audit and determine audit procedures in accordance with the assessed risk.

According to the IAASB Glossary of Terms [5], audit risk is defined as follows ‘The risk that the auditor expresses an inappropriate audit opinion when the financial statements are materially misstated. Audit risk is a function of material misstatement and detection risk. Audit risk is basically to the audit process because auditors cannot and do not attempt to check all transactions.

**Overview of recent researches and publications.** Audit risk based model and implementation of its concept of auditing activity is an effective method of sustainable economic development. A significant contribution to the development of conceptual approaches and paradigm of new auditing mainstream is highlighted in the scientific works by such scientists as: I. Dmytrenko, T. Kamenska, K. Nazarova, O. Petrik, N. Proskurina, O. Rubitel et al.

**The purpose of the article** is to determine the essence, principles and mechanisms of functioning of the audit risk based model, which is recognized as one of the vectors for the implementation of the concept of sustainable development both as auditing activities and clients developing.

**Basic material and results.** Under the influence of the current challenges of the world economy, traditional forms of audit are actively transforming. The increased attention and widespread practice of implementing the principles of the risk based audit is explained by the active involvement of not only governments and legal entities of economic relations, but also ordinary business entities in these processes.

The vast number of transactions in a statement of comprehensive income and a statement of financial position could not be check efficiency. To minimize the chance of giving an inappropriate audit opinion auditors should use risk based approach toward auditing. Auditors should direct audit work to the key risks, where it is more likely that errors in transactions and balances will lead to a material misstatement in the financial statements

Audit risk is the actions that the auditor must take depending on the freedom of choice available to him and it is critical to the entire audit process.

During the audit, the auditor faces three types of risks: accounting, control and audit procedures.

So, the audit risk is based on the estimation:

- the risk of inefficiency of the accounting system, which is maintained by the client;
- the risk of ineffectiveness of the client's internal control system;
- the risk of non-detection of client errors by auditors when performing audit procedures.

The first component of audit risk (risk of material misstatement) is associated with the peculiarities of the functioning of the client enterprise, its accounting system and internal control. In other words, the risk of material misstatement is the likelihood of material misstatements in the financial statements before the audit, but after the control procedures introduced by the entity have been implemented. These risks cannot be influenced by the auditor in any way, since they exist independently of the audit of the financial statements. Auditor can only assess the level of these risks, helps to better understand them, but he is not able to reduce

or change them. The inherent risk is considered to be higher if a high degree of judgment and assessment is required or if the entity's operations are very complex.

Control risk is a function of the effectiveness of the internal control system, implemented and maintained by management in order to address the identified risks, relevant to financial reporting, that threaten the achievement of the objectives of the enterprise. That is, businesses must have adequate internal controls to prevent and detect fraud and error.

The difficulty of estimating control risk for the auditor is due to the fact that most enterprises do not have a formalized system of internal control or neglect to document its results. The risk of non-identification is a function of the effectiveness of the audit procedure as it relates to the nature, timing and extent of the procedures determined by the auditor to reduce audit risk to an acceptably low level.

The auditor's risk needs to be considered in several ways, namely:

- 1) risk as an economic category from the standpoint of business results (the likelihood or threat of the auditor losing his reputation, not receiving planned income, or unexpected expenses);
- 2) risk is a probabilistic category from the standpoint of the occurrence of any event, will lead to the auditor expressing a positive opinion about "bad" reporting or expressing a negative opinion about "good" reporting (make incorrect conclusions about the actual state of affairs).

"Audit risk" is the risk that an auditor may give an inappropriate audit opinion on financial statements that are materially misstated. To reduce the audit risk to an acceptably low level means the auditor needs to be more than certain that the financial statements are not materially misstated. This is reiterated by ISA 200, which states, "The auditor should plan and perform the audit to reduce audit risk to an acceptably low level that is consistent with the objective of an audit." "Inherent Risk" as per ISA 400 is "the susceptibility of an account balance or class of transactions to misstatements that could be material, individually or when aggregated with misstatements in other balances or classes, assuming that there are no related internal controls" [1].

According to risk based approach, auditor could plan and provide necessary procedures to identify and recognize fraud or error in an audit of financial statements. The Standard that regulate this issue is ISA 240 "The auditor's responsibilities relating to fraud in an audit of financial statements"[1]. Let's to analyze compliance requirements according to ISA 240 more detailed (in part of risk-based approach and related activities to plan audit procedures). Para 32 ISA 240 requires auditors to design and perform audit procedures:

- Test the appropriateness of journal entries in general ledger and other adjustments made in the preparation of the accounts.
- Review accounting estimates for bias and consider whether this represents a risk of material misstatement due to fraud.
- For significant transactions outside the normal course of business, or that appear unusual (given our understanding of entity/environment/other information noted during audit), we need to evaluate whether the business rationale (or lack) suggests they are there to conceal misappropriation of assets/fraudulent financial reporting.

Based on this audit Audit Strategy plan could cover follow procedures (Fig. 1).

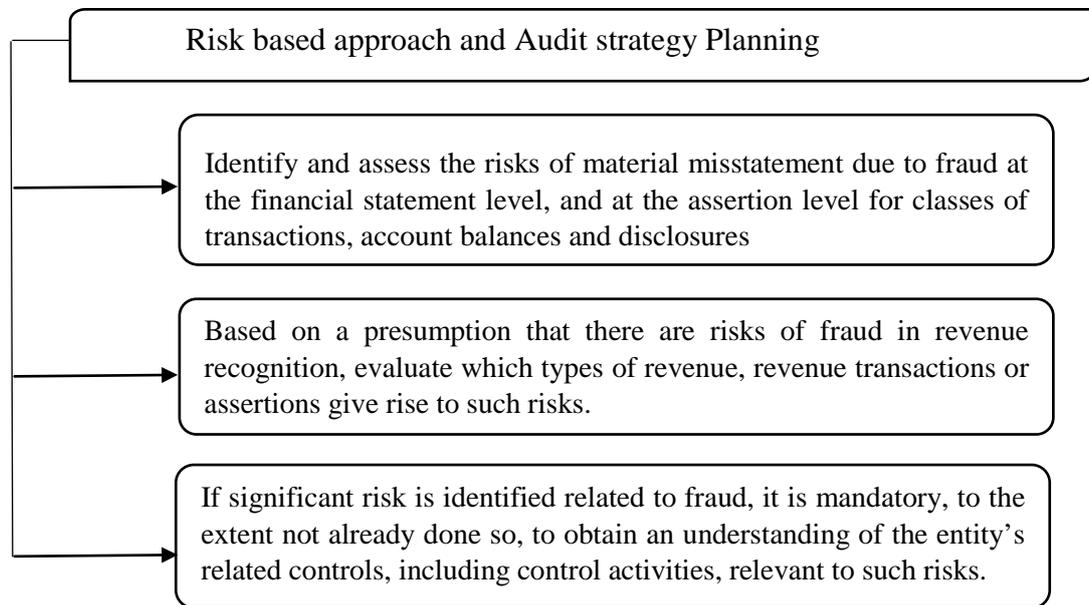
The auditor evaluates the risks in order to determine the questions regarding:

- resources required for specific audit areas, including the use of personnel with relevant experience in high-risk areas, or the use of experts on complex issues;
- the amount of resources required to be used at specific audit sites (to oversee the inventory process, to check the work of other auditors in the case of a group audit, to check high-risk areas, etc.);
- the timing of resource utilization at intermediate stages of the audit or at key closing dates;
- to manage and oversee such resources (conduct briefings and audit team meetings, conduct peer and performance review by partner and leader, conduct quality assurance checks on the engagement, etc.).

The estimation of the risks of material misstatement affects the appropriateness of any sampling method for testing and the size of the audit sample. The identified risks of material misstatement are one of the factors considered by the auditor when formulating requests for external confirmation.

In audit practice, there is still no consensus on the appropriateness of approach to estimating audit risk, so the right to choose remains by the auditor. In any case, it is more important for the auditor to carry out an appropriate risk assessment than the approaches by which such an estimation is carried out. But in any case, the auditor should not neglect the following rules for assessing audit risk:

- you cannot fully rely on the efficiency of the business and the client's accounting system, that is, assume the absence of inherent risk; you cannot fully rely on the efficiency of the client's internal control system;
- any situation should be allowed in which there is a high probability of revealing material misstatements.



**Fig. 1. Identification and Assessment of the Risks of Material Misstatement Due to Fraud**

*\*Complied according to the [1,3,6]*

The main problem in assessing audit risk and its components is subjectivity, therefore it is advisable to develop a methodology for its assessment that can solve this problem. It is rather difficult to level the subjectivity factor, but it is possible by developing step-by-step actions of the auditor to assess risks.

In accordance with ISA 315 (Revised), “Identifying and Assessing the Risks of Material Misstatement Through Understanding the Business Entity and Its Environment” (hereinafter – ISA 315), risk assessment procedures are audit procedures that are performed to [6]:

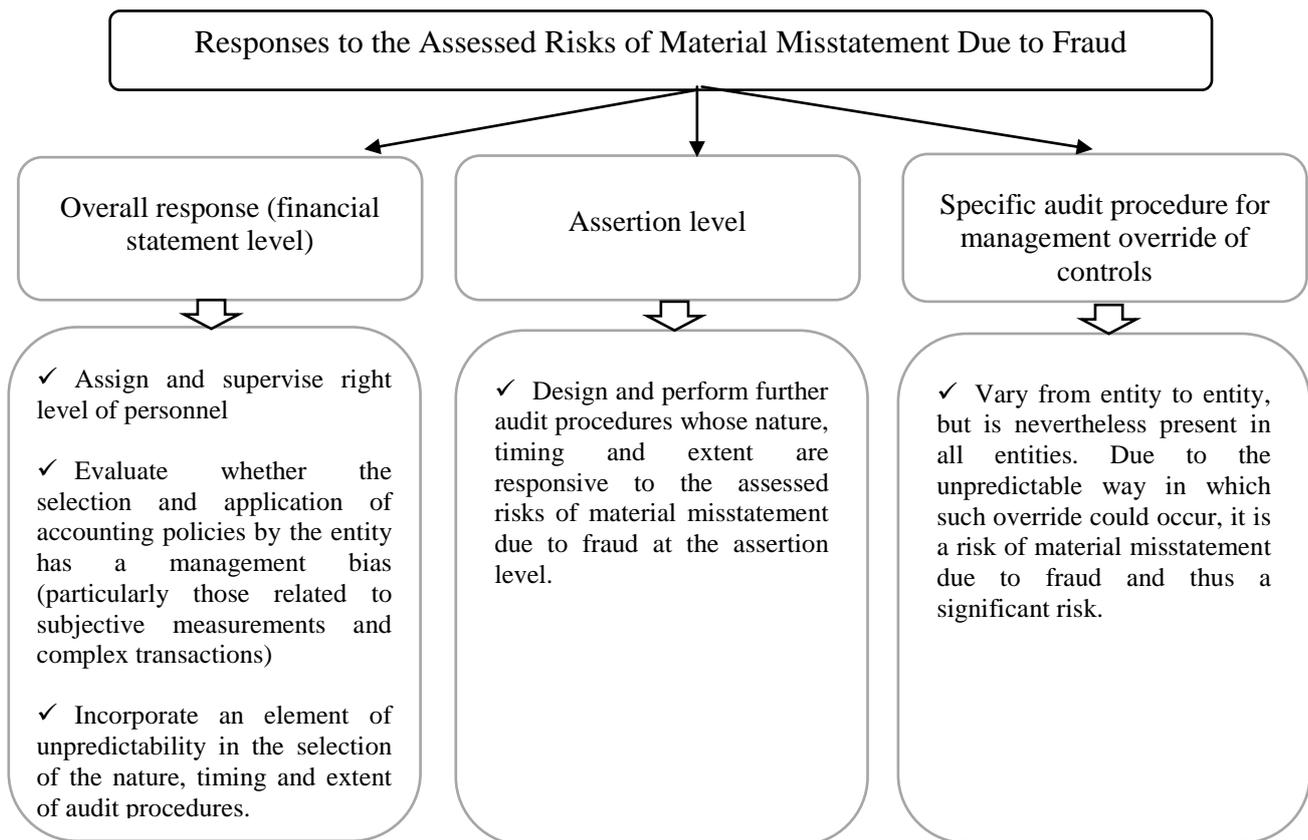
- 1) gaining an understanding of the enterprise and its environment, including the enterprise's internal control system;
- 2) identifying and determining the risks of material misstatement, whether due to fraud or error, at the financial reporting and assertion levels.

According to ISA 240, the auditor's responses to the assessed risks of material misstatement due to fraud could be (Fig. 2).

As part of gaining an understanding of the risk estimation process, the auditor needs to ensure that the enterprise:

- business risks are identified that are directly related to the objectives of preparing the financial statements;
- an estimation of the probability of their occurrence is carried out;
- their influence (consequences) is assessed;
- decisions are made aimed at their elimination (reduction);
- the risk management process is constantly monitored and adjusted if necessary.

The list of procedures to be performed by the auditor is not exhaustive and depends on the auditor's professional judgment. That is why, in order to gain knowledge about the business of the enterprise, the auditor needs to decide what information will be relevant and useful to achieve the set goal in the process of performing the audit engagement. In practice, auditors mainly use only financial information. This ultimately leads to unreasonable intermediate conclusions regarding the financial activities of the enterprise, since focusing on only one type of information source causes the risk of losing certain important characteristics of the audited object.



**Fig. 2. Responses to the Assessed Risks of Material Misstatement Due to Fraud**

*\*Complied according to the [1,3,6]*

The specific nature of the audit activity, which is associated with the receipt of a large amount of information, its systematization, analysis, the formation of intermediate conclusions, requires the use of professional judgment at all stages of the audit, determines the use of heuristic methods for analyzing information. But the use of such methods can carry the latent threat of falling into "cognitive traps" – errors of the auditor's judgment, which can significantly affect both the interim conclusions of the auditor and the final judgment in the process of forming the audit opinions on the financial statements. Cognitive traps can occur at any stage of the audit.

Investigation of the role of enterprise business knowledge in the audit process will provide an opportunity for a more thorough approach to collecting quality information about a business entity, analyzing it and making informed decisions to achieve this goal, will reduce the risks of errors in the auditor's judgment, the wrong choice of resources for verification, will contribute to the solution of both theoretical and practical problems in planning the audit, conducting the actual review of the assessment of audit evidence and in forming the auditor's opinion.

**Conclusions.** Knowledge of the business of the enterprise is a prerequisite for ensuring audit quality. The process of studying a business is long and laborious, since it includes not only obtaining information from various sources, but also its systematization and subsequent analysis in order to make appropriate decisions. A proper understanding of the nature of the enterprise is essential in preventing the occurrence of errors in the auditor's judgment.

The lack of clarity in the construction of the risk system and the corresponding estimation methods leads to a violation of the audit methodology, even if the process is formalized.

As a result we can see that there are three main benefits from planning audits: it helps the auditor obtain sufficient appropriate evidence for the circumstances, helps keep audit costs at a reasonable level, and helps avoid misunderstandings with the client.

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**Поддубна Наталія Миколаївна**, кандидат економічних наук. Київський національний торговельно-економічний університет. **Сучасний мейнстрим в аудиті: ризики та їх оцінювання.** Вплив економічної кризи, непередбачуваної епідеміологічної ситуації у світі на діяльність суб'єктів господарювання є значним та всеосяжним. Тому традиційні підходи до організації аудиторської перевірки (тотального дослідження операцій та первинних документів) довели свою неефективність. Аудиторська спільнота перебуває в постійному пошуку ефективних і прогресивних підходів до планування та організації роботи. У такому випадку ризики є тим головним критерієм, на якому аудитор першочергово фокусує свою увагу. Досліджено процедури ідентифікації, класифікації й оцінювання ризиків. Установлено, що у сучасному світі, сповненому невизначеностей, фундаментальним фактором успіху будь-якого суб'єкта господарювання в різних сферах економіки є управління ризиками. Побудова аудиторської роботи на основі оцінювання ризиків – це хороший шанс і актуальний спосіб зрозуміти різноманітні загрози, з якими стикається організація. Розроблено рекомендації, покликані допомогти отримати раціональне, прагматичне та усвідомлене розуміння про існуючі ризики суб'єкта господарювання.

**Ключові слова:** аудит, ризик-орієнтований підхід, властивий ризик, ризик контролю, ризик невиявлення.

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JEL M42

**Poddubna Natalia**, Ph.D (Economics). Kyiv National University of Trade and Economics. **Modern Mainstream in Audit: Risks and Their Assessment.** Impact of the current economic, financial crisis and the coronavirus pandemic on the business activities of companies are very huge and unpredictable. The traditional audit in the form of a total verification of primary documents has proved ineffective. The auditor's world is still grappling with how to ensure the most effective approach to organize their work. Risks are the main vector to which the auditor should pay attention. Risk identification, classification and assessment procedures are investigated in the article. Author has expressed opinion that risk management is fundamental to the success of organizations in every business sector. This is the complex world, full of uncertainty, so whatever its size, it must manage risk. Risk-based audit and assessment is a good chance and a modern way of understanding different threats that an organization faces. Recommendations on a new auditors' approach that should help get a rational and pragmatic view of risk are developed.

**Keywords:** audit; risk-based approach; audit risk; inherent risk; control risk; detection risk.

# WORLD ECONOMY AND INTERNATIONAL ECONOMIC RELATIONS

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## LIBERALIZATION AND PROTECTIONISM: AN ANALYSIS OF EXPERIENCE APPLICATION IN DIFFERENT COUNTRIES OF THE WORLD

Nataliia Bezrukova\*, PhD (Economics), Associate Professor  
Vitalii Svichkar\*\*, PhD (Economics)  
National University «Yuri Kondratyuk Poltava Polytechnic»

\* ORCID 0000-0003-3376-6718

\*\* ORCID 0000-0001-8554-1313

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**Introduction.** The growing number of participants in international trade and economic relations, their dynamization and complexity have necessitated the creation a system of international trade regulation. Foreign trade policy is an integral part of foreign economic policy. Implementing foreign economic and foreign trade policies, public authorities use an extensive system of tools. Historically, there are various forms of state protection of national interests in the struggle on world markets, which determine the trade policy of countries. According to the economic nature, goals and impact on the structure and dynamics of foreign trade, they are divided into two major groups: protectionist and liberal, or free trade. And here there is a difficult question of finding a balance between free trade and protectionism in order to find an economic compromise for the further development of the country's economy, integration of the state into the world economic space and at the same time protection of national economic interests.

Protectionism and liberalization are two alternative directions of the state's trade policy. In modern world practice, neither protectionist nor liberal trade policies are found in their purest form. Any country uses elements of both options of trade policy, combining them depending on its economic objectives at this stage, the situation in the world economy and national economy.

**Analysis of recent research sources and publications.** Many scholars devoted their works to research features of foreign economic and trade policies in different countries, as well as positive and negative effects of protectionist and liberal instruments, among them: I. Dumulen [2], S. Kim [4], R. Zoellick [5], R. Wade [6], A.-E. Bethany [7], E. Babin [9], T. Isachenko, [9] et al. devoted themselves to studying the peculiarities of foreign economic policy formation and the peculiarities of its regulation by international organizations, in particular the WTO. I. Dumulen [5], E. Babin [5], T. Isachenko [5] studied the elements of the mechanisms of protectionism and liberalization in the framework of the WTO, as well as analyzed their use in different countries. S. Kim drew attention to the historical genesis of the transformation of the GATT into the WTO [4]. R. Zoellick [5] and R. Wade [6] devoted their research to the processes of the influence of protectionism and liberalization on the economy of developing countries. The issue of the application of protectionist mechanisms in bilateral trade between the United States and China during the Trump

presidency and after it, there is analyzed in the work by A.-E. Bethany [7]. But, given the dynamism of the world economy, approaches to the formation of foreign trade policy of individual countries are constantly changing, which requires further analysis.

**The purpose** of the article is to analyze the peculiarities of liberalization and protectionism application in different countries in the world and to prove the expediency of their combination in the implementation of the country's foreign trade policy.

**Results.** In today's global economy, most countries seek to achieve maximum openness of their markets to foreign capital. Ukraine is no exception. If we assess the levels of trade barriers in most countries of the world, we can see the gradual movement of national trade regimes from strict protectionism to free trade and open economies. But as the experience of many countries shows, full liberalization is not always appropriate and does not contribute to the country's economic growth.

Protectionism dominated in the trade policy of most countries until the middle of the last century. This was largely due to the two World wars and the Great Depression, which led to increased tariff protection of national markets and the widespread use of quantitative restrictions on imports.

In the second half of the last century, the situation changed dramatically. In the world economy we observe the trend towards the liberalization of goods and services trade and the openness of national markets and this trend continues to strengthen.

The first impetus for this process came after the signing of the General Agreement on Tariffs and Trade (GATT) in 1947, which laid down the principles and rules governing international trade in goods [1]. The parties of the agreement were 23 countries that advocated an open and liberal trade policy, which was based on the most-favored-nation and national treatments.

During the second half of the twentieth century, trade in goods at the international level was significantly liberalized. In all rounds of negotiations within the GATT, ie from 1947 to 1994, the leading role was played by the United States [2]. But after the creation of the World Trade Organization (WTO) and especially the start of the Doha Round of trade talks in 2001, the situation began to change.

It should be noted that Ukraine is a very attractive country for foreign investors. Potentially capacious domestic market, rich reserves of natural resources, fertile lands, skilled and cheap labor, significant scientific and technical staff – all this can play a positive role in attracting foreign investment in Ukraine. Of course, it is necessary to conduct an effective and consistent investment policy and implement the necessary measures aimed at improving the investment climate, as well as to identify the most important goals and objectives of economic development, which are solved on the basis of attracting foreign investment. But world experience shows that developed countries, which are now seen as supporters of the liberalization of world markets, at certain periods of their development operated under conditions of strict protectionism. And some of them still practice tough measures to protect their own production in certain sectors of the economy.

A retrospective analysis shows that the countries of reference for liberals – the United States, Britain, and later – Japan, Germany, Finland, South Korea, Taiwan and other successful countries – did not use the policy of free trade and free investment until they passed a certain limit of economic development.

For example, in European countries after the 1950s, when they faced the flow of American and then Japanese investment, many mechanisms were used to ensure that national interests were not violated [2]. Formal mechanisms included currency controls and restrictions on foreign investment in key sectors of the economy. At the informal level, mechanisms such as preferences for state-owned enterprises and others were used to control foreign investment. In addition, many private agreements have been made in the UK since the 1970s to displace Japanese and other Asian companies operating in the automotive and consumer electronics industries. Another piece of evidence in favor of protectionism is the results of a referendum held in the United Kingdom in 2016, when the majority of the country's population voted to leave the European Union [3]. Prior to the referendum, the British population was informed that this was a so-called "hard exit", including, in addition to restricting migration flows, exit from the customs union and the single market.

Effective protectionist measures are now used in European countries and Japan in the form of various technological and environmental standards and restrictions. In particular, the preservation of left-hand traffic in Japan and the United Kingdom, the low standard of electricity in the United States, a special system of measures in the United Kingdom and the United States, and so on.

If we turn to history, in the United States since independence and almost until the middle of the twentieth century (when the country became a major world economic power), there were a number of federal and local regulations restricting the use of foreign capital. For example, since the first days of independence, many state governments have blocked or banned foreign investment in land, the banking sector, energy, and

the media [2]. As for foreign investment in the mining industry, the government's attitude towards them has never been unequivocally positive. Thus, federal laws of the last third of the nineteenth century granted mining rights only to US citizens and companies.

The US study, conducted more than two decades ago, confirmed that the vast majority of economists are in favor of trade liberalization, but only about 50% of the American community agreed that further trade liberalization agreements "will benefit the economy" [4].

Another paper analyzed public opinion polls, which was conducted over the past few decades, and concluded that people were constantly questioning the benefits of free trade [5]. The 2000 survey deserves special attention. That year, the US economy had record low unemployment and record high economic growth, but 48% of US residents still believed that trade "had a negative impact on the economy" and only 34% of respondents said that trade "goes to benefit the economy".

Public skepticism about the benefits of international trade has been reflected in trade policy. The history of the use of trade policy instruments in the twentieth century shows that people who made political decisions constantly ignored the arguments of economists in favor of free trade when political interests conflicted with economic ones. The period between the two World wars has shown how quickly politicians can close borders to trade when the domestic political situation calls for protectionist measures. At present, after more than seventy years of negotiations on easing trade restrictions, governments around the world continue to impose tariffs, quotas, "voluntary export restrictions", anti-dumping measures, health and safety regulations, artificially complicate customs procedures, and apply many other trade barriers.

Political leaders are constantly violating the terms of free trade agreements, which they themselves have facilitated. Suffice it to mention the introduction by US President George W. Bush the new tariffs on imported steel and Canadian lumber in 2002 [5]. It came just months after a ceremony in support of the resumption of Doha's multilateral trade talks and a campaign for immediate talks by all Western Hemisphere leaders to establish a free trade area in North and South America.

But even in the face of a sharp increase in China's role and after the global financial and economic crisis of 2008, the trend towards international trade liberalization persists, despite protectionist measures. This is reflected in the conclusion of new preferential trade agreements, free trade agreements and deeper stages of regional integration, as well as mega-regional trade agreements, including with the participation of the United States – Trans-Pacific Partnership (TPP), Transatlantic Trade and Investment Partnership (TTIP), and Service Trade Agreements (TiSA) [6].

However, one of the first presidential decrees signed by Trump after coming to power was a document on the withdrawal of the United States from the TPP. Later, the President of the United States directly stated via his Twitter account that trade wars were justified and that it was easy to win them [7].

In 2018, the United States significantly increased tariffs on aluminum and steel imports from virtually all WTO members, as a result of which a number of US partners initiated lawsuits within the framework of this international economic organization. During 2018 and in early 2019, negotiations were repeatedly held between the United States and China on a trade "truce" and the need to conclude a "good deal" [7]. Nevertheless, the possibility of waging "trade wars" between the United States and other WTO members is not ruled out.

It is advisable to pay attention to Japan's foreign trade policy, which in the shortest possible time has become a leading country in the world economy. Meanwhile, in Japan, the government from the beginning quite tightly controlled all foreign capital investment in the economy [2]. At the same time, Japanese companies spent significant amounts of money purchasing foreign patents and licenses to upgrade and develop their own production and export base. To date, foreign direct investment in Japan has been relatively small, and demands from foreign countries (particularly the United States) to remove formal and informal restrictions on their company's activities in Japan's domestic market have been ineffective.

Considering the example of Finland, we can note that even before the Second World War, this country was one of the poorest in Europe. Today it is one of the richest. Finland's significant economic growth is based on its regime of tight restrictions on foreign investment. To begin with, a law has been in force in Finland since 1851, obliging any non-Finnish citizen to obtain permission from the king (Finland was a Grand Duchy as a personal union) to own land [2]. A law was also passed that required foreigners to have a license to develop mining lands, forbidding them to engage in banking, construction of railways. After Finland gained independence from Russia, all these restrictions on foreign investment remained for a long time, and sometimes even intensified. And serious liberalization of foreign capital in the country began only in 1993 in connection with the country's preparations for EU accession.

For some time, much has been said about the economic miracle – as a result of the full liberalization of foreign trade and freedom for foreign investment – in the Republic of Korea [2]. However, it should not be forgotten that "free" foreign investment was rigidly directed by formal and informal methods to achieve goals that met national interests: increasing employment, improving the balance of payments, restricting imports and increasing exports of finished products, increasing production efficiency, inflows of new technologies and on this basis – a radical renewal of the structure of industry. Measures were also taken to counteract the influence of transnational corporations on restricting competition in the domestic market. As a result, after a period of rather tight state regulation, South Korea's economy became highly competitive even on the world market, which allowed it to join the ranks of supporters of maximum liberalization in world trade.

Of particular note are the so-called regional trade agreements, the number of which has been growing rapidly in recent decades. This is due, first of all, to the significant differences between the leading countries during the Doha Round and the loss of confidence in the negotiators' ability to reach a consensus on the content of the agreements to be adopted as a result. A distinctive feature of these agreements – their liberalizing nature, when two or more countries give each other mutual preferences. Free trade agreements (approximately 58% of all agreements) and economic integration treaties (31%) predominate among the notified and entered into force agreements, customs unions (7%) and agreements with partial coverage of the product range or economic sectors account for a much smaller share (4%) [2].

The rapid development of the network of regional trade agreements has naturally led to the strengthening of their role in international trade. Exports of countries participating in regional trade agreements to partner markets under these agreements are growing faster than world exports as a whole [8]. Given this growth in preferential trade, the most important principle of the WTO – the most-favored-nation treatment (the principle of equal treatment of all trading partners) – is increasingly losing its relevance as a means of ensuring non-discrimination. At the same time, the regional trade agreements themselves act as a tool that restricts competition in the markets of the parties to the agreements for producers from those countries that are not included in the agreement. And there is every reason to believe that the most important principle of international trade is beginning to be replaced by the opposite – the least favored nation regime for countries that are not members of a regional trade agreement. Procedures for approving regional trade agreements in WTO bodies do not preclude discrimination against third countries: when considering the establishment of customs unions or free trade areas, the main focus is on ensuring that customs duties are not higher than those that existed before the establishment of these agreements. Thus, it can be stated that the global interests embodied in the multilateral agreements of the WTO in the modern world are pushed into the background by national and regional interests.

Trade and political regimes of regional groups can be described as a system of collective protectionism, which is a kind of "hybrid" of protectionism and free trade [9]. On the one hand, this is true, but on the other – do not forget that the main vector in the development of regional trade agreements is the formation of more favorable conditions for trade than provided by international legal discipline, supported by the multilateral trading system.

**Conclusions.** The modern realities show that many participants in international trade cannot do without the use of protectionist tools. The rules for using these instruments are determined by dozens of agreements included in the WTO legal package. It turns out that the WTO, seeking to achieve trade liberalization, is forced to act simultaneously as a guardian of protectionism, albeit moderate in comparison with the protectionism of the last century.

Among the most common goals of protectionist policy in most countries in the world is the protection of strategic sectors of the national economy, such as agriculture, food and defense industries, information and communication technologies. As the security of these industries is particularly vulnerable to protection, protectionist measures can be used as a temporary means to support innovative industries until they reach an appropriate level of competitiveness. As a rule, states try to pursue a balanced foreign trade policy, using flexible methods of protectionism, preserving elements of free trade in order to create a favorable climate in economic relations with other countries.

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**Безрукова Наталія Валеріївна**, кандидат економічних наук, доцент. **Свічкарь Віталій Анатолійович**, кандидат економічних наук, доцент. Національний університет «Полтавська політехніка імені Юрія Кондратюка». **Лібералізація та протекціонізм: аналіз досвіду застосування у різних країнах світу**. Проаналізовано використання елементів лібералізації та протекціонізму в різних країнах світу і на різних етапах їх розвитку. Протекціонізм та лібералізація – два альтернативних напрями торгової політики держави. У сучасній світовій практиці ні протекціоністська, ні ліберальна торгова політика у чистому вигляді не зустрічаються. Будь-яка країна використовує елементи обох варіантів торгової політики, комбінуючи їх залежно від поставлених нею господарських завдань на певному етапі, ситуації у світовій економіці й національному господарстві. Метою статті є аналіз особливостей застосування лібералізації та протекціонізму в різних країнах світу й доведення доцільності їх поєднання при реалізації зовнішньоторговельної політики країни. Аналіз досвіду багатьох країн світу свідчить про те, що не завжди повна лібералізація є доцільною та сприяє економічному зростанню країни. У торговельній політиці більшості країн світу до середини минулого століття домінував протекціонізм. Але у другій половині минулого сторіччя ситуація кардинально змінилася. У світовій економіці виникла й продовжує зміцнюватися тенденція в напрямі лібералізації обміну товарами і послугами та відкритості національних ринків. Досліджено особливості використання інструментів протекціонізму й лібералізації у провідних країнах світу. Ретроспективний аналіз показує, що еталонні для лібералів країни – США, Великобританія, а на більш пізньому етапі – Японія, Німеччина, Фінляндія, Південна Корея, Тайвань та інші успішні держави – не використовували політику вільної торгівлі й вільних інвестицій до тих пір, поки не перейшли визначену межу економічного розвитку. Особливу увагу приділено так званім регіональним торговельним угодам, кількість яких в останні десятиріччя зростає швидкими темпами. Наголошено, що торговельно-політичні режими регіональних угруповань можна кваліфікувати як систему колективного протекціонізму, який є свого роду «гібридом» протекціонізму та вільної торгівлі. Отже, сучасні реалії свідчать, що без використання інструментів протекціоністського захисту багато учасників міжнародної торгівлі обійтися не можуть. Правила застосування цих інструментів обумовлюються десятками угод, що входять до правового пакета СОТ. Як правило, держави намагаються провадити збалансовану зовнішньоторговельну політику, використовуючи гнучкі методи протекціонізму, зберігаючи елементи вільної торгівлі з метою створення сприятливого клімату в економічних відносинах з іншими країнами.

**Ключові слова:** лібералізація, протекціонізм, міжнародна торгівля, торговельні бар'єри, вільна торгівля.

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**Bezrukova N.V.**, PhD (Economics), Associate Professor. **Svichkar V.A.**, PhD (Economics), Associate Professor. National University «Yuri Kondratyuk Poltava Polytechnic». **Liberalization and Protectionism: an Analysis of Experience Application in Different Countries of the World.** The authors analyze the use of liberalization and protectionism elements in different countries of the world and at different stages of their development. Protectionism and liberalization are two alternative directions of the state's trade policy. In today's world practice, neither protectionist nor liberal trade policy is used in its purest form. Each country uses elements of both trade policy options, combining them according to its economic goals at this stage, the situation in the world and national economies. The purpose of the article is to analyze the peculiarities of liberalization and protectionism application in different countries of the world and to prove the feasibility of combining them in the implementation of the country's foreign trade policy. An analysis of the experience of many countries in the world shows that complete liberalization is not always appropriate and does not always contribute to the country's economic growth. In the middle of the last century, protectionism dominated in trade policy in most countries of the world. But the situation changed dramatically in the second half of the last century. The tendency towards liberalization of goods and services exchange and openness of national markets has emerged and continues to strengthen in the world economy.

The authors investigate the features of using the tools of protectionism and liberalization in the leading countries of the world. A retrospective analysis shows that countries which are the benchmarks for the liberals now – the US, the UK, and at a later stage – Japan, Germany, Finland, South Korea, Taiwan and other successful states – have not used free trade and free investment policies until they crossed defined boundary of economic development. Particular attention is paid to the so-called regional trade agreements, the number of which has been growing rapidly in recent decades. The authors emphasize that the trade-political regimes of regional groups can be classified as a system of collective protectionism, which is a kind of "hybrid" of protectionism and free trade. Thus, current realities show that without the use of protectionist tools, many participants in international trade cannot do. The rules governing the use of these instruments are subject to dozens of agreements that are part of the WTO legal package. As a rule, states try to pursue a balanced foreign trade policy using flexible protectionist methods while maintaining free trade elements in order to create a favorable climate in economic relations with other countries.

**Keywords:** liberalization, protectionism, international trade, trade barriers, free trade.

## **THE GEOPOLITICAL AND GEO-ECONOMICS DIMENSIONS OF THE PANDEMIC IN AFRICA**

**Abdelhamid Nechad, Professor  
ESCA School of Management, Casablanca, Morocco**

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**Introduction.** In Africa, the first case was reported on February 14 in Egypt, and two weeks later in Algeria and Nigeria. By the end of February 2021, there were almost 4 million confirmed cases in Africa. However, the number of deaths remains relatively low.

The pandemic has hampered the continent's development efforts. Thus, the growth rate in sub-Saharan Africa fell from 2.4% in 2019 to 5.1% in 2020. According to the latest edition of Africa's Pulse, the World Bank's semi-annual report on the economic climate in Africa, the region is expected to fall into its first recession in more than 25 years. "The Covid-19 pandemic continues to test the limits of societies and economies around the world, and may deal a particularly hard blow to African countries"<sup>1</sup>, says Hafez Ghanem, World Bank Vice President for Africa. The senior official of the institution of the Bretton Woods also believes that maximum resources were mobilized to meet the immediate medical needs and essential for the survival of their population. Official bilateral creditors are called upon to design a debt service moratorium that would strengthen health infrastructure in order to cope with the pandemic and mitigate its economic, social and humanitarian effects.

According to the same report, African leaders are strongly recommended to strengthen health systems and respond quickly and effectively to avoid disruption in food supply chains and the damage that would cause. The authors of the report also recommend setting up safety nets for vulnerable populations and workers in the informal sector.

While most African countries are affected to varying degrees by the pandemic, growth in real gross domestic product should, in particular, impact the three largest economies in sub-Saharan Africa (Nigeria, Angola and South Africa). The countries the most affected are those whose exports are composed mainly of raw materials. These are of course the countries commonly called "rentier countries".

It is not excluded that the health crisis will cause a food crisis. The contraction of agricultural production reached 7%. Still according to the World Bank, food imports suffered a serious blow, going from 13 to 25%, penalized by high transaction costs and sluggish domestic demand.

Several African countries have reacted quickly to counter the proliferation of the coronavirus. The international guidelines were generally followed to the letter. However, several factors may hamper the efforts made in particular; high population density in disadvantaged neighborhoods, lack of access to basic needs, non-compliance with hygiene and social distancing rules as well as the fragility of health systems. In short, the magnitude of the impact will ultimately depend on the reaction of the population and the response provided by the public authorities.

The World Bank report insists on the need to propose policy responses adapted to the context of African economies (in particular the important place of the informal sector) as well as the specific constraints currently facing governments, in particular the reduction of budgetary leeway, The debt and the overall lack of operational capabilities to respond to the crisis.

For Cesar Calderon, economist at the World Bank and lead author of the report, only debt relief will allow a return to social balance and, at the same time, preserve the region's macroeconomic gains.

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<sup>1</sup> <https://www.banquemondiale.org/fr/news/press-release/2020/04/09/covid-19-coronavirus-drives-sub-saharan-africa-toward-first-recession-in-25-years>

IMF economists defend the same point of view. They stress the importance of rapid action to help developing countries step up their action against the pandemic and improve health surveillance, while supporting the private sector to enable businesses to continue their activities and maintain jobs.

Beyond the purely economic and health aspects, the crisis should be analyzed from a geopolitical angle due to its strong correlation with other aspects that risk shaping the future of the continent.

**Main material and investigation results.** A review of the literature on Covid-19 reveals other aspects of the crisis that are more relevant to the field of geopolitics; it is about security, migration and terrorism. Combined with other global factors, the assembly of the dimensions mentioned above suggests a new configuration of relations between Africa and the great powers on one side and between Africa and emerging countries on the other. It is important to remember that although at first glance these issues may seem distinct from each other, they should be addressed together as they influence and influence each other.

The global epidemic could wreak havoc in fragile states, triggering widespread unrest and put a strain on crisis management systems. Its implications are particularly serious for those caught in the middle of a conflict if the disease disrupts the flow of humanitarian aid, limits peace operations and diverts the parties in conflict from emerging or ongoing diplomatic efforts. Some leaders may exploit the pandemic to advance their goals in ways that exacerbate national or international crises - quelling dissent at home or deepening conflicts with rival states. The Covid-19 has fueled geopolitical friction. The United States blames China for the disease while Beijing tries to win friends by donating vaccines to affected countries, exacerbating existing tensions between the great powers and complicating cooperation in crisis management.

The dramatic economic slowdown, already underway is disrupting trade flows and will create unemployment rates that will do unprecedented damage. Such a recession could take a heavy toll on fragile states where the risk of unrest and conflict is highest.

African populations affected by conflict are likely to be particularly vulnerable to epidemics. In many cases, war or protracted unrest, especially when compounded by mismanagement, corruption or foreign sanctions, has left national health systems deeply unprepared for COVID-19.

In addition to these institutional problems, it can be difficult to persuade populations who have little confidence in their leaders to follow public health guidelines. Following the outbreak of the 2014 Ebola epidemic in Guinea, Liberia and Sierra Leone, the virus initially spread unchecked not only due to weak epidemiological surveillance and inadequate capacities and response of health systems, but also because people were skeptical of what their governments were saying or asking them to do. The doubts stemmed in part from disinformation and bad advice on contagion from the governments concerned, but also from recurring political tensions in a region marked by war in the previous decade.

The conflict areas with the greatest immediate risk of COVID-19 outbreaks could be Cameroon, Somalia, Mali, South Sudan, Nigeria, Central African Republic, Kenya or Libya. Since the outbreak of the epidemic, United Nations officials have continued to sound the alarm bells about the COVID-19 infection of the displaced. Many people fleeing the clashes sleep in the fields or under the trees, and basic hygiene and social distancing practices are practically impossible due to the lack of running water or soap as well as by the cramped living spaces.

The pandemic has exacerbated the challenges already facing a region with one of the biggest humanitarian crises in the world, involving more than nine million displaced persons in Africa and the Middle East<sup>2</sup> by force. The pandemic has caused borders to be closed and added increased pressure on health systems, which were already very vulnerable. The UN fears that the potential movements of Malians, Nigerians, Somalis, Nigerians, Cameroonians and Sudanese seeking international protection will be hampered by these restrictions.

In addition to precarious security (especially in the Sahel and the Lake Chad Basin), restrictions imposed by Covid-19 also hamper humanitarian efforts to support and assist those in need.

On the ground, the situation remains worrying. Thus in Burkina Faso, for example, Malian refugees left their Goudoubo camp to flee attacks by armed groups. Some have taken refuge in overcrowded sites initially reserved for internally displaced persons.

In Niger, humanitarian access, already limited in the northern regions of Tahoua, Tillabery and Diffa due to increasing violence, is now even more restricted due to the pandemic.

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<sup>2</sup> <https://www.unhcr.org/fr/news/stories/2020/3/5e7e0adea/laces-services-sante-essentiel-lutter-contre-covid-19-sauver-vie-refugies.html>

In Mali, campaigns against sexual violence and awareness programs on human rights and social cohesion are suspended to limit public gatherings.

In the Central African Republic, UNHCR staff report that in some localities, armed groups are forcing internally displaced people to return to their places of origin, blaming them for the potential spread of Covid-19.

In many cases, women, who often constitute the majority of internally displaced persons in conflict-affected areas, will feel the impact of COVID-19 on refugees and internally displaced persons disproportionately. These women's access to services and their ability to feed their families are already severely limited by the stigma attached to their links (real or suspected) with armed groups. Exposed to sexual exploitation or abuse, their rehabilitation or reintegration into communities is not a priority for weak or indifferent governments. Thus, displaced women and children are the first to be affected by the crises that will accompany the spread of the disease.

This combined with the other economic effects of COVID-19 – such as the disappearance of tourists in areas that rely heavily on foreign visitors – could lead to economic shocks that will last well beyond the immediate crisis, creating the potential for disruption. Prolonged periods of work and social instability make it possible to envisage the likelihood of an unprecedented migration crisis.

COVID-19 will most likely affect the general economic conditions of migrants and reinforce the factors aggravating irregular mobility. Politically, the narratives that fuel the fear of “outsiders” can be easy to disseminate and consume in times of crisis when the economy slows down and inward-looking social and economic policies seem most secure.

The coronavirus pandemic has made mobility within the European Union difficult. Long considered one of the great successes of European integration, the Schengen area is frozen, following the closure of borders. Despite its temporary nature, this closure will inevitably have consequences for mobility both inside and outside the European Union.

Tightening of Schengen visa requirements for African nationals can be expected, despite the fact that the EU has put in place a new, long-awaited Schengen visa code that aims to ease visa requirements for regular African travelers. The code entered into force in February 2020, and its survival will depend on the political choices made by the EU.

Migrants stranded at the external borders of countries should be provided with adequate resources to prevent the spread of the pandemic. Particular attention should be paid to the early detection of infected persons and their treatment. The International Organization for Migration (IOM) says that three quarters of the refugees and migrants in the world are hosted in developing countries where health infrastructure is very limited. Consequently, specific funds should be devoted to the supply of detection kits and health equipment to the structures concerned in the host countries. Aid workers should also be allowed to continue their missions with migrants and refugees under optimal conditions, providing them with the necessary resources. General living conditions in the centers should be improved and migrants should have better access to sanitary and hygiene products. IOM has stressed that many irregular migrants and asylum seekers may be reluctant to seek help if they show symptoms of COVID-19 because they fear being intercepted or detained by authorities in host countries.

In a region infested with terrorist groups, a health crisis coupled with a migratory crisis is certainly an opportunity for the supporters of the theology of terror. Scenes of kidnapping young women and children in refugee camps have become commonplace as central powers are either confined to capitals or concerned about tackling the pandemic in crowded areas. We believe that it is impossible to "contain the evil" especially when terrorism takes advantage of the pandemic to reign terror among the most vulnerable populations in certain regions of the continent.

In the light of COVID-19 and its various effects, in particular on social dynamics and counterterrorism efforts, it seemed opportune to provide a new analysis of the current developments on the continent.

Despite the pandemic, attacks continue. During this crisis, certain terrorist groups were very active, taking advantage of a favorable situation for a certain number of organizations.

Thus, the JNIM group (Jamaat Nusrat al Islam wa al Mouslimin), took advantage of the absence of the Malian regular army on the front to regain control of most of the Malian Gourma region, even driving out the ISGS (Organization of the Islamic State in the Greater Sahara) from some of its traditional strongholds in the province of Soum to the north.

Based in Mali and Burkina Faso, Katiba Macina or the Macina Liberation Front was created in January 2015 following the arrival of French troops in Mali in 2013, with Amadou Koufa as leader. The

group attacked a military convoy in Mali, killing 24 soldiers on June 15. He is also accused of having committed an attack on an Ivorian military base on June 11.

Ansaru is an Al Qaida affiliate based in northwest Nigeria, which, although it was created in 2009 as a faction of Boko Haram, became independent in 2012 and has since emerged from "dormancy". January 2020. Recently, this group killed six soldiers and abducted civilians during the attack on January 15. In February 2021, it is even believed that the group had anti-aircraft guns.

Based between Mali, Burkina Faso and Niger, the Organization of the Islamic State in the Greater Sahara (ISGS) is a subsidiary of the Islamic State. France reportedly arrested an important ISGS leader on June 6, while some of its fighters fled to Mauritania.

In March 2020, fighters from the Boko Haram group seized the opportunity of Covid-19 to assassinate 92 Chadian soldiers when the Nigerian army killed more than 56 of its members.

On June 10, in the village of Felo, in Nigeria's Borno State, attackers from the Islamic State in West Africa (EIAO), a subsidiary of Boko Haram, killed nearly 69 people.

The dynamism of terrorist groups is largely linked to the absence of regular armies in conflict zones and the rise of several "sleeper" cells in some countries. Terrorists take advantage of the health crisis and the overflow of local authorities to establish their hegemony over border areas or in regions qualified as non-lawful areas.

Mixed and controversial by their nature, relations between Africa and the BRICs<sup>3</sup> were not always smooth, especially with the Chinese dragon. Proponents of liberal orthodoxy believe it would be more Chinese-style neocolonialism this time around. Mega-projects of course, but with social benefits those are always conclusive.

African governments that have close trade relations with China are feeling the pain of the slowdown caused by the outbreak from Wuhan. Oil producers are already grappling with volatile energy prices. A country like Nigeria, which has strong import / export links with China and which depends on oil prices to support its public finances, is suffering. Abuja has reportedly considered cutting spending by 12 % in 2021, which means the authorities may have to break promises to increase the minimum wage.

An important point to keep in mind is that even before the outbreak of the coronavirus, several African countries were increasingly concerned about the level of debt build-up to China – largely due to the infrastructure projects. Many observers have argued that unsustainable debt or what has been termed a "debt trap" by many analysts increases dependence on China. A detailed report released in 2018 by the Belfer Center for Science and International Affairs at Harvard University called "debt book diplomacy" the phenomenon of China lending to developing countries that are often unable to repay.

In a post-coronavirus world, Africa may reassess its economic ties with China. A number of countries have already started to hint at the need to renegotiate Chinese loans. This is the case of Tanzania. Tanzanian President John Magufuli, who urged international creditors to cancel debts of African nations, has decided to cancel a Chinese loan estimated at \$ 10 billion.

In order to stem the economic slowdown linked to Covid-19, the Nigerien president, Mouhamadou Issoufou, called for a "Marshall plan for Africa".

His Senegalese counterpart Macky Sall called for the cancellation of public debt contracted abroad.

At the end of March, African finance ministers revived the discussion. The United Nations Conference on Trade and Development CNUCED, which advises aid of 2.5 trillion dollars, including the forgiveness of 250 billion in debt, to cushion the Covid-19 crisis in Africa, supported their call.

The idea was also supported by the Bretton Woods institutions at the end of March and taken up by Emmanuel Macron in his speech on Monday, April 13, 2020. The French president spoke of the need for a "massive cancellation" of the African debt by Europe. The European Union (EU) on Tuesday (April 28) granted funding of 194 million euros to the G5 Sahel countries to strengthen their security forces and it committed during a video conference to examine the request for African debt cancellation<sup>4</sup>.

China, the continent's largest donor, seems to be on the way to debt rescheduling. Beijing could freeze repayments to let African economies breathe, but not cancel them entirely.

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<sup>3</sup> In the current paragraph, we are talking about the BRICs and not the BRICS since it is about emphasizing the role of emerging countries outside Africa in a post-Covid perspective.

<sup>4</sup> [https://www.lemonde.fr/afrique/article/2020/04/29/l-union-europeenne-va-examiner-l-annulation-de-la-dette-africaine-demandee-par-le-g5-sahel\\_6038127\\_3212.html](https://www.lemonde.fr/afrique/article/2020/04/29/l-union-europeenne-va-examiner-l-annulation-de-la-dette-africaine-demandee-par-le-g5-sahel_6038127_3212.html)

As for Afro-Indian relations, they are less controversial than those with China are. India is currently Africa's fourth largest trading partner and the third largest destination for African exports. After South Asia, Africa is the second-largest recipient of Indian aid abroad, with lines of credit worth nearly \$ 10 billion spread across 100 projects in 41 countries. 6000 Indian troops are currently deployed in United Nations peacekeeping missions in five conflict zones in Africa. However, it should be pointed out that during the pandemic India's interest in its African partners declined. India mainly provided in-kind aid (detection kits and hydroxychloroquine) with a value not exceeding \$ 8 million. An insignificant sum for a country considered the continent's second trading partner with a trade volume of over 45 billion dollars annually. Indian indifference to Africa will certainly condition Afro-Indian relations for the post-Covid-19 period.

Russia's attitude is "less mixed" than its Chinese and Indian counterparts. The Russian Foreign Ministry said some countries have requested Moscow's support to combat Covid-19 and that these requests are "carefully considered" adding that the rates of the virus spread are relatively low in Africa, except in Egypt, Morocco and South Africa.<sup>5</sup>

It is therefore clear that for the Russians, the provision of comprehensive assistance in matters of Covid-19 is practically impossible for all of Africa. Historically, Russia has always had a marked preference for the Maghreb region and the countries of southern Africa. Thus, during the first months of the pandemic, aid was provided to Algeria, Egypt, Morocco and Tunisia in North Africa. In southern Africa, the beneficiaries have been Mozambique, South Africa and Zimbabwe, according to various African media reports.

Regarding Brazil, his interest in the continent goes through Morocco. Brazil is the third destination for Moroccan exports and the Kingdom's first partner in Latin America. However, Brazil's participation in the effort to fight the pandemic in Africa is almost non-existent, including in Portuguese-speaking countries such as Angola, Mozambique, Guinea Bissau and Cape Verde.

For the other great Emerging, which is Turkey, the Turkish Minister of Foreign Affairs Mevlüt Çavuşoğlu sent several important messages on the future of Turkish-African relations. On May 25, Çavuşoğlu presented the figures that show the evolution of the Turkish-African partnership during the past 18 years with stronger diplomatic, economic and trade, greater Turkish humanitarian aid in Africa, scholarships higher or more flights of Turkish Airlines to African destinations. He said that this win-win vision would continue during the period post-coronavirus. Several African countries have benefited from Turkey's support since the outbreak of the pandemic (drugs, screening kits, masks, etc.). This is particularly Algeria, Ethiopia, Chad, Somalia and Djibouti.

As the great Emerging adopt a controversial stance towards Africa, the Kingdom of Morocco is emerging as the continent's new rising force. King Mohammed VI has proposed the launch of an initiative of African heads of state aimed at establishing an operational framework to support African countries in their various phases of managing the pandemic.

There is no doubt that, in a post-Covid logic, Africa will continue to be the object of all covetousness since it is a region with enormous potential (human capital, rate of growth, natural resources). However, in the face of the indifference of some and the involvement of others, Africa will certainly have to thoroughly review its relations with the rest of the world. The new configuration of relations with the BRICs as with other emerging countries (Turkey, Egypt) or emerging countries (Morocco) will certainly take into account what each country or sub-region has been able to capitalize on as experience during the pandemic.

A year after the detection of the first case of Covid-19 in Africa, we have made efforts to identify some of the most significant impacts of the pandemic, as well as the possible opportunities that the current crisis could create. Our reflection concerns the impact of the crisis on African economies and populations, as well as the possibilities for the development of intra-African trade, technological innovation, and the promises that a new contract between leaders and citizens could represent.

The health crisis will certainly lead to a slowdown in growth. Initially, we expected a rate of 3.2%. Today, the most optimistic analyzes point to a bleak future for growth in Africa since, according to a World Bank report, this rate did not exceed – 3.3 % during the year 2020<sup>6</sup>. The economic cost of containment is estimated at \$ 69 billion per month. For Vera Songwe, economist at the World Bank; the main challenges each country faces are saving jobs, preventing citizens from sliding deeper into poverty, and protecting the most vulnerable while stopping the spread of the virus. As a result, there is a need to provide

<sup>5</sup> <https://allafrica.com/stories/202005150276.html>

<sup>6</sup> <https://www.banquemondiale.org/fr/region/afr/overview>

immediate support of at least \$100 billion to meet health and humanitarian needs, to put in place emergency economic stimulus measures to provide budget support to countries, and increase private sector liquidity to protect jobs. She added »We are in a long period of slow growth, which means increased poverty in African markets, particularly in countries that depend on oil for government revenue and foreign exchange "7.

With controversial prowess in the evolution of vaccination campaigns, Africa could see itself inflicting considerable losses in the fight against poverty after a good ten years of combating deprivation and relative progress in the field of public health. In a continent where the economy continues to be dependent on commodity prices, a large number of rentier countries are now witnessing an unprecedented decline in their foreign exchange reserves due to fluctuations in oil and gas prices in the world market. Not to mention the decline in public revenues and therefore the exacerbation of poverty that this could cause.

For the slightly more optimistic Fairfax Africa Fund, the continent's economic forecasts will depend on several factors, the most important of which is whether all Africans will have access to the vaccine or not. If this is the case, a strong expansion of economic activities in the world, including Africa, with overall GDP growth returning to levels almost equal to those before the Covid-19 in 18 to 24 months is possible. The various authors of the report converge on the fact that if the vaccination campaigns do not go as planned in the next 12 months, Africa will experience unemployment rates never reached in the past, not to mention the impoverishment of the population, and a low level of public revenues with all the uncertainty that this could generate.

It is widely accepted that the pandemic has had a huge impact on the supply chain. Disturbances inevitably influenced the structure of trade at the global level. This movement because of their dependence on international markets, in particular, has not spared African markets in terms of imports, many of which can be produced locally. Thus, the pandemic has opened up new opportunities for local producers. Can the current situation be the occasion to realize the dream of an African continental free trade area (launched in 2018 and which was supposed to start in July 2020)? Except that for this, a political will consisting in creating a favorable environment is required.

The other opportunity that the Covid-19 crisis offers Africans is the expansion of the digital economy. Electronic commerce is experiencing an unprecedented boom in Africa. In the opinion of IMF experts<sup>8</sup>, it is probably an irreversible process. Still according to the IMF, The use of ICT is on the rise in Africa. This concerns online payments, administration, education, etc.

Today, there is agreement that virtual boards, online signatures and paperless document sharing are increasingly becoming the norm in many African business circles. Although they have been around for some time, these technological solutions were not considered acceptable forms of doing business in Africa before the pandemic. It will be difficult to turn back once a certain normalcy is restored. By forcing a new way of doing things, the pandemic has opened the door to a new way of thinking that should once again offer Africa the luxury of skipping decades of progress in other parts of the world, in order to claim the continent's share of the benefits of the digital age.

One year after the outbreak of Covid-19 in Africa, uncertainty remains the golden rule. Most international institutions remain without opinions when it comes to deciding the future of the crisis. However, all agree that the fight against the pandemic has been largely aided by the combined action of governments, institutions, academics, businesses, civil society and ordinary citizens. The world after Covid will depend in the first place on the sustainability of this spirit of solidarity even if this remains relatively relative in the face of a multifaceted Africa.

Africa is surprising, In some countries, Covid-19 has shown that another Africa is possible if the response is inclusive in the sense that we take into account the weight of the informal sector. These through attempts at "informal reform", but this time gently. This is the principle of "soft relativism" dear to supporters of critical thinking. With this in mind, a merciless fight against inequality is inescapable.

It is therefore clear that a plural approach is required. The determinism of international institutions regarding the management of successive crises in Africa ended in a fiasco. In times of crisis, a possible triumph of the local over the global is possible. Inter and intra-community solidarity, the dynamism of the informal sector, African-style altruism, and the political will in emerging democracies constitute a lever for the Africa of tomorrow in the face of an increasingly uncertain world situation. Shouting "victory" ahead of time could translate into a fanfare of the pandemic with its share of loss of life and economic depression.

<sup>7</sup> <https://covid19africawatch.org/100-days-of-covid-19-in-africa/>

<sup>8</sup> <https://www.imf.org/external/pubs/ft/fandd/2020/06/pdf/COVID19-pandemic-impact-on-remittance-flows-sayeh.pdf>

It is commonly accepted that the Covid-19 pandemic in Africa is not only a health crisis but also an economic, social and human tragedy. Economies, lifestyle as well as purchasing power have been strongly impacted as demand for African commodities have fallen and tourism has fallen sharply. Remittances – which can represent more than 10% of gross domestic product (GDP) – are also drying up. The price of oil, which accounts for 40% of African exports and 7.4% of GDP, has halved, which has sharply reduced the income of countries like Nigeria and Algeria. A similar collapse in coffee and cocoa prices has lowered the incomes of Ethiopia, Kenya, Côte d'Ivoire and other producers.

The pandemic has had a disproportionate impact on households and businesses in the informal sector. In times of crisis, what worries the modest African is the means of subsistence. Workers in the informal sector, or 85.8% of the workforce, who lack social protection or shock absorbers against economic shocks, face devastating consequences. This is especially true for women who constitute the majority of workers in this sector.

The pandemic has also exposed long-standing weaknesses and inequalities, including systemic discrimination against women and girls. According to a UNDP report, an alarming increase in the levels of domestic violence and violations of human rights within the containment has been found. Not to mention the stories of pain, anxiety, frustration, and angst.

There is no doubt that African leaders have taken the right steps that have saved lives and saved the thrifty from collapse. However, the lack of visibility as well as the lack of rigor of certain regimes could prove fatal for the populations. Indeed, the pace of disruption is likely to accelerate in the coming months, especially in countries whose economies depend heavily on oil exports. Africa's economic growth could contract, pushing an additional 29 million people into extreme poverty. As the toll grows, face-to-face schooling is largely suspended, forcing children to drop out of school, thus creating uncertainty about their ability to continue their education and losing some of the achievements of the children. In the last five years food shortages, including maize, cooking oil and flour, could trigger a food crisis if problems such as locust plagues that devour crops and pastures are not addressed. In East Africa, The disruption of global supply chains also significantly affects export capabilities.

**Conclusion.** Based on this observation, we believe that governments, the private sector and international institutions should thoroughly review their strategies in order to preserve livelihoods in a continent haunted by poverty, illiteracy and morbidity.

Faced with such a dramatic situation, there is also hope, anchored in the customary spirit of solidarity and African goodness "I am because we are".

Doctors, nurses, other frontline workers, and ordinary citizens, men and women, young and old, are showing sacrifice, courage and commitment in the fight against the pandemic. Women represent 70% of the health workforce; they risk their lives to save others, as doctors, nurses, laundresses, orderlies and others. Young Africans offer innovative solutions to health problems. Governments have announced aid measures. Companies are converting their production lines to make masks, disinfectants, gowns, and more.

These positive developments help to maintain hope. Barely a few months ago, we were talking about this Africa of the possible. Some of the fastest growing economies in the world were on the continent. The expansion of internet access has continued to push the boundaries of innovation for Africans, especially young people.

We must therefore be confident that the pandemic is not necessarily unsurpassable, and that the African sun can shine again – thanks to the young people of the continent, to innovation and to real partnerships for better recovery. Despite the devastating effects of the pandemic, Africa can better rebuild itself. Here are some ways to achieve this:

First, improve access to free vaccine and medical supplies by creating lanes to facilitate rapid movement, suspending tariffs on medical items, establishing price control mechanisms, and encouraging local manufacture of medical supplies.

Second, protect small and medium-sized businesses, including by providing tax benefits and taking advantage of the opportunities offered by the digital economy.

Third, implement the African Continental Free Trade Area to accelerate Africa's industrialization and position its economy so that it can better withstand future global shocks.

Fourth, take advantage of the crisis to accelerate the transition to low-carbon growth with a shift to economies that avoid air pollution, create green jobs and ensure clean and sustainable consumption and production.

Fifth, women must be present at the decision-making table. It is also urgent to call on the talent of young people if we are to truly succeed in transforming Africa into a land of inclusion and prosperity that will serve future generations.

A year has passed since the appearance of Covid-19 in Africa, and uncertainty remains the rule. The most seasoned experts are left without opinions when it comes to deciding the future. However, all agree that the fight against the pandemic has been largely aided by the combined action of governments, institutions, academics, businesses, civil society and ordinary citizens. The return to normal will depend in the first place on the perpetuation of this spirit of solidarity even if this remains relatively relative in the face of a multifaceted Africa.

The crisis could be the answer to a series of curses that have befallen Africa since the advent of independence. The continent is surprising. In some countries, Covid-19 has shown that another Africa is possible if the response is inclusive in the sense that we take into account the weight of the informal sector. This attempts at "reform of the informal", but gently this time. This is the principle of "soft relativism" dear to supporters of critical thinking. In this spirit, a merciless fight against inequalities is essential.

Ultimately, the magnitude of the impact will depend on the reaction of the population and the response of the government.

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JEL F01, F29, F42

**Доктор Абделхамід Нечад**, професор. Школа управління ESCA, Касабланка, Марокко. **Геополітичні та гео економічні виміри пандемії в Африці.** Розглянуто проблематику впливу пандемії на розвиток континенту. Виконано аналіз і порівняння аналітичного матеріалу, що дозволяє визначити таке: темпи приросту в Африці на південь від Сахари впали з 2,4% у 2019 році до -5,1% у 2020 році. Згідно з останнім виданням «Африканського пульсу», піврічним звітом Світового банку про економічний клімат в Африці, регіон очікує потрапляння у першу рецесію за понад 25 років. Африканським лідерам рекомендовано зміцнювати системи охорони здоров'я та реагувати швидко й ефективно, щоб уникнути зривів у ланцюгах постачання продуктів харчування та шкоди, яка може бути завдана. Автори звіту також рекомендують створити захисні мережі для вразливих верств населення й працівників неформального сектора.

Хоча більшість африканських країн різною мірою зазнає впливу пандемії, зростання реального валового внутрішнього продукту повинно, зокрема, вплинути на три найбільші економіки Африки на південь від Сахари (Нігерія, Ангола та Південна Африка). Найбільше постраждали країни, експорт котрих складається переважно із сировини. Це, звичайно, країни, які зазвичай називають «країнами рантьє». Огляд літератури про Covid-19 розкриває інші аспекти кризи, що мають більше значення для галузі геополітики; мова йде про безпеку, міграцію й тероризм. У поєднанні з іншими глобальними факторами сукупність згаданих вище вимірів наводить на думку про нову конфігурацію відносин між Африкою та великими державами, з одного боку, і між Африкою та країнами, які розвиваються, з іншого. Важливо пам'ятати, що хоча на перший погляд ці проблеми можуть здаватися відмінними одна від одної, їх слід розв'язувати разом, оскільки вони чинять взаємний вплив. Глобальна епідемія може зумовити хаос у нестабільних державах, спричинивши широкі заворушення та створити навантаження на системи управління кризами. Її наслідки особливо серйозні для тих, хто потрапив усередину конфлікту, якщо хвороба порушує потік гуманітарної допомоги, обмежує мирні акції та відволікає сторони конфлікту від нових чи постійних дипломатичних зусиль. Минув рік з часу появи Covid-19 в Африці, а невизначеність залишається занадто стабільною. Переважна більшість експертів сходяться на думці, що боротьбі з пандемією значною мірою сприяли спільні дії урядів, установ, науковців, підприємств, громадянського суспільства та пересічних громадян. Повернення до нормального стану, передусім, залежатиме від збереження духу солідарності, навіть якщо це обмежується умовами багатогранної Африки.

**Ключові слова:** Covid-19, геополітика, гео економіка, пандемія, економіка, розвиток.

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**Abdelhamid Nechad**, Professor at ESCA School of Management, Morocco. **The Geopolitical and Geo-Economics Dimensions of the Pandemic in Africa.** The pandemic has hampered the continent's development efforts. Thus, the growth rate in sub-Saharan Africa fell from 2.4% in 2019 to -5.1% in 2020. According to the latest edition of Africa's Pulse, the World Bank's semi-annual report on the economic climate in Africa, the region is expected to fall into its first recession in more than 25 years. African leaders are strongly recommended to strengthen health systems and respond quickly and effectively to avoid disruption in food supply chains and the damage that would cause. The authors of the report also recommend setting up safety nets for vulnerable populations and workers in the informal sector.

While most African countries are affected to varying degrees by the pandemic, growth in real gross domestic product should, in particular, impact the three largest economies in sub-Saharan Africa (Nigeria, Angola and South Africa). The countries the most affected are those whose exports are composed mainly of raw materials. These are of course the countries commonly called "rentier countries". A review of the literature on Covid-19 reveals other aspects of the crisis that are more relevant to the field of geopolitics; it is about security, migration and terrorism. Combined with other global factors, the assembly of the dimensions mentioned above suggests a new configuration of relations between Africa and the great powers, on one side, and between Africa and emerging countries, on the other. It is important to remember that although at first

glance these issues may seem distinct from each other, they should be addressed together as they influence and influence each other. The global epidemic could wreak havoc in fragile states, triggering widespread unrest and put a strain on crisis management systems. Its implications are particularly serious for those caught in the middle of a conflict if the disease disrupts the flow of humanitarian aid, limits peace operations and diverts the parties in conflict from emerging or ongoing diplomatic efforts.

A year has passed since the appearance of Covid-19 in Africa, and uncertainty remains the rule. The most seasoned experts are left without opinions when it comes to deciding the future. However, all agree that the fight against the pandemic has been largely aided by the combined action of governments, institutions, academics, businesses, civil society and ordinary citizens. The return to normal will depend in the first place on the perpetuation of this spirit of solidarity even if this remains relatively relative in the face of a multifaceted Africa. The crisis could be the answer to a series of curses that have befallen Africa since the advent of independence. The continent is surprising. In some countries, Covid-19 has shown that another Africa is possible if the response is inclusive in the sense that we take into account the weight of the informal sector. This attempts at "reform of the informal," but gently this time. This is the principle of "soft relativism" dear to supporters of critical thinking. In this spirit, a merciless fight against inequalities is essential.

**Keywords:** Covid-19, geopolitics, geo-economics, pandemic, economics, development.

# MATHEMATICAL METHODS, MODELS AND INFORMATION TECHNOLOGIES IN ECONOMICS

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## INTEGRAL EVALUATION OF SERVICE MARKETING OBJECTS

Viktoriia Dobrianska\*, PhD, Associate Professor  
National University «Yuri Kondratyuk Poltava Polytechnic»

\*ORCID 0000-0002-7639-6908

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**Introduction.** The past few decades has seen unprecedented growth of service industry. The gamut of services that make up for the significant contribution towards the GDP of the economy are numerous ranging from financial services, insurance, health care, hospitality, travel, information services, retail, utilities, information technology enabled services and media services etc.

In the present times, doing business has become an extremely competitive game. This is true not only for the product industry but to the service industries as well. In case of service industry, the competition to be at the top and be the market leader is tougher simply because of the fact that service is all about intangibles unlike the product industry that sells a tangible product.

A service company needs to create that edge by doing things differently from the others, while continuing to strive for operational excellence and efficiency from within. While competition can easily duplicate the service offering, maintaining leadership calls for a different mindset and thinking in terms of continuous innovation and providing enhanced value of customer experience and service.

**Overview of the latest sources of research and publications.** When services marketing emerged as a separate sub-branch within the marketing discipline, it was largely a protest against the dominance product-centric view [13]. Scholars soon began to recognise that services were important in their own right, rather than as some residual category left over after goods were taken into account. This recognition triggered a change in the way services were defined. By the mid twentieth century, scholars began defining services in terms of their own unique characteristics, rather than by comparison with products [3, 5]. The following set of definitions shows how scholars were grappling with the distinctive aspects of service products and developing new definitions of service [7, 15]. "Services are processes (economic activities) that provide time, place, form, problem-solving or experiential value to the recipient." [10]. "The term 'service'... is synonymous with value. A supplier has a value proposition, but value actualization takes place during the customer's usage and consumption process." [6].

In order to win the competition, a service company needs to have more opportunities (scope of activities). The scope of activities is the degree to which the system is able to provide the services in which it specializes [8]. Let's define the concept of scope of activities and difficulties associated with its evaluation. The volume of activity of a manufacturing enterprise is determined by the maximum level of productivity [8, 9]. This simple definition, however, obscures internal difficulties, namely the assessment of service performance [2]. As you know, two characteristics of services are that the result of the service is intangible,

and that it is non-standard and can vary greatly. The third reason for the difficulty is that service firms rarely offer a single, standard service. There are seven main components of business: human resources, buildings, equipment, tools, consumer participation and alternative sources of business [1, 7]. There is a need for a comprehensive assessment of competing service companies by different characteristics.

**Purpose of the article:** to offer a method of integrated assessment of objects of marketing services for a set of components that characterize the scope of activities.

**Basic material and results.** We will present a method of integrated assessment of objects of marketing services on the example of determining the competitiveness of the company "Nova Poshta" in the market of postal services [4]. Nova Poshta is a Ukrainian company that provides express delivery of documents, cargo and parcels for individuals and businesses. The company was founded in 2001 in the city of Poltava and carried out transportation on the route Kyiv – Poltava – Kharkiv. Now the company is a leader in the Ukrainian market in the field of express delivery services. There are more than 1,200 branches to use the services. On December 14, 2009 the company's work was awarded one of the awards of the international academic rating "Golden Fortune" in the nomination "Quality of the third millennium". In 2010, Nova Poshta received the People's Recognition award in the Express Delivery category in the All-Ukrainian Brand of the Year rating. In July 2014, Nova Poshta launched a social project that enabled volunteer organizations and initiative groups to send and receive humanitarian goods free of charge at any branch of the company throughout Ukraine. Currently, it is volunteer organizations and individual volunteers who play a key role in providing the necessary assistance to the affected residents of the eastern region of the country and soldiers of the Ukrainian army. The company's mission is to make delivery easy for life and business, to simplify life for customers. To do this, the Nova Poshta team introduces new products and services, focusing on international standards and the best world experience.

We use the method of integrated assessment to determine the competitiveness of the company "Nova Poshta" in the market of postal services. To solve this problem, it is necessary to collect factual data that will determine the list of characteristics of the objects of marketing services and their numerical values. In our case, we must determine the competitiveness of companies that provide postal services. The main competitors in the domestic market of postal services are Nova Poshta, Ukrposhta and Autolux. Characteristics by which competitiveness will be assessed are: monthly income in thousands of hryvnias, quantitative and qualitative composition of staff, points, level of logistics in percent, image in points, quality of services in points, profitability of services in percent, number of clients per month, man, price level in points. Let's form a matrix of natural values.

**Table 1**

**Evaluation objects characteristics natural values matrix [14]**

characteristics \ objects	Income per month, thousand UAH	Quantitative and qualitative composition of staff, points	The level of logistics, %	Image, points	Quality of service, points	Profitability of services, %	Number of clients per day, thousand people	Price level, points
Нова пошта	49670	4	98	9,7	9,5	14,9	543	7
Укр. пошта	52010	3	100	9,1	7,1	9,0	528	5
АВТОЛЮКС	43480	2	78	7,2	5,4	17,1	421	8

In this matrix, characteristics numerical values have different measurement units, so mathematical actions with them are not possible. Perform output elements transformation matrix in one of the following ways [14]:

- If the best value of the characteristic is minimal, then the formula is used:

$$X_{IJ} = \frac{X_{IJ(\min)}}{X_{IJ}}, \tag{1}$$

where  $X_{IJ}$  is natural value characteristics;  
 $X_{IJ(\min)}$  is minimum natural value characteristics [14].

– If the best characteristic value is maximal, then the formula is used:

$$X_{IJ} = \frac{X_{IJ}}{X_{IJ(\max)}} \quad (2)$$

where  $X_{IJ(\max)}$  is maximum natural value characteristics.

By calculations results reduced values matrix is obtained [14].

**Table 2**

**Evaluation objects characteristics given values matrix**

i \ j	1	2	3	4	5	6	7	8
1	0,96	1	0,98	1	1	0,87	1	0,88
2	1	0,75	1	0,94	0,75	0,54	0,97	0,63
3	0,84	0,5	0,78	0,74	0,57	1	0,76	1

Internal functional characteristics significance calculation. The estimation uses determining entropy method, by this method, first find each matrix column total amount  $[X_{ij}]$ , then define fraction  $P_{ij}$  every element in total sum by formula [14]:

$$P_{IJ} = \frac{\overline{X_{IJ}}}{\sum_{i=1}^n X_{IJ}} \quad (3)$$

Where  $\overline{X_{ij}}$  is characteristics given value;  
 $P_{ij}$  is every element fraction.

**Table 3**

**Auxiliary matrix for calculating entropy |  $P_{ij}$  |**

i \ j	1	2	3	4	5	6	7	8
1	0,34	0,44	0,36	0,37	0,43	0,36	0,37	0,35
2	0,36	0,33	0,36	0,35	0,32	0,22	0,36	0,25
3	0,30	0,22	0,28	0,28	0,25	0,41	0,28	0,40

Determine the entropy value for each matrix column by the formula [14]:

$$E_j = -\frac{1}{\ln N} \times \sum_{i=1}^n (P_{ij} \times \ln P_{ij}), \quad (4)$$

where  $E_j$  is entropy;  
 $N$  is object quantity.

The values of entropy are:

- $E_1 = 0,997;$
- $E_2 = 0,965;$
- $E_3 = 0,993;$
- $E_4 = 0,993;$
- $E_5 = 0,977;$
- $E_6 = 0,970;$
- $E_7 = 0,993;$
- $E_8 = 0,983.$

Internal functional significance is calculated by the formula [14]:

$$d_j = 1 - E_j, \tag{5}$$

Internal functional significance values are:

- $d_1 = 1 - 0,997 = 0,003;$
- $d_2 = 1 - 0,965 = 0,035;$
- $d_3 = 1 - 0,993 = 0,007;$
- $d_4 = 1 - 0,993 = 0,007;$
- $d_5 = 1 - 0,977 = 0,023;$
- $d_6 = 1 - 0,970 = 0,030;$
- $d_7 = 1 - 0,993 = 0,007;$
- $d_8 = 1 - 0,983 = 0,017.$

Internal functional significance value is given [14]:

$$\overline{d_j} = \frac{d_j}{\sum_{i=1}^n d_j}, \tag{6}$$

where  $d_j$  is given internal functional significance value.

Determine the given internal functional significance values:

- $\overline{d_1} = 0,02;$
- $\overline{d_2} = 0,27;$
- $\overline{d_3} = 0,05;$
- $\overline{d_4} = 0,05;$
- $\overline{d_5} = 0,18;$
- $\overline{d_6} = 0,23;$
- $\overline{d_7} = 0,05;$
- $\overline{d_8} = 0,13.$

External (subjective) significance determination.

Construct pairwise comparisons matrix. In the matrix, the rows and columns have characteristics. It is compared the characteristics significance [14].

Table 4

Object characteristics pairwise comparisons matrix

i \ j	1	2	3	4	5	6	7	8	$\sum_{j=1}^m$	$\overline{q}_i$	$\overline{d}_i$	$k_i$	$\overline{k}_i$
1	■	3	3	2	2	2	3	3	18	0,16	0,02	0,02	0,05
2	1	■	2	1	1	1	1	1	8	0,07	0,27	0,06	0,15
3	1	2	■	1	1	1	1	2	9	0,08	0,05	0,03	0,07
4	2	3	3	■	2	2	3	3	18	0,16	0,05	0,04	0,10
5	2	3	3	2	■	2	3	3	18	0,16	0,18	0,08	0,20
6	2	3	3	2	2	■	3	3	18	0,16	0,23	0,09	0,22
7	1	3	3	1	1	1	■	2	12	0,11	0,05	0,03	0,07
8	1	3	2	1	1	1	2	■	11	0,10	0,13	0,06	0,15

$$\sum_{j=1}^m \sum_{i=1}^m 112$$

Determine goods comprehensive assessment competitiveness:

$$Q_1 = 0,96 \times 0,05 + 1 \times 0,15 + 0,98 \times 0,07 + 1 \times 0,1 + 1 \times 0,2 + 0,87 \times 0,22 + 1 \times 0,07 + 0,88 \times 0,15 = 0,96$$

$$Q_2 = 1 \times 0,05 + 0,75 \times 0,15 + 1 \times 0,07 + 0,94 \times 0,1 + 0,75 \times 0,2 + 0,54 \times 0,22 + 0,97 \times 0,07 + 0,6 \times 0,15 = 0,75$$

$$Q_3 = 0,84 \times 0,05 + 0,5 \times 0,15 + 0,78 \times 0,07 + 0,74 \times 0,1 + 0,57 \times 0,2 + 1 \times 0,22 + 0,76 \times 0,07 + 1 \times 0,15 = 0,78$$

The performed calculation shows that the complex assessment of Nova Poshta's competitiveness is significantly higher than the main competitors.

**Conclusions and prospects for the further research.** Thus, the used method of integrated evaluation makes it possible to assess the competitiveness of companies, the quality of customer service and other objects of marketing in the service sector on a set of indicators. The methodology takes into account both the objective and subjective significance of the indicators from the point of view of experts or respondents. An additional advantage of this technique is that the indicators can have different units of measurement, and the best value can be both maximum and minimum.

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**Добрянська Вікторія Вікторівна**, кандидат технічних наук, доцент. Національний університет «Полтавська політехніка імені Юрія Кондратюка». **Інтегральна оцінка об'єктів маркетингу сфери послуг.** За останні кілька десятиліть у найбільш економічно розвинутих країнах спостерігається інтенсивне зростання сфери послуг. У цих країнах наразі остання складає більшу частину економіки. Галузі послуг на розвинутих ринках численні, починаючи від фінансових послуг, страхування,

охорони здоров'я, готельно-ресторанної справи, туризму, інформаційних послуг, роздрібною торгівлі, комунальних послуг, медіа тощо. У наш час конкуренція у будь-якому бізнесі різко загострилася. Це стосується тим більше сфери послуг. Щоб перемогти у конкурентній боротьбі, сервісній компанії потрібно мати більші можливості (обсяг діяльності). Обсяг діяльності – це ступінь можливості системи надати послуги, на яких вона спеціалізується. Обсяг діяльності виробничого підприємства визначається максимальним рівнем продуктивності. Виникає необхідність комплексного оцінювання конкуруючих компаній сфери послуг за різними характеристиками. Мета статті – запропонувати методику інтегрального оцінювання об'єктів маркетингу послуг за комплексом складових, які характеризують обсяг діяльності. Використано методику інтегрального оцінювання об'єктів маркетингу послуг для визначення конкурентоспроможності компанії «Нова пошта». Застосована методика інтегрального оцінювання дає можливість визначити конкурентоспроможність компаній, якість обслуговування клієнтів та інші об'єкти маркетингу сфери послуг, використовуючи комплекс показників. За результатами експертного опитування характеристиками, за якими оцінювалася конкурентоспроможність компанії «Нова пошта», обрано: дохід за місяць (у тисячах гривень), кількісно-якісний склад персоналу (у балах), рівень матеріально-технічного забезпечення (в процентах), імідж (у балах), якість надання послуг (у балах), рентабельність послуг (у процентах), кількість клієнтів за місяць (осіб), рівень (доступність) цін (у балах). При цьому методика враховує як об'єктивну, так і суб'єктивну значимість показників з точки зору експертів або опитаних респондентів. Додаткова перевага цієї методики полягає в тому, що показники можуть мати різні одиниці виміру, а краще значення може бути і максимальним, і мінімальним.

**Ключові слова:** інтегральна оцінка, конкурентоспроможність, маркетинг сфери послуг.

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**Dobrianska Viktoriia**, PhD (Technical Sciences), Associate Professor. National University «Yuri Kondratyuk Poltava Polytechnic». **Integral Evaluation of Service Marketing Objects.** There is unprecedented growth of service industry in the past few decades. In order to win the competition, a service company needs to have more opportunities (scope of activities). There is a need for a comprehensive assessment of competing service companies by different characteristics. Purpose of the article is to offer a method of integrated assessment of objects of marketing services for a set of components that characterize the scope of activities. The used method of integrated evaluation makes it possible to assess the competitiveness of companies, the quality of customer service and other objects of marketing in the service sector on a set of indicators.

**Key words:** integrated assessment, competitiveness, marketing of services.