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*Social and strategic projects largely determine the development and dynamics of the national economy by structuring the national development matrix. Therefore, the role of educational, healthcare, and strategic projects in economic development should be the subject of careful analysis and monitoring by researchers in order to find the optimal model for managing the economy through the management of social and strategic projects.*

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## **ENSURING PROGRESSIVE STRUCTURAL DYNAMICS OF THE NATIONAL ECONOMY BASED ON THE IMPLEMENTATION OF STRATEGIC PROJECTS**

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### **Abstract.**

The process of growth of the national economy depends on certain factors that must be taken into account when developing a national strategy for socio-economic development, the implementation of which ensures the dynamic movement of priority industries and increases the country's competitiveness in the world market. The use of a dynamic model of national economic development makes it possible to achieve the forecast level of macroeconomic indicators, which is ensured by an optimal and harmonious combination of state and market mechanisms.

**Keywords:** dynamic model of national economic, process of growth of the national economy, ensuring progressive structural dynamics, implementation of strategic projects, national strategy for socio-economic development.

### **Introduction**

Sustainable growth of the national economy is associated with modernization, including social, political, cultural, etc., which is carried out within the framework of institutional transformations at the meso and macro levels. It should be noted that the dynamic socio-

economic development is influenced by general and special institutional conditions, which partly depend on globalization processes.

Transformation processes are accompanied by the functioning of the institute of social conflict resolution and the institute of social insurance, the activities of which depend on the direction and priority of public policy. History confirms the fact that the negative social consequences of restructuring and change of formations are reduced and neutralized due to the balanced activities of relevant institutions, given the existence of social conflicts that hinder the implementation of strategic economic growth programs using the country's potential.

The strategy of growth and development of the national economy must contain certain principles that reflect current trends. Among them are the relevant rights, including property rights, observance and protection of which characterizes the state as a legal entity, while forming a key factor in modern socio-economic growth and development.

Horizontal redistribution is the basis of the current state of property transformations, taking into account the real system of control and monitoring. At the same time, the systemic transformation of property at certain levels with the adjustment of the economic content under the condition of dynamic transitional processes regarding property rights and their impact on the socio-economic potential is of paramount importance. However, it should be borne in mind that speculation on property rights and regulation of their forms does not provide incentives for socio-economic development of the national economy, which, in turn, requires systematic measures of public policy to eliminate imbalances and imbalances in the national economy.

Functional support of macroeconomic stabilization of the national economy is possible due to the activities of relevant financial institutions. The disproportion of the market is inherent in the transformational economy, which requires the adaptive functioning of certain institutions, taking into account external and internal factors.

**The purpose of the study:** substantiation of theoretical and methodological provisions and practical recommendations for ensuring progressive structural dynamics of the national economy based on the implementation of strategic projects.

### **Formulation of the problem**

It should be noted that the creation of optimal conditions for the construction and development of economic entities at all levels is provided by the system of state regulation based on the

development and implementation of strategic programs. That is why improving the quality of institutional regulation creates a favorable and optimal environment for socio-economic development and growth.

The use of regulatory indicators of regulatory impact makes it possible to track the structural dynamics of the national economy, especially in the context of globalization. Such indicators include an integrated indicator of state regulation, which consists of six authentic indices and is an international indicator for assessing certain qualitative segments of institutional impact.

We emphasize that the definition of segment indices is based on the international information system of quality of state regulation, which allows a high degree of formation of the optimal and authentic tool for assessing institutional effectiveness.

In modern conditions, the formation of a purposeful system of state policy of socio-economic development, which is based on integrated conceptual approaches and takes into account the dynamics and quality of growth of the national economy is a priority in developing a state strategy. According to most scholars, the main tool for implementing the concept of socio-economic growth and development of the country is the strategy of state regulation of the quality of economic development with the ability to identify and reduce the impact of financial, economic and social disparities.

In modern conditions, the priority is to build transformational regulatory influences based on a consistent approach, taking into account the functional structure of state institutions and optimal methods of regulation, which ensures the achievement of national economy reform goals developed and enshrined in strategic projects and programs.

Note that theoretical research and practical experience in regulating the growth and development of complex socio-economic processes confirm the fact that the main prerequisite for optimal solution of compositional regulation of transformation processes in the national economy at all levels is to build effective regulatory mechanisms taking into account consistent market and institutional methods and levers that form a modern system of instrumental support for sustainable economic growth.

The focus on creating promising and adequate conditions for the functioning and transformation of the national economy affects the development of effective regulatory mechanisms that ensure the adaptation of strategies for growth and development of socio-economic processes.

**Presenting the main material**

The degree of intensity of state influence is enhanced by systemic and balanced principles of strategic regulation by progressive structural socio-economic dynamics, taking into account the priority aspects of development and current globalization trends. Among the basic principles of strategic government regulation, there are:

- The complexity of the activities of institutional structures of strategic direction;
- Uneven process of socio-economic growth and public policy;
- Certainty of the gradual implementation of the strategy of growth and development of the national economy;
- Priority of social orientation of modern state policy within the framework of strategic development;
- Synchronicity of functioning of institutional structures, horizontal-vertical coherence of actions and decisions on implementation of strategic projects;
- Proportionality of application of tools and levers of state and market regulation;
- Optimal resource provision of the process of regulation and implementation of the strategy of sustainable growth and development of the national economy;
- Adaptability of the system of implementation of strategic programs to the sectoral segment of the national economy;
- Focus on innovation and technological development of the national economy and state support in this area;
- Consistency and balance of integration processes within the strategy of socio-economic development.

The implementation of a long-term strategy for the growth of the national economy is associated with the process of purposeful adaptation of transformational changes in society, which provides the necessary pace and quality of socio-economic development. It should be emphasized that the effectiveness of monitoring the achievement of growth and development goals of the national economy increases due to the proportionality of tasks and results at each stage of the strategy, taking into account the optimal use of qualitative and quantitative assessment system.

An important trend of modern Ukraine is the need for rapid transformation and integration of the national economy into the world space, which, on the one hand, increases the synergetic

effect of reform, and on the other hand, has a negative impact on certain areas of activity and management.

Transformational changes in the national economy, accompanied by the modernization of institutions, should affect the solution not only of complex economic and financial issues, but also to balance the social sphere in accordance with modern requirements of society.

The process of providing deterrents that reduce the negative impact on the expected results is a necessary condition for the application of effective mechanisms for implementing a consistent strategic policy. At the same time, the possibility of adapting strategic projects to socio-economic changes emphasizes the degree of effectiveness of state regulation.

It should be noted that the prudence and systematic solution of strategic and tactical goals should be accompanied by a balanced use of resource potential, taking into account the principles of energy conservation, high technology and environmental friendliness. In developed countries, the preservation of the environment and natural potential are becoming priority areas of development, along with economic growth, production capacity and increasing the competitiveness of the state. Harmonious socio-economic growth within the developed state strategy is the key to the dynamic development of all spheres of the national economy and social relations, taking into account environmental, cultural, financial and economic priorities. The introduction of reduced development cycles leads to the full use of resource potential without the possibility of its restoration, which confirms the status of the raw material state and makes it impossible to fully innovate and high-tech scenario.

That is why the logical division of the strategy of growth and development of the national economy at certain stages increases the effectiveness of long-term results and provides systematic monitoring at intermediate stages, taking into account the possibility of adjusting the mechanisms of state regulation and control.

Research analysis confirms that the system of indicative management and evaluation of the effectiveness of strategic projects, as well as strategic forecasting and planning are the most effective mechanisms for implementing this distribution and the use of institutional methods and levers of regulation.

In modern economic conditions, the process of application of forecast indicators in the planning system is characterized by certain flexibility and targeted implementation. At the same time, the criteria for the effectiveness of institutional structures that are personally responsible for

obtaining certain intermediate and final results, as well as indicators of the effectiveness of strategic projects and programs form a balanced, relevant system of indicators.

According to scientists, the process of ensuring the quality of socio-economic growth is in some way the responsibility of state institutions at the appropriate levels. Without active state intervention, disparities in the national economy and market failures begin to reproduce themselves.

It is important that the state's compliance with certain restrictions and regulation of economic imbalances allow for the effective achievement of strategic goals, which are characterized by long-term results and significant resource costs. In addition, the key principle of harmonious and effective institutional regulation of the quality of socio-economic growth is the development and compliance with social, financial and environmental standards of development, namely: social and environmental standards, labor protection requirements, setting quotas for resource use (minerals, etc.), which must follow world trends and take into account national characteristics.

State regulators to ensure compliance with established standards are the subject institutional structures that perform the functions of monitoring and control and contribute to the gradual achievement of established strategic goals, taking into account the rational use of resource potential through administrative, regulatory, tax and other methods.

Subject to certain restrictions on socio-economic development, the processes of formation and modernization of sources of growth are carried out, which ensure the effectiveness of regulatory actions within the implementation of strategic projects. We emphasize that in the context of integration and globalization, the processes of stimulating private sector investment in priority areas and sectors of the national economy, which are key to forming an optimal system of endogenous sources of growth and socio-economic development.

The level of complexity and composition of the tasks and the speed and quality of their solution in some way determine the degree of effectiveness of public policy and institutional regulation for the strategic development of the national economy, supported by multilateral transformation of society and the state.

The formation of ratings on indicators of the effectiveness of state regulation of the growth and development of the national economy determines not only the level of modern institutional management, but also demonstrates the degree of interaction of the state with the relevant economic and social actors.

Modern, current Strategy for Sustainable Development of Ukraine is designed to implement European standards of living in Ukraine and Ukraine's leading, competitive position in the world, which is ensured by the gradual achievement of vectors of sustainable growth and social development, systemic security and personalization of responsibility [1].

It should be noted that the implementation of the basic provisions of this Strategy is ensured through the gradual implementation of approved reforms related to the tax, judicial, medical, educational system, as well as addressing energy efficiency, investment attractiveness, modernization of transport networks and infrastructure, national security and more. All these areas require a careful balance of tasks, resources and results, as well as a clear, focused and adaptive public policy, which must also be confirmed by structural change.

The process of implementation of strategic vectors of sustainable development of the national economy and the degree of implementation of the announced reforms is assessed using key system indicators that have an international level of monitoring.

The ratio of areas of responsibility in the implementation of strategic growth projects must comply with the principles of proportionality, objectivity and authenticity of the state, society and business structures, taking into account European standards and global trends in socio-economic development.

The results of the study of the conditions and consequences of the implementation of the development strategy of Ukraine indicate the complexity of the implementation of certain positions and stages, which are due to the influence of internal and external factors, namely:

- Significant crisis and low competitiveness of certain sectors of the national economy;
- Long-term and exhausting military operations in the east of the country, the presence of temporarily occupied territories;
- Political instability and systemic inconsistency between state institutions in addressing sectoral and macroeconomic issues;
- Wear and low level of modernization of production facilities of the industrial sector;
- The state of the infrastructure of the financial market and the banking system, inflation rates;
- The level of human capital growth and the transformation of private savings into investment resources;
- The optimality of sectoral and regional structure of production, the development of the institutional environment and the system of relations between countries;

- The level of the current ecological state of the environment;
- The quality of state regulation of the innovation process, taking into account globalization and integration changes;
- The level of the current ecological state of the environment;
- Proportionality of resource potential and the possibility of interchangeability of certain resources;
- Inefficient energy saving policy;
- High diversification of agricultural production, but significant dependence of the agricultural sector on natural conditions;
- The current state of labor resources in the country, the unemployment rate, labor migration;
- The level of financial security of the state and social responsibility of business.

To reduce the negative impact of these factors, it is important to timely identify and neutralize them, which provides an opportunity to increase the results of the implementation of strategic projects at the meso and macro levels.

The effectiveness of the mechanism of state regulation in the implementation of the strategy of sustainable growth of the national economy is ensured by the Ministry of Economic Development, Trade and Agriculture of Ukraine, the Ministry of Social Policy of Ukraine, the Ministry of Finance of Ukraine, the Ministry of Environmental Protection and Natural Resources of Ukraine, the Ministry of Infrastructure of Ukraine, as well as the relevant subordinate bodies and structural divisions.

We emphasize that each institutional structure is entrusted with the implementation of certain functions for the gradual implementation of the strategy of growth of the national economy, taking into account the specifics of the relevant area, selectivity of decisions and permanent interaction between government agencies.

Drawing up forecasts of economic and social development within the developed strategy and taking into account resources and factors enables the effectiveness of the implementation of elements of state policy to regulate the growth of the national economy.

An important element of the implementation and achievement of the priority areas of the growth strategy and socio-economic development is the working of strategic programs with the definition of tactical and operational steps, taking into account the state's potential, the results of forecasting, planning and modern integration trends. The development and approval of state

target programs and strategic plans for the activities of sectoral institutions ensures the effectiveness of systematic achievement of certain goals, taking into account the vector direction of state policy.

In modern conditions, socio-economic growth in the long run is ensured by a combination of tools of relevant mechanisms of state regulation, which contain basic segments that are characterized by the principles of adaptability, efficiency, proportionality and viability.

The components of the mechanisms of state regulation are systemic tools that fill the processes of socio-economic development management with balanced methods due to:

- Instruments of fiscal policy;
- Instruments of foreign trade policy;
- Instruments of social policy;
- Instruments of investment and innovation policy;
- Monetary policy instruments;
- Tools of direct and indirect regulation;
- Regulatory instruments.

The process of formation and functioning of the system of sustainable growth of the national economy should take into account the properties of transformational changes not only in the macroeconomic environment, but also in institutional structures and market mechanisms. That is why when building a supply system it is necessary to take into account not only current trends in the world economy, but also to adapt it to sectoral opportunities and vectors of development.

The system of ensuring sustainable growth and development of the national economy includes the following elements, namely: regulatory framework for socio-economic development, instrumental support, relationship and interaction of subjects and objects of implementation and ensuring the developed strategy and state target programs, regulatory mechanisms and external aspects in the form of influencing factors, which is presented in Fig. 1.

Among the subjects of implementation and support of the strategy of growth and development of the national economy it is possible to distinguish institutional structures of macro- and meso-level, public organizations and public associations, research and business structures whose activities are related to the development and implementation of strategic directions of sustainable economic growth.

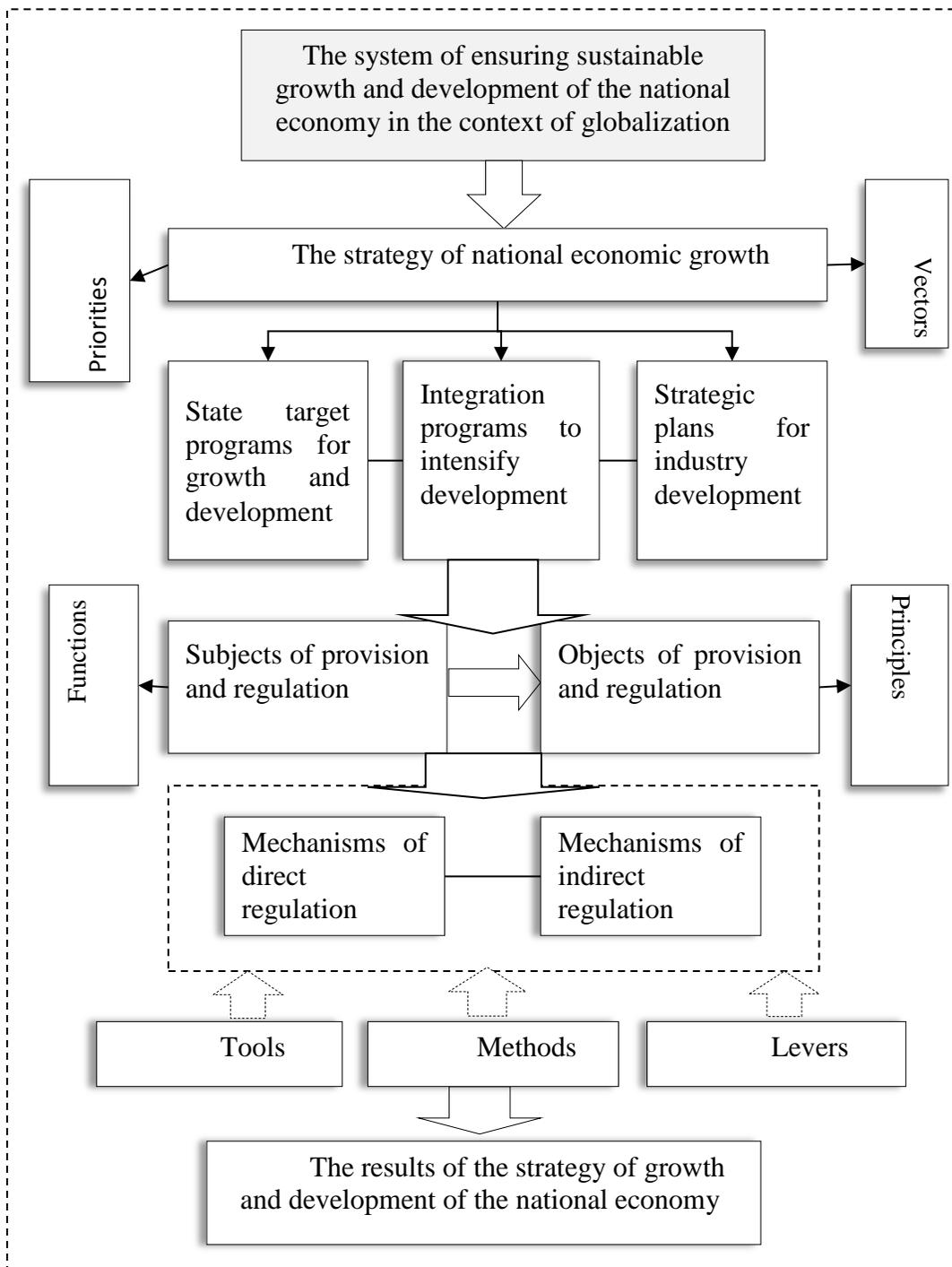


Fig. 1. The system of sustainable growth and development of the national economy (*Source: author's development*)

The presented system is characterized on the one hand by the complexity of the given parameters and elements, and on the other - due to the content can be adapted to the change of the factor environment with optimization and adjustment of the proportionality of permanent parameters.

The state policy of socio-economic growth and development in the context of globalization should take into account that the impetus to increase aggregate demand may affect the dynamics

of the national economy with artificial destabilizing consequences, namely: a significant decline in confidence in the national currency and unstable social status in society.

Note that only a significant increase in the productivity of factors of production through the formation of a dynamic system of efficient use of resource potential of the country will provide permanent socio-economic growth, which is the basis for the formation of strategic programs, projects and plans.

Analysis of the legal framework for sustainable growth of the national economy shows the gradual expiration of the Sustainable Development Strategy "Ukraine - 2020" and the need to implement a new national strategy that should reflect current trends in the macroeconomic environment, social needs and market requirements.

In this regard, state institutions and scientific associations are making efforts to develop a new development strategy for Ukraine, which would take into account the achievements of the current Sustainable Development Strategy, but provide an innovative approach to addressing priority issues in terms of significant changes in public policy, foreign factors of integration and globalization spectrum.

The presence of debatable issues on the formation of vectors of development and strategic directions of the national economy emphasizes the importance of participation of relevant actors not only in the development of determinants and imperatives of development, but also the construction of mechanisms to achieve goals. An important condition for the formation of an optimal strategy for further development of the country is the participation of business structures, scientists, specialists in the international integration of the national economy into the world and the growth of competitiveness of strategic industries, as well as social, medicine, education, culture, ecology to create a comprehensive long-term plan for growth and development with increased synergistic effect.

Adherence to higher social standards of quality of life and well-being of the population can be achieved only with sustainable economic development and appropriate regulatory mechanisms, including market and institutional, taking into account global growth trends. Among the presented proposals the strategy of a new trajectory of economic growth of Ukraine for the next ten years with the obligatory step-by-step mechanism of its realization deserves special attention.

The process of multilateral and consistent assessment of factual and statistical information provides a solid basis for building this strategy, which should be socially oriented and support

promising and competitive sectors of the economy through internal and external partnerships.

According to the results of the research, the strengths of the national economy have been identified, which enable the optimality and adaptability of socio-economic growth and development, namely [2]:

- The presence of diversified infrastructure (military-industrial complex, aerospace industry, shipbuilding, energy and mechanical engineering, mining, transport engineering) as a basis for the transformation of the national economy;

- The availability of educated able-bodied human capital, which confirms the relevant position of Ukraine in the rating of the World Economic Forum;

- Favorable geographical location in the Eurasian space and the average level of quality of transport corridors and networks.

We emphasize the fact that the systematic and balanced development of the agricultural sector of the national economy has significant prospects, given the availability of resource potential in the form of suitable areas with unique chernozems, favorable climate, large markets and more. In addition, global trends confirm the prerequisite for economic development in the form of modern information and communication technologies, which increases the effectiveness of the implementation of priority areas of growth.

Proportional transformations and changes in the vector of development of institutions with a focus on the needs of the state and society enable the effectiveness and authenticity of achieving the strategic goal of regulating growth processes, which should become a determinant of modern public policy.

In the context of globalization and European integration, the priorities of the development strategy include the implementation of mechanisms to achieve and obtain an innovative, high-tech, digital economy, which will not only ensure a high rating of Ukraine on the world stage, but also significantly improve the social sphere.

## **Conclusions**

Thus, ensuring the structural dynamics of the national economy is carried out through systemic mechanisms of institutional and market mechanisms, which requires the development and implementation of the regulatory framework in the form of strategic plans, projects and programs. Modern public policy is based on the vectors of social and economic development,

national security and guaranteeing a high standard of living and well-being, taking into account the negative impact of internal and external factors, which significantly reduces the efficiency and balance of results.

Building an optimal system for sustainable growth of the national economy allows for dynamic implementation of the strategy of socio-economic development based on a harmonious combination of existing elements and the timeliness of assessing the impact of the factor environment. It should be noted that the development and implementation of strategic projects should be based on a multilateral assessment of potential opportunities and threats to sustainable growth, timely detection and reduction of negative impacts, which will significantly increase the chances of effective results within the integration and interaction of government and market levers. In addition, the need to permanently eliminate imbalances and imbalances in the components of the national economy requires systematic measures of public policy in terms of globalization and integration processes.

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## LOSSES OF UKRAINE FROM THE COVID-19 PANDEMIC AND THE CONCEPT OF OVERCOMING IT

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### **Abstract.**

This paper discusses the pandemic COVID-19 has transformed the ways of doing business. The pandemic COVID-19 has already led to a crisis in certain areas and sectors of the economy, but there are those who have benefited from quarantine measures. For this purpose, the types of activities that suffered losses and gains were analyzed. The collected data were analyzed descriptively.

*Industry and Energy.* Industrial production decreased by 5.1% in January 2020. Cast iron production - by 2.7%, steel production decreased by 8.3%, iron production - by 7.5%. Electricity production also decreased, which can be explained by the decline in industrial production, which automatically led to a decrease in electricity consumption.

*Tourism.* The tourism industry will lose \$ 1.5 billion from pandemic COVID-19. Significant losses occur due to the closure of borders, restrictions on air and rail services, the closure of hotels.

*Beauty industry.* As for the beauty salons and manicure salons, they do not work. The closure of these establishments is due to the introduction of restrictions on crowds and due to close contact with the client.

*Sphere of public catering.* The losses can reach 50% of revenue, staff is lost. Forms of activity are transformed in the direction of delivery of orders to clients or work on-take away.

*Sphere of entertainment.* There was a shutdown of shopping and entertainment centers, cinemas, theaters, exhibition halls, concert activities - a significant number of people lost their jobs.

*Event industry.* Due to the ban on mass events, it is not possible to hold conferences, business forums, religious gatherings, concert tours, football championships, etc.

However, there are industries and areas of activity to which the pandemic COVID-19 has given a good start and revenue growth:

*Logistics services.* Currently, there is an increased demand for delivery of goods ordered online. Services are facing the challenge of how to deliver everything. The total growth in orders is 20%.

*Online stores.* Orders through sites increased by 80%. In the first days of the introduction of quarantine there was a shortage of goods in such groups as: essential goods and food.

*Pharmacies.* Sales of antiviral drugs increased 8 times. Protective masks, alcohol, glycerin, antiseptics, antiviral and antipyretic drugs are in greatest demand.

*Media service.* TV viewing increased by 27%. Content consumption on news platforms has increased. Content consumption also increased by 30% on the news platforms. Statistics show that existing users have started to watch media service products longer and longer - by an average of 22%.

*Online education.* The flow of requests for online learning is growing. This is due to distance learning of schools and institutions of higher education. In some regions, traffic to online education sites has tripled.

As a result of empirical research, it turned out that the pandemic COVID-19 requires a change in the way we do business, and this raises the question of what business should be like during a pandemic. We proposed a list of advise in this situation. However, timely response and targeted action will reduce the negative impact of the pandemic COVID-19, prevent a decline in business activity and reduce the impact of the crisis.

**Keywords:** pandemic COVID-19; economic consequences; economic impact; crisis management; crisis program for COVID-19.

### **Introduction**

This paper discusses the pandemic COVID-19 has transformed the ways of doing business. The pandemic COVID-19 has already led to a crisis in certain areas and sectors of the economy, but there are those who have benefited from quarantine measures. For this purpose, the types of activities that suffered losses and gains were analyzed. The collected data were analyzed descriptively.

The global economic crisis began to grow in January 2020, over time, more and more countries began to experience a decline in business activity, the closing of large companies, an increase in the unemployed, and finally the world economy went into a deep recession. This was facilitated by the close of the borders of many countries and restrictions on movement, the introduction of strict quarantine measures. The world community has taken all action to save lives and reduce the spread of the epidemic, and the economy seems to be frozen in anticipation of events. Nobody was ready to crisis and large economic losses in all sectors of the economy, the consequences of which will be felt by some countries for many years.

The purpose of the article is to determine how much the pandemic COVID-19 has affected Ukraine's economy in general and industries separately, and to create a concept of Ukraine's exit from the economic crisis on the basis of this study.

### **Methods**

Competence approach, mathematical methods and models, the method of assessing are applied. The collected data were analyzed descriptively.

### **Findings**

According to the World Bank, business economic activity in the spring of 2020 decreased by 7%, and the projected reduction in world GDP is expected at 5.2%, but this is an optimistic forecast and if pandemic COVID-19 outbreaks continue to increase, the projected GDP reduction is expected to 8 % [1]. The economies of developed countries will emerge faster from the crisis

by supporting small and medium-sized businesses, reducing lending rates, providing subsidies to sectors of the economy with greater losses, as well as financially supporting the citizens of their country. The protracted recession could hit the economies of developing countries, where the number of unemployed is rising, small and medium-sized businesses are losing money, incomes are falling and leading to extreme poverty, and consumer demand and GDP are falling sharply.

The first effects of the economic crisis were felt in China, which started the pandemic COVID-19, in the 1st quarter of 2020, the level of GDP decreased by 6.8% compared to last year, which amounted to 98 billion \$. The economic consequences were caused by the cessation of industrial production, the closure of borders and the inability to export their own goods, which affected the world economy and companies dependent on Chinese goods. Among them are the following well-known companies: Apple, Tesla, Facebook, Microsoft, Hyundai, Nissan also suspended their activities during the quarantine. Even the drug market has shrunk and suffered losses due to a shortage of drugs exported to the United States from China. Industrial production fell by 13.5%, the largest drop in production in 30 years. During the 1st quarter of 2020, the unemployment rate also increased and per capita income decreased by 4% compared to last year, which causes a drop in consumer demand by 12.5%. [3] At the same time, the pandemic COVID-19 contributed to the development of the express delivery sector, the growth index of which was 75% from last year, the index is based on the development of courier services and logistics companies. [2] The Chinese government has developed a number of measures to rebuild the economy after the crisis. These include: increasing investment in infrastructure and real estate, supporting small and medium-sized businesses, supporting monetary, fiscal and financial policies, increasing jobs and improving living standards. According to IMF forecasts, China will quickly recover its economy and will even be able to get a GDP growth of 1.0% in 2020, Table 1.

**Table 1.** Forecast of GDP change for the world economy for 2020-2021 [4]

<b>Economies of countries</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>
World Output	2.9	-5.2	5.4
United States	2.3	-8.0	4.5
China	6.1	1.0	8.2
Germany	0.6	-7.8	5.4

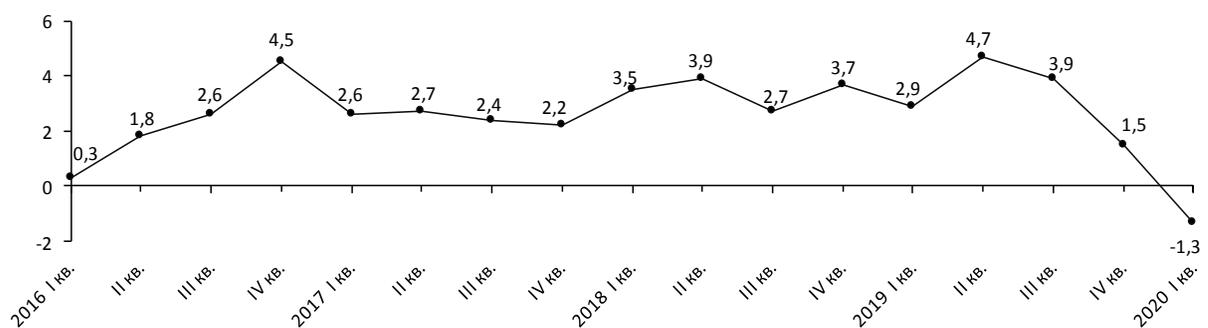
France	1.5	-12.5	7.3
Italy	0.3	-8.3	4.6
Spain	2.0	-12.8	6.3
Japan	0.7	-5.8	2.4
United Kingdom	1.4	-10.2	6.3
India	4.2	-4.5	6.0
Russia	1.3	-6.6	4.1
Ukraine	3.2	-8.2	1.1
Brazil	1.1	-9.1	3.6

The pandemic COVID-19 and the United States, whose economy suffered great losses, did not go unnoticed. Experts call this crisis greater than the financial crisis in the United States in 2008-2009. Since the beginning of the epidemic in the United States there have been a number of negative events that have directly affected the entire economy. In March, there was a record low fall in oil prices, at some point the price of oil became negative, for the first time in history. This is due to a decrease in business activity, a ban on travel and air travel, which resulted in a 30% reduction in global oil demand. The spring of 2020 on the US stock market will go down in history as the most crisis and panic period. In a short time, the changed US stock index Dow Jones in early March fell to 9.99%, which was the biggest fall since 1987. At the end of March, it increased to 21%, which is comparable to the largest three-day increase since 1931. [5] In April 2020, the number of unemployed in the United States was 14.7%, per capita income fell by 10% compared to last year. Since the beginning of the year, the number of applications for unemployment benefits submitted under traditional and pandemic programs amounted to 33 million, as many people became unemployed. [3] The consequences of the pandemic COVID-19 will be enormous for the entire US economy. The results of the 2nd quarter of 2020 have already been obtained. The economic activity of the population has decreased, many companies are going bankrupt. To stabilize the situation in the United States and help the population, the government paid 600 \$ a week in unemployment benefits to workers who lost their jobs during the pandemic. This assistance helped to restore consumer demand. According to IMF forecasts, given the increase in the number of patients and the introduction of quarantine measures by the end of the year, GDP will fall by 8%. (Table 1)

The pandemic COVID-19 has had a major impact on the Italian economy. During the quarantine, the entire industry stopped, the ban on travel, the suspension of all flights, the ban on tourists, which is 13% of GDP and about 1.7 million people employed in this area. According to economists, for the first quarter of 2020, GDP fell by 4.7%, the level of industrial production was - 20.3%, and the unemployment rate was 8.4%. In Italy, during the pandemic COVID-19, inequality between different social groups has significantly worsened. The Italian government has allocated funds to support medicine, payments to citizens, credit regulation and business assistance.

Having considered the experience of other countries in overcoming the economic crisis and supporting small and medium-sized businesses, it is important to learn best practices that can be adapted to the economy of Ukraine. Different areas of life require careful approach, analysis and support. During the pandemic COVID-19, first of all, health care systems are tested for organization, mobility and rapid response of state support for medicine and protection of health and life of the country's population. It is important for the economy to support small and medium-sized businesses, to settle credit issues. The population of the country expects help and protection in the state. These are material payments that are able to support consumer demand.

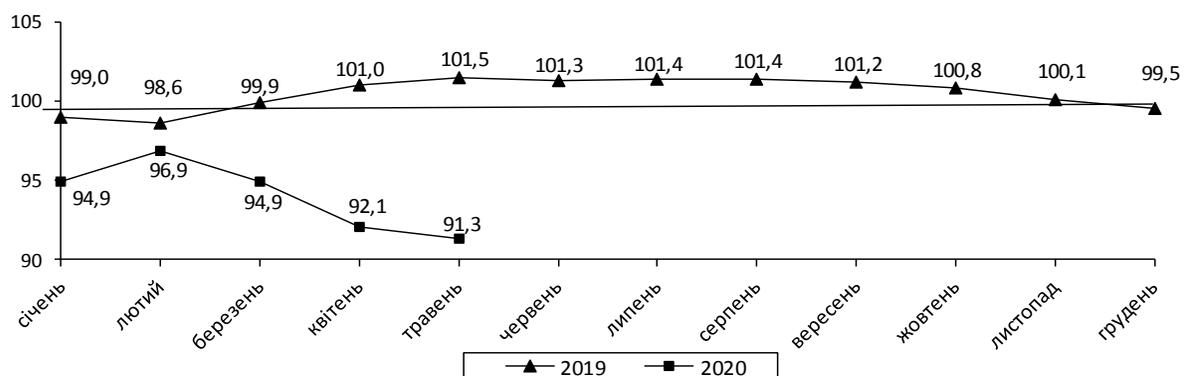
Officially, the pandemic COVID-19 reached Ukraine in March 2020 and reached Ukraine at a time when the national economy was not in the best condition. In fact, the pandemic COVID-19 has transformed not only the structure of the national economy, but also the ways of doing business. This is evidenced by indicators that reflect the change in the structure of gross domestic product, changes in the structure of employment and marketing tools. According to statistics for the first quarter of 2020, real GDP decreased by 1.3% compared to the previous quarter of 2019 [6]. The government has formed a reserve fund to support and stimulate Ukraine's economy in the amount of UAH 60 billion.



**Fig 1.** Change in real GDP (in% to the corresponding quarter of the previous year)

The pandemic COVID-19 has already led to a financial crisis and a crisis in certain areas and sectors of the economy, but there are those who have benefited from quarantine measures. Consider the impact of pandemic COVID-19 on each side.

**Industry.** According to the Ministry of Economic Development, Trade and Agriculture of Ukraine in January 2020, industrial production decreased by 5.1%. In February, there was a slight increase in industrial production by 2%, but since March the introduction of strict quarantine measures and a partial cessation of production has significantly decreased compared to the previous year. (Fig. 2)



**Fig 2.** Indices of industrial production (in% to the corresponding period of the previous year, cumulative total)

The general index of industrial production amounted to 91.3% in January-May 2020 compared to the same period in 2019, with the decline uneven by industrial groups. Thus, in the mining industry we have an index of 93.4, but the main reason for the decline in production is a fall in coal production by 26.1% compared to January-May 2019, and separately in May we have a reduction in production almost twice compared to May 2019. (Table 2) [ 6]

**Table 2.** Indices of industrial production by main activities and main industrial groups (%) [6]

	Code for NAC E-2010	May 2020 to		January-May	January-May
		April 2020	May 2019	2020 to January- May 2019	2019 to January- May 2018
<b>Industry</b>	<b>B + C + D</b>	<b>104.9</b>	<b>87.8</b>	<b>91.3</b>	<b>101.5</b>
<b>By main activities</b>					
<b>Mining and quarrying:</b>	<b>B</b>	<b>103.5</b>	<b>91.1</b>	<b>93.4</b>	<b>102.9</b>
Coal and lignite mining	05	91.9	55.5	73.9	104.7
Extraction of crude oil and natural gas	06	102.8	96.8	97.4	104.8
Mining of metal ores	07	107.8	95.7	93.9	100.8
<b>Processing industry</b>	<b>C</b>	<b>107.2</b>	<b>84.4</b>	<b>90.0</b>	<b>102.4</b>
Manufacture of food, beverage and tobacco	10-12	103.0	94.6	99.0	105.4
Textile production, production of clothing, leather, leather products and other materials	13-15	106.3	63.4	81.6	92.6
Manufacture of wood products, paper production and printing	16-18	101.6	75.7	88.5	92.2
Production of coke and refined petroleum products	19	106.1	99.2	100.2	103.3
Production of chemicals and chemical products	20	87.4	94.4	109.3	101.8
Manufacture of basic pharmaceutical products and pharmaceuticals	21	89.3	108.8	106.7	109.5

Manufacture of rubber and plastic products, other non-metallic mineral products	22, 23	115.0	82.4	87.6	109.9
Metallurgical production, manufacture of fabricated metal s products, except machinery and equipment	24, 25	113.5	81.0	83.9	104.8
Engineering	26-30	121.5	77.6	79.8	97.1
Manufacture of computers, electronic and optical products	26	137.0	69.1	75.1	77.3
Production of electrical equipment	27	122.9	80.6	88.1	93.4
Production machinery and equipment, not classified elsewhere	28	123.6	98.3	88.6	100.3
Manufacture of motor vehicles, trailers and semi-trailers and other vehicles	29, 30	114.1	59.1	69.1	101.2
Manufacture of furniture and other products; repair and installation of machinery and equipment	31-33	104.3	66.3	81.9	101.6
<b>Supply of electricity, gas, steam and air conditioning</b>	<b>D</b>	<b>98.0</b>	<b>98.1</b>	<b>93.1</b>	<b>95.6</b>
<b>By major industrial groups</b>					
Intermediate goods		108.2	85.8	90.0	101.5
Investment goods		115.4	73.0	77.7	98.8
Consumer goods of short-term use		101.9	92.3	97.7	104.2

Durable consumer goods		122.6	67.9	81.5	105.8
Energy		100.3	93.9	93.7	100.3

The reason for such a serious decline in coal production is a certain reduction in steel production, which was affected by the global situation, as well as a decrease in electricity production, which occurred due to two factors: reduced electricity demand in the country and electricity imports from Russia. The main reason for the crisis in coal mining is considered to be the decision to import electricity. This shifted the balance in the country's electricity supply and shifted the domestic producer to the market, which, as a result, significantly reduced the demand for coal. Statistics also show a greater dependence of coal production on government action - the decline in coal production began in 2019, and in January this year, before the introduction of quarantine restrictions, the decline accelerated by more than 19% compared to January last year.

It is also worth noting that the best production indicators have the extraction of metal ores and this position is mainly focused not on domestic demand, but on exports - about 2/3 of products are supplied to foreign markets. Assessing these indicators, we can conclude that it is the demand for Ukrainian products on the international market that allows the extractive industry to demonstrate relatively high performance despite a significant drop in demand in Ukraine.

The processing industry showed a decline of 10% for the period January-May compared to the same period last year. Although we have growth in some groups, in most types of production there is a decline, sometimes very significant. You can also track the impact of the pandemic on performance and distinguish this impact from the overall decline in production. Thus, the indices of production of manufacturing in January and January-February were 96.8 and 98.6, respectively, January-March, the period when quarantine measures were introduced, was 95.4, but since April the overall decline in production compared to last year indicators amounted to 8.7%, and in May the decline of the general index continued. On the other hand, in terms of groups of manufacturing in May, there was an increase in production relative to April, which indicates the adaptation of the industry to new conditions. Although this is not the case everywhere, it may indicate that the process of restoring production has begun, at least in part. In general, this sector of industrial production grew by 3.8% in May compared to April.

Food production has a significant weight in industrial production - almost 20%. This group showed a decline in January-May this year by 0.5% compared to the same period last year,

despite the fact that at the beginning of the year there was a significant increase (4.8% in January-February this year compared to January-February 2019). That is, this group of industrial production clearly shows the impact of the pandemic and its consequences on the country's economy.

The fact that the main reason for the decline in the industry is the impact of domestic demand is evidenced by production indices by subgroup. Thus, the production of oil and animal fats, which have a significant share (about a third of sales of the food industry), and therefore strongly affects the overall figure, increased by 6.7% in January-May this year compared to the same period last year, but more than 75 % of these products were exported. On the other hand, the production of meat and meat products, whose exports account for about 3.4% of production, fell by more than 7%.

The relative success of tobacco production can also be explained by exports, as almost half of the products sold were destined for foreign markets. However, even here the growth rate of 8.8% for the period January-May 2020 relative to January-May 2019 is due to the rapid growth of production in January and February this year, while in April and May there was a decline in production.

Due to the pandemic, the light industry of Ukraine is going through difficult times, production decreased by a third in May compared to May last year. Although, like food, this industry showed growth in the first months of the year (3.9% in January compared to January last year), and due to the introduction of quarantine measures there was a significant decline in production. It is this industry that has responded to the most rapid reduction in staff - from 75.2 thousand people in February to 68.9 thousand people in May. At the same time, the decline is observed in all areas of light industry production, and footwear production decreased in May almost twice compared to May last year.

Given the relatively small role of light industry in the country's economy (all light industry is inferior in terms of tobacco production and less than one percent of total industrial production) the problems of the industry will not significantly affect the overall performance of the economy. However, for the industry itself, which has seen declines in previous years, new challenges could exacerbate the crisis. With a decline of 3.2% in 2018 and 9.9% in 2019, the industry lost the opportunity to change the situation this year.

Manufacture of wood products, paper production and printing showed 11.5% decline in

January-May compared to the same period in 2019, and this figure is twice the rate of reduction in production in 2019. At the same time, the largest decline occurred in April and May - about 25% compared to similar months in 2019, which indicates a direct impact from the pandemic and the introduction of quarantine measures. The reduction affected all groups of production, including the manufacture of printing products, which may indicate a general decline in market demand, as printing products are not produced "in stock" and always respond quickly to changing market conditions. Reaction including reduction of the printing business has been a dramatic reduction in the production of articles of paper and paperboard in May 2020, about the fact that this group of prom industrial production pandemic is not directly affected - indicators for March was at last year, and in April there was relatively slight reduction.

Production of coke products decreased in 2019, but this industry is most affected by demand from steel producers, and hence - the world situation. In January-May of this year, the industry showed a decline of 9% compared to the same period in 2019, but this can not be attributed entirely by domestic factors. Although the industry still shows some recovery in May.

Production of chemicals and chemical products is one of the few industries that showed growth in 2019 - 3.3% per year. The beginning of 2020 was successful for the industry and it showed growth of almost 25% in the first two months compared to the same period last year. However, with the development of the pandemic, production declined significantly and continued to decline in May this year, so if this trend continues, the industry may lose the year, despite strong growth at the beginning of the year. It is worth remembering that the industry largely depends on imported raw materials and exports, which account for up to a quarter of sales, so in addition to domestic factors, it is also under external pressure, including raw material prices and demand in the international market.

Production of pharmaceuticals and drugs, unlike many other industries, increased significantly due to the pandemic, reversing the negative trend late last year and early this year. Thus, in December, the industry lost 6.7% compared to December 2018, and in January almost 15% compared to January 2019, but the cumulative result for January-May growth is 6.7% compared to the same period last year, with May showing growth of 8.8% compared to May 2019.

The rapid growth in the production of pharmaceuticals and drugs is directly related to the pandemic COVID-19 and is based on a significant increase in demand for certain product groups and the formation of shortages. However, the saturation of the market with scarce goods and the

end of the pandemic are likely to return production to previous levels. Given the growing demand, manufacturers have the opportunity to obtain additional resources to improve production and find ways to prevent the return of crisis phenomena in the industry.

A significant decline is observed in the production of rubber and plastic products and mineral products, where the production index in January-May 2020 compared to the same period in 2019 was 87.6, although a year ago this index was 109.9. Although it is in this group of industrial production that we also see a significant resumption of production in May, by 15% compared to April, which indicates the rapid adaptation of the industry.

Special mention should be made of the production of building materials from clay, as well as the manufacture of concrete, gypsum and cement products, where production in May was 52.8% and 67.4% of last year's volumes, respectively. This decline should be associated with a slowdown in construction, especially housing.

Metallurgy also shows a decline in production, provided that about 70% of products are sold abroad, the industry is little dependent on domestic demand, and therefore it is more influenced by external factors. In January-May, metallurgy showed a decline of more than 15% compared to January-May last year, but this decline began before the pandemic in Ukraine - 10% in January compared to January 2019. In general, this sector shows a change in demand due to the global economic crisis, accelerated by the pandemic, and has responded poorly to the introduction of quarantine measures in Ukraine. For example, the production of precious and other non-ferrous metals in January had an index of 88.9 compared to January 2019, and by April this index only increased. Only in May, when some other industries began to resume production, did the production of precious and other non-ferrous metals fall. On the other hand, the group of production of other primary steel products, which is 80% focused on the domestic market, on the contrary, despite the growth at the beginning of the year showed a sharp decline in production just after the introduction of quarantine measures in Ukraine.

The production of finished metal products largely responded to the pandemic and the associated drop in demand with a significant reduction in production - almost 20% in January-May. Cast iron production decreased by 2.7% (compared to January 2019). In February 2020, according to the «Ukrmetallurgprom» steel production decreased by 8.3%, iron production - by 7.5% (compared to January 2020). This area focuses primarily on the domestic market, although it is able to respond quickly to changes in demand. At the same time, during the quarantine

restrictions, certain conditions were created under which it was not possible to fulfill the already concluded agreements.

A difficult situation has developed in mechanical engineering, where the reduction in production has been recorded since the beginning of 2019, and total losses for the whole of 2019 amounted to 5.6%. In May 2020, the reduction in production reached more than 20% compared to January-May 2019, outpacing the decline in light industry. The industry reacted very painfully to the beginning of the pandemic in Ukraine with a significant drop in production in March and May, and despite a significant recovery in production in May, the losses compared to 2019 are still significant. Thus, the production index in May this year relative to May 2019 was 77.6. Mechanical engineering occupies a significant part of the total processing industry, in January-May the volume of sold products amounted to more than UAH 60 billion, with almost half of the products being exported, so problems in the engineering industry significantly affect the general economic indicators and balance of payments.

Another group of production, where there is significant growth, is the production of radiological, electromedical and electrotherapeutic equipment, where demand for products has created a deficit and stimulated an increase in production. The growth began at the end of last year and continued at the beginning of this year, which was due to exports. Thus, in January-February, the production index for this group was 173.4 relative to January-February 2019. However, in March, when the pandemic COVID-19 began in the country, production, in response to the rapid increase in demand in the middle of the country, increased almost 5.5 times compared to February (8.4 times compared to March 2019). Although production declined in the following months, the figures are still significantly higher than in the corresponding months of the previous year, and in May there was an increase of about 70% compared to May last year, which corresponds to the beginning of the year. It can be concluded that this group of industrial production responded to the increase in demand for products both externally and domestically, increasing production by about 70%, and, in addition, responded to the beginning of the pandemic and related demand from both the state sector, and private, rapid and short-term growth of production. The situation here is similar to the production of pharmaceuticals and drugs and the pace of production will depend on the duration and prevalence of the pandemic in Ukraine and the world, as well as, in part, on government procurement.

The pace of production of the electrical equipment group is indicative, at the beginning of the

year there was an increase (almost 7% in January compared to January last year), but the introduction of quarantine measures led to a significant decline in production, especially in April. Like a significant part of the industries, May showed growth relative to April, production responded primarily to the introduction of quarantine measures. In particular, the production of electricity distribution and control equipment, which began to grow by 27.7% in January compared to January 2019, experienced a significant decrease in production in April, which is another evidence of the negative impact of the pandemic even in those production groups that were on the rise, but strongly depend on the current market situation of buyers who are willing to defer costs.

The level of production in those groups of mechanical engineering is interesting, where demand is directly related to the expectations of producers in certain sectors of the economy and their solvency. In particular, the low rate of early production machines and equipment for agriculture and forestry remained stable regardless of the pandemic. The production index remained less than 80 since January, and in April there was even an increase that can be attributed to seasonal demand. This is due to seasonality in agriculture and the response of this industry more to its own specific factors and the international market. Thus, the pandemic did not affect the production of agricultural products.

Another situation in the production of metalworking machines and machines is the decline in production at the beginning of the year by 20-25% was replaced by a sharp collapse in production in March. This behavior of the indices is explained by the overlap of several factors: the overall reduction in the pace of metalworking and the pandemic, which has reduced expectations in this area. Instead, production machinery and equipment for industry demonstrates a steady pace against the background of the relative success of Metallurgists, where there is a significant drop in production volumes.

The production of motor vehicles, trailers and semi-trailers was seriously affected, where in April there was a threefold drop in production compared to March, and a fourfold relative to April 2019. In May, production partially resumed, but still far behind last year's figures.

The pandemic also affected the level of furniture production, which showed a slight increase in January (+ 3% compared to January 2019). Beginning in March, production began to decline, in April the decline accelerated, and in May, recovery began, which is typical of many groups of industrial production.

Electricity generation, which is significantly affected by exports and climatic factors, should be considered separately. Already in January, the production index was 86.5, which can be largely justified by the relatively warm winter. However, the decline of 13.2% and 9.2% in April and May, respectively, in these months in 2019 indicates a reduction in electricity production due to exports and a decline in industrial production. Thus, the production of electricity also decreased, which can be explained by the decline in industrial production, which automatically led to a decrease in electricity consumption. [8]

The clearest general picture is shown by the indicators of industrial production distributed by the main industrial groups: intermediate consumer goods, investment goods, short-term consumer goods and consumer durables. Such distribution accurately explains the situation in individual groups end equipment production and gives an indication of general trends.

Fall in the level of production of intermediate goods and goods used for production, by 10% in January-May this year compared to the same period last year. This characterizes the general situation and is clearly correlated with the generalized indicators in the field of processing industry, repeating their dynamics. In particular, the sharp drop in April by 15.5% compared to March and rise by 15.4% in May relative to April similar to the situation observed in a large number of groups. This confirms the complete dependence of this industrial group on the situation in the industry as a whole.

Another group – are investment goods, which is characterized by a reaction to the general economic situation in the country and the world, as well as forecasts and expectations of enterprises. Here we see a decline at the beginning of the year, as a reaction to negative trends in the economy and international markets, as well as a more rapid decline in April, due to the revision of long-term business plans to respond to new challenges. It was the beginning of the pandemic, the introduction of quarantine measures and the lack of understanding of further developments that forced companies to pause in the implementation of their investment programs and begin to revise their long-term and medium-term plans. At the same time, the May growth in the group of investment goods by more than 15% compared to April indicates the beginning of adaptation of enterprises to the new operating conditions and the solution of issues for further action.

Temporary changes in demand for investment goods characterize only the response to sudden challenges, but the general decline in these goods indicates the readiness of businesses to reduce

production in the future, not only as a response to the pandemic, but also to the whole complex of economic problems reducing demand for products in different markets. The pandemic made adjustments to the plans and adjusted them to a greater reduction in production plans.

The next two groups characterize the current costs of enterprises and the population. Short-term consumer goods showed a slight reduction since the beginning of the pandemic against a small increase in the first months of the year, which can be explained by a certain reduction in income and lower expectations of both households and businesses. In general, the fluctuation of the production index for this group ranged from 103.4 in January-March to 97.7 in January-May and also correlates with the general situation in the economy, but taking into account a certain delay in the dynamics.

Instead, durable goods showed a significant decline with the onset of the pandemic. If in January there was an increase of 6.4% compared to the level of January 2019, then in January-March the situation changed to the opposite and the decline in production amounted to 7.4% of January-March last year. In April, the decline continued and amounted to 31.3% compared to March, May partially returned to production, but amounted to only two-thirds of production in May last year. This situation in March and April indicates a sharp decline in demand due to the desire of consumers to save in a situation of uncertainty and expectations of falling profits, and a relatively small 22.6% resumption of production in May against a more significant decline in the previous two months may indicate a real decline effective demand.

Finally, the production of durable goods itself more fully demonstrates the intersection of two main factors influencing demand: real current consumer incomes and economic expectations. At the same time, comparisons with the production of consumer goods help to assess each factor separately, because in this group it is real incomes that have the greatest impact.

Surveys of industrial enterprises also testify to the impact of the pandemic. Thus, the indicator of business confidence in the industry in the second quarter fell by 17.3%. Relative to the first quarter and is -23.3%. The estimate of the current volume of orders for production (demand) in industry also decreased significantly in the second quarter of this year and is minus 49%, in the processing industry this figure is minus 51%. Instead, the estimate of the current volume of foreign orders for production (export demand) in industry is minus 30%, in the processing industry - minus 36%. This difference in assessments of domestic and foreign markets indicates a much greater negative impact of the global economic crisis and pandemic in Ukraine than for the

global economy as a whole.

Another indicator that shows the decline in demand for industrial goods is the decline in supply. If in the first quarter of 2020 it was 5 months of work, then in the second quarter this security decreased to 4 months of work. A similar situation occurred with the capacity utilization of industrial enterprises. Here there was a drop of 6.7% and averages 58.8% for the second quarter. These two indicators justify the sharp decline in the group of investment goods, which we observed at the beginning of the second quarter.

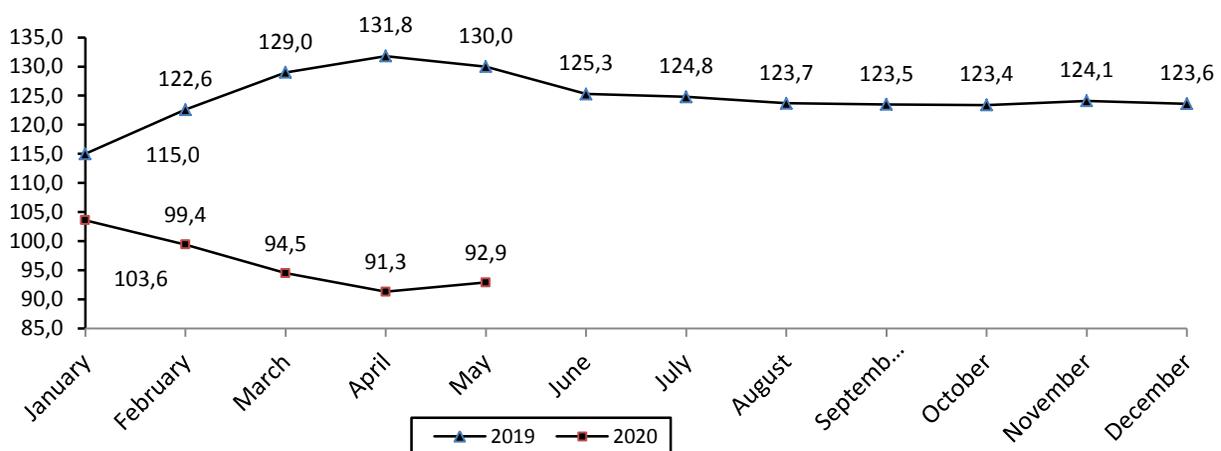
In general, assessing the situation in the field of industrial production, we can note the impact of the global economic crisis accelerated by the long-term and relatively predictable pandemic COVID-19, and the impact of the pandemic and quarantine measures directly in Ukraine, which led to a sharp decline in production in many groups. Production in March and April, as well as a partial recovery of lost production rates since May, did occur. Despite the general decline in production, the exceptions were those production groups that supplied the market with goods of temporary increased demand: medical equipment and pharmaceuticals, as well as some export-oriented groups that responded to growing demand in international markets.

*Construction.* The slight decline in non-residential construction is primarily due to public construction, which is carried out in accordance with the budget approved last year. Also, private investors continue to build in accordance with previously approved budgets and already allocated advance funds. Construction in the housing sector is declining sharply due to the risks of falling effective demand and the ability of developers to take a break to save resources. The index of construction products in January-May (compared to the same period last year) was 92.9, the largest decline was in housing construction - 81.7, the least in non-residential - 99.8 (Fig. 3). The construction index in the period before the pandemic was: 103.6 in January, in January-February - 99.4, but in March, after the introduction of quarantine measures, fell sharply to 94.5 (in January-March). In May, the growth rate of construction increased by 8.3% compared to April.

The number of people employed in construction has not changed significantly, which together with the reduction in production means an increase in the burden of the wage bill on the cost of production. Problems with the wage fund can be partly evidenced by an increase in wage arrears from January 1 to June 1, 2020 by 16.9%, while almost 71% of the debt falls on economically active enterprises.

Given the significant weight of the state order in the field of construction, it is possible to

predict relatively stable positions of non-residential construction and construction of engineering structures in the short term, as well as in the medium term with the appropriate level of state support. Housing construction will not be able to recover fully due to falling incomes and uncertain investment expectations. It is not necessary to count on the support of the state in this direction, after all the state programs of housing construction have character of one-time orders under the concrete program.



**Fig. 3.** Indices of construction products (in% to the corresponding period of the previous year, cumulative total)

*Transport.* The transport industry has been held hostage to quarantine restrictions due to the pandemic COVID-19, which significantly restricted passenger traffic. That is why passenger transport should be considered separately from freight transport, as the latter was affected by the pandemic only in terms of declining production and trade, including international trade.

With regard to passenger transport, the March ban on rail transport and restrictions on road and public transport have effectively halted the passenger market for a long time, so it is difficult to assess the industry's losses from the effects of the pandemic apart from administrative regulation. The overall reduction in the number of passengers carried in January-May 2020 was 43.7% compared to the same period last year, but these losses are almost entirely explained by quarantine measures. In particular, passenger rail and air transportation were banned for a long time, and the movement of public transport was regulated, in addition, there were restrictions on road transportation.

Regarding freight transportation, the total reduction in freight turnover in January-May reached 19.9%, while the reduction in freight turnover by rail, road and water transport averaged about 10%, which correlates with the reduction of industrial production (-9.7%). The largest decline occurred in the pipeline transportation sector, but here the indicators directly depend on the volume of transit transportation of energy, which is affected by factors unrelated or weakly related to the pandemic in the country and the world.

The growth of air freight turnover (by 9.3% in January-May compared to the same period last year) does not affect the overall picture due to low relative volumes of this type of traffic. However, this growth was due to the need to quickly meet the demand for scarce medical supplies, this type of freight traffic has grown due to the pandemic COVID-19 and the response of public authorities and the private sector.

Based on available statistics, it can be concluded that freight transport has declined due to reduced production and trade, which in turn is due to the general economic crisis in the country and the world, as well as the pandemic in the country and related quarantine measures. On the other hand, passenger traffic has almost stopped after the introduction of quarantine measures and is a direct consequence of the pandemic. As quarantine measures are mitigated, the coming months should show a change in passenger turnover due to the effects of the economic crisis and pandemic as phenomena, but not fully lifted quarantine restrictions should be taken into account in such impact assessments.

**Table 3.** Freight turnover by type of transport in 2020

		January	January February	January- March	January- April	January- May
<b>Transport</b>	<b>Million km</b>	<b>20,819.8</b>	<b>43,416.9</b>	<b>68,853.4</b>	<b>9,0606.0</b>	<b>11,2761.4</b>
	<b>Compare in% to the corresponding period of 2019.</b>	<b>79.3</b>	<b>84.0</b>	<b>85.1</b>	<b>81.8</b>	<b>80.1</b>
Railway	Million km	14,068.2	27,783.5	43,541.2	56,822.8	69,711.0
	Compare in% to the corresponding period of 2019.	94.4	95.2	95.2	91.9	89.6

Trucks	Million km	3,181.2	6,934.1	10,583.9	13,520.1	16,746.3
	Compare in% to the corresponding period of 2019.	104.5	102.8	96.9	90.5	87.5
Water carriage	Million km	179.7	370.2	570.8	840.7	1,121.9
	Compare in% to the corresponding period of 2019.	94.8	100.2	83.6	93.1	92.0
Pipelines	Million km	3,378.1	8,299.7	14,106.4	19,340.2	25,048.2
	Compare in% to the corresponding period of 2019.	41.7	54.0	60.1	58.6	59.1
Air transport	Million km	12.6	29.4	51.1	82.2	134.0
	Compare in% to the corresponding period of 2019.	53.5	61.4	69.9	84.4	109.3

*Logistics services.* In contrast to freight transportation, there is an increased demand for delivery of goods which ordered online. Services such as "Glovo", "Raketa", "UberEats" and others are facing the challenge of how to deliver everything. The total growth in orders is 20%. Delivery radius has also increased - it used to be 2.5 km, now the services of these companies have expanded to 3.5 km

*Agriculture.* Agriculture has specific factors influencing the level of production and sales, so the economic crisis unfolding in the world and the country, as well as the pandemic COVID-19 has little impact on the industry as a whole. However, the quarantine measures introduced by the authorities in response to the pandemic in Ukraine have had a particular impact on the sale of agricultural products by private farms.

The general index of sold agricultural products in January this year was 111.4% to the volume of January last year, then the index decreased and in May reached the level of 97.1% of the

volume of January-May 2019. This decrease was due to sales of crop products, while sales of livestock products did not change significantly and in January-May this year amounted to 99.2% of the volume of the same period in 2019.

If we consider the situation in the field of agriculture by categories of producers, we find that the decline was due to private households. The reduction of production by households in January-May is 3.7% relative to the level of January-May 2019, while the level of production by enterprises has not changed and amounted to 99.5% of the level of the same period last year.

The situation with the decline in production and sales at the expense of private households can be explained by less access to markets due to quarantine restrictions. While companies focus mainly on supplying products to retail chains and operate on a contractual basis, the population sells its products in markets that have long been closed due to countering the spread of the pandemic. Lack of government assistance and limited opportunities is the issue to find new markets.

*Tourism.* According to the estimates of the Cabinet of Ministers of Ukraine, the losses of the tourism industry from pandemic COVID-19 amount to 1.5 billion dollars USA. Significant losses occur due to the closure of borders, restrictions on air and rail services, closure of hotels.

The area of accommodation and catering is not experiencing the best of times during the spread of the pandemic COVID-19 and the introduction of quarantine measures. Due to quarantine restrictions, the sector suspended operations, but the actual spread of the pandemic and the risks associated with it caused damage to enterprises in the first quarter of 2020. Thus, the number of enterprises that made a profit in the first quarter was only 28.3%, although a year ago, in the first quarter of 2019, the number of such enterprises was 70.2%. At the same time, this indicator turned out to be the worst among all types of economic activity.

If the assessment of demand for services (volume of sales of services) in general for January-March 2020 - minus 38%, and expectations for this indicator in the second quarter of 2020 - are minus 48%, then separately for temporary accommodation and catering demand was estimated at about minus 60% in the second quarter and this is the lowest figure in the services sector

Concerns about changes in demand affected capital investment in temporary accommodation and catering, so in the first quarter of this year they amounted to only 33.3% of the first quarter of 2019. Moreover, the largest reduction in capital investment occurred where demand is not stable and depends on numerical factors. Thus, if capital investment in hotels and similar temporary

accommodation fell by 21.8% during the described period, the related group - accommodation for vacation and other temporary accommodation showed a reduction in capital investment by 80.3%. This is due to the expectation of falling demand and possible risks due to the unpredictability of the pandemic.

A similar situation occurred with the provision of food, where capital investment in the supply of ready meals decreased by 20.8%; and in restaurants and mobile food services - by 74.2% in the first quarter of this year compared to the first quarter of 2019. The factors that influenced this reduction in capital investment are similar to the area of temporary placement.

In general, the decline in expected demand and, consequently, the decline in capital investment, reflect the impact of both the economic crisis that began last year and the impact of the pandemic, which became apparent earlier this year and marked by market participants in the first quarter. Therefore, the area of temporary accommodation and catering was partially ready for the introduction of quarantine measures due to the pandemic and the fall in demand due to administrative restrictions was to some extent offset by low expectations.

However, there are still serious risks for the industry due to the dissatisfaction of deferred demand and the recovery of demand for services at least in part, which may occur both due to the return of strict quarantine restrictions and due to a significant drop in consumer income. If the general drop in demand was expected and taken into account in the planning, then the non-recovery of demand will mean the need for a significant reduction in supply, the bankruptcy of enterprises in this area.

*Beauty industry.* As for hairdressers, beauty salons, beauty and manicure salons, they did not work during the strict quarantine measures to counter the pandemic. The closure of these establishments is due to the introduction of restrictions on crowds and due to close contact with the client.

*Sphere of public catering.* According to various experts, losses can reach 50% of revenue, staff is lost. Forms of activity are transformed in the direction of delivery of orders to clients or work on – take away.

*Sphere of entertainment.* There was a shutdown of shopping and entertainment centers, cinemas, theaters, exhibition halls, concerts - a significant number of people lost their jobs.

*Event industry.* In connection with the ban events impossible to hold conferences, business forums, religious gatherings, concert tours, football championships, etc. "Eurovision",

"AtlasWeekend", "Euro 2020", "Olympics 2020" and other events were postponed for a year. This is a huge loss for the industry. Resumption of the industry is also a matter of quite a long time.

However, there are industries and areas of activity to which the pandemic COVID-19 has given a good start and revenue growth:

*Online stores.* Orders through sites increased by 80%. In the first days of the introduction of quarantine there was a shortage of goods in such groups as: essential goods (antiseptics, protective masks, toilet paper, paper towels) and food (water, cereals, oil, salt).

*Pharmacies.* Sales of antiviral drugs increased 8 times. Protective masks, alcohol, glycerin, antiseptics, antiviral and antipyretic drugs are in greatest demand.

*Media service.* TV viewing has increased by 27%. Content consumption on news platforms has increased. Media group "1+1" confirms the growing demand for news "TSN", "TSN-Week". Content consumption also increased by 30% on the news platform TSN.ua and UNIAN. Statistics data «MEGOGO» show existing users began to look Products Media services more and longer - an average of 22%.

*Online education.* The flow of requests for online learning is growing. This is due to distance learning of schools and institutions of higher education. In some regions, traffic to online education sites has tripled. [9]

### **Results, Conclusions and Recommendations**

The previous negative consequences due to the development of the pandemic COVID-19 for Ukraine:

- Decrease in the level of real GDP by 1.3%, as well as the level of per capita income of Ukraine, which causes uncertainty in the future.
- Fall in industrial production by 5.1%.
- Decline in the volume of housing construction by 20%, caused by low demand due to declining effective demand from the population.
- The total reduction in the number of passengers carried, which was 43.7% in the first five months of this year.
- The reduction in total freight turnover for all modes of transport reached 19.9%.

- Losses in the tourism sector have led the industry to the leaders in the number of unprofitable enterprises.
- Closing borders, restricting transport connections and thus complicating the export and import of goods and raw materials, doing business and attracting investment which led to losses and reduced production.
- The most affected areas are services, hotels and restaurants, entertainment, theaters, cinemas, sporting events, retail trade in non-food products.
- The increase in the number of unemployed as a result of reduced production of goods and services, as well as negative business expectations.

Measures introduced by the Government of Ukraine to mitigate the economic crisis and support the country's economy:

- For entrepreneurs who work independently without employees, they were exempted from the single social contribution until the end of the quarantine.
- Inspections and penalties for the period of quarantine were abolished for small and medium-sized businesses.

In fact, the pandemic COVID-19 requires a change in the way we do business, and the question arises as to what business should be like during a pandemic. What advice can you give to entrepreneurs, business owners and management in this situation?

First, it is necessary to seek and actively participate in launching a program to stimulate demand for domestic products, most importantly for companies to stay on the same wavelength with their customers and their needs, focus on market needs and focus consumers on local products and services. At a time when revenues are falling and demand for products and companies have limited investment opportunities, improvement and losing "safety margin", imports from countries where the products received significant financial support from governments, begins to take more and more market share.

Second, you need to focus not only on sales, but also on your reputation. After all, the client is too sensitive to any stimuli, especially during crises, and therefore very responsive to the actions of companies that try to work in violation of quarantine rules. Since the introduction of quarantine measures, there have been several scandals due to business quarantine violations, and they have received considerable attention despite the existence of other numerous and complex problems in the country.

Third, a set of measures should be developed and implemented immediately in order to maintain production and sales for those companies that have now significantly increased profits. Once the quarantine restrictions are lifted, the impact of the pandemic is reduced, and their activities become less profitable because the consumer will be satisfied with their products and may not need them for a long time. Such companies must develop plans to diversify production, find new areas and accumulate enough funds to carry out re-equipment, marketing campaigns and more.

Fourth, it is necessary to ensure further communication of companies with their customers, especially in those industries where today there is a significant decline in production and sales. Businesses should strive to ensure that a product or service is available where the customer needs it in a pandemic, with quarantine restrictions. And also clearly imagine the size of deferred demand. In an environment where market needs are changing dramatically under the influence of external factors, these changes need to be constantly monitored and responded to plans and strategies need to be developed in response to new potential challenges.

Fifth, those companies that show social responsibility will be able to retain their customers more easily. Examples are those companies that resort to charity in an epidemic ("Nova Poshta", "Privatbank", "Epicenter", "Silpo" and others). Using charity as PR, they will consolidate the interaction with those customers and consumers that they have today and attract new ones. Given the urgent needs of society, which are easy to identify and relatively easy to meet, you can quickly and effectively improve your reputation and gain trust.

Sixth, valuable staff should be retained during the suspension or reduction of production. Many companies spend a lot of resources on employee training and retraining, and efforts to save on payroll today can lead to rapid costs in the future. In addition, given the growth of the market and the need to increase production, a shortage of scenarios is quite possible, and companies that lost workers during the pandemic will not be able to respond in a timely manner to growing demand and lose market share.

Seventh, it is necessary to forecast the market during the end of the pandemic, to plan the return of the enterprise to previous volumes of production or provision of services. It is also necessary to anticipate possible changes in the market, as well as the consequences of the pandemic. It is worth remembering that the end of the pandemic will not mean a return of size and structure to the indicators of 2019, so you should be prepared for new conditions.

Of course, this list cannot be considered exhaustive or a panacea for the pandemic COVID-19. However, timely response and targeted action will reduce the negative impact of the pandemic COVID-19, prevent a decline in business activity, create conditions for the development of Ukrainian producers and reduce the scale of the consequences of the crisis caused by the pandemic COVID-19.

The response of the state to the challenges should be multi-vector. It is not enough to simply help companies survive the decline in production and profitability, to prevent a wave of bankruptcy due to financial turmoil due to the pandemic. The country's government must constantly analyze changes in the pace of production and sales of goods and services, provide support to the most vulnerable industries and those industries that form the basis of the country's economy. Due to the imposition of factors of reduction and demand and supply for various reasons, there may be gaps in meeting the needs of manufacturing enterprises in raw materials and equipment, the emergence of scarce materials and so on. Because of the desire to reduce costs in a crisis caused by pandemics and quarantine measures, some companies may decide to reduce production and thus the market will not be able to meet demand.

Analysis of the situation in the markets and production, quick response to identified problems, as well as forecasting the emergence of new problems become a crucial task of government regulation. Given the interdependence of different sectors of the economy and the specific needs of each of them, it is important to properly assess the challenges and predict the possible complex consequences of the pandemic. Assistance from the government is extremely important when new risks appear on the market, the response to which is complicated by the lack of practices and experience.

At the same time, the authorities should avoid increasing taxes and expanding the tax base, complicating licensing conditions, significant changes in accounting, and so on. As companies in the context of the growing economic crisis and pandemic are forced to respond to complex and often new challenges, the complexity of work due to changes in legislation and additional tax pressures significantly increase risks and deprive them of the ability to respond quickly to changing demand and production conditions. Compensating for budget losses through business is a very dangerous business and can provoke even more revenue cuts.

Market in a free economy is not able to cope with such situations quickly, the task of the state is to provide critical segments of production with the necessary raw materials, etc. by stimulating

production, creating stocks, providing soft loans and direct support.

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**SCIENTIFIC APPROACHES TO FORMATION OF HEALTH PRESERVATION  
ENVIRONMENT OF A GENERAL EDUCATIONAL INSTITUTION**

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**Abstract.**

The article explores the essence of scientific approaches to the formation of health preservation environment of educational institutions: activity, system, competence, personality-oriented environment, synergistic, cross-sectoral, holistic, and cultural. The article also describes the structure of the health preservation environment of an educational institution, which consists of logistical, social, content, and technological components, the combination of which contributes to the formation of the valuable attitude to one's own health and ensure the readiness to conduct a healthy lifestyle.

**Keywords:** health-preserving environment, educational institution, students, scientific approaches, the three-component structure of the environment.

**Problem statement**

Changes in social, political, and economic living conditions in Ukraine necessitate an innovative approach to the system of education in the field of education, development, and implementation of new pedagogical technologies that will promote the holistic development of

students, their self-realization, and social growth.

Stressful pedagogical practice in the upbringing and education of children and the inconsistency of many methods and technologies of teaching age and health of students of educational institutions, irrational organization of the educational process, its intensification, the transition to new forms of education, non-compliance with hygiene standards and sanitary requirements health of students during school.

According to the prevalence of diseases among students, the first place is occupied by respiratory diseases (31.7%); digestive diseases (9.5%); endocrine diseases (9%); eye diseases (8.1%); musculoskeletal disorders (6%) diseases of the nervous system (6%). During school, the number of children with visual impairments increases 5 times, with musculoskeletal disorders - 1.5 times, the nervous system - 2 times. [14, p. 47]

The health of children is also affected by non-compliance with diet, exercise, sleep and rest, which contributes to digestive diseases, obesity, and hyperdynamic.

Thus, among the objective and subjective reasons for the sharp decline in the health of students are a deep socio-economic crisis, declining material well-being of a large part of the population of Ukraine, deteriorating environmental situation, unsatisfactory material and technical base of secondary schools, and health facilities. workload, non-compliance with hygienic requirements when scheduling lessons, mental overload, low physical activity, the imperfect structure of the health care system, lack of health priority for many children, and motivation for a healthy lifestyle as a leading factor in maintaining and strengthening personal health.

The main tasks of the National Strategy for Educational Development in Ukraine until 2021, approved by the Decree of the President of Ukraine on June 25, 2013, № 344 draws attention to the need to create a safe educational environment that provides a comprehensive approach to the formation of all components of children's and youth health. [9]

**The purpose of the article** is to reveal the methodological approaches to the formation of a health-preserving environment of a secondary school and to characterize its three-component structure that will contribute to the preservation, strengthening of physical, mental, and social health of all participants in the educational process.

### **The main material**

Modern scientists argue that today the educational environment is one of the main risk factors that affect the health of students, due to information overload and intensification of the educational process of the educational institution.

Long-term research of scientists allows identifying those school risk factors that negatively affect the health of students, in particular: stressful pedagogical tactics, intensification of the educational process; inconsistency of teaching methods and technologies with the age and functionality of students; the premature start of systematic preschool education; non-compliance with the basic physiological and hygienic requirements of the organization of the educational process; functional inexperience of teachers and parents on issues of maintaining and promoting health; partial destruction of school medical control services; shortcomings in the existing system of physical education; lack of a system of work on the formation of the value of health and a healthy lifestyle in students, etc. [2, p. 5]

The best-known and most effective European experience in creating a safe and healthy environment in an educational institution can be found in the European Network of Health Promotion Schools (ENHPS). The beginning of this movement can be considered the First International Conference “School of Active Health Promotion - A Contribution to Education, Health and Democracy”, held in Greece in 1991, which emphasized the need to create models of such activities in institutions education that would contribute to the preservation and strengthening of the health of students and teachers by creating an appropriate social and physical environment. The conference also focused on improving the content, forms, and methods of children’s health. The resolution of the conference also stated that education and health are closely linked and that educational institutions are a key factor in shaping the future generation, where every child and young person in Europe has the right and should have a real opportunity to receive active health education.

The conference facilitated the launch of the European Network of Health Promoting Schools project in 1992. Nowadays, about 50 European countries have joined the European School of Health Promotion project. Ukraine officially joined the European School of Health project in

1995. [11]

A promising area of the project is to determine that each educational institution should become a school of health and cover such areas of activity as the acquisition of knowledge and skills by students on the basics of health, creating a comfortable social and physical environment, and developing relationships with society in general.

In the educational institutions that have joined the project, attention is paid to the introduction of appropriate pedagogical, psychological, medical, hygienic, sports, mass, and other technologies aimed at developing students' healthy lifestyle skills, maintaining and strengthening their health. In addition, the medical direction of school activities is taken into account, which is related to the provision of sanitary and hygienic conditions of the educational process and educational work among students and parents. Also, the activities of health promotion schools are aimed at mastering the basics of a healthy lifestyle and life skills of safe behavior.

Research shows that in the practice of educational institutions the following methodological approaches are distinguished: activity, system, competence, personality-oriented, environmental. Consider the essence of some of them.

The activity approach requires the formation of an effective position of the child for the purpose of his own formation and development, moral and spiritual self-improvement. The system approach assumes integrity in practical activity directed at the complex realization of a healthy way of life. Systematic is the mutually agreed knowledge, skills, and abilities formed in children, which provide the necessary level of their efficiency, morality, and spirituality. To do this, you need to know the basic principles of physiology, human psychology, sociology, and other related disciplines, which together will implement the necessary health-preserving educational technologies for a conscious attitude to their own health and manifest themselves in appropriate positive actions and deeds.

The competence approach involves the formation of students' competence as experience in a particular area of life, which involves the development of the ability to act in practice, to apply the experience of successful activities in various life situations to achieve specific practical goals. The competency approach is aimed at developing the ability of students to act in different life situations in order to preserve their own health, the health of others, nature. This approach is

closely related to personality-oriented and environmental approaches, as it is based on the student's personality and can be implemented and tested only in the process of performing a particular set of actions by a particular student.

A person-centered approach aimed at the child's personality puts him at the center of educational influences. The personality-oriented approach is based on the teacher's consistent attitude to the pupil as a person, as a self-conscious responsible subject of his own development, and as a subject of educational interaction. This is the basic value orientation of the teacher, which determines his position in interaction with each child and the team. This approach takes into account the individual characteristics of children, requires treatment of them as individuals who are responsible and conscious actors; contributes to the realization of the natural potential of the student as a creator of himself, the formation of a system of personal values that reflect his creative essence and is the key to self-realization, the ability to choose moral life guidelines. [1, p. 243]

The environmental approach is considered as a means of cognition and development of the child's personality and is a system of interactions with the environment, which at the same time becomes a means of diagnosis, design, and production of educational results. In addition, the environmental approach allows approaching the formation of a healthy environment in the school through the prism of optimizing the educational process to achieve the well-being of the child. The environmental approach requires an understanding that the way of life of each person is formed as a result of its interaction with the environment.

Thus, the process of preserving and strengthening the health of children is a holistic system and at the same time is one of the elements, a specific subsystem of the general system of educational institutions, state, and public organizations that have to solve this problem. This system is characterized by internal connections of its elements: goals, main tasks, approaches, principles; content, forms, and methods; training systems for the implementation of the process of formation, preservation, and promotion of health, ways, conditions, and expected results of implementation.

There are many views of scientists on the meaning of the concept of "healthy educational environment" and its component structure. Researcher M. Smirnov argues that an environment in which there are no harmful effects on the health of students in the educational process, gradually

improving the conditions conducive to the organization of the educational process necessary for the formation and maintenance of the health of students and teachers, is health-preserving. [13, p. 192]

Under the health-preserving educational environment, N. Miller understands a set of anthropogenic, natural, cultural factors that contribute to the satisfaction of human needs, abilities, and public health opportunities. According to N. Miller, a health-preserving educational environment contributes to the introduction of health-preserving learning as a process of interaction between students and teachers, the result of which is the acquisition of knowledge, skills, creative activities, values, and health of participants in the educational process. [8, p. 18]

It is also important to interpret the concept of a “healthy educational environment” A. Madzhugy as a purposeful and professionally created system of didactic conditions in which the acquisition of knowledge, skills, and abilities, the development of creative thinking, and the formation of emotional and value attitudes to the world and their health occurs in situations of physical, emotional, intellectual, social, spiritual comfort. [6, p. 386]

V. Kuchma and M. Stepanova understand the educational environment as a whole set of factors that are created by the whole structure of school life: material resources, organization of the educational process, nutrition, medical care, psychological climate and determine that a healthy environment in an educational institution is not as many health-improving medical measures as hygienically rational, age-appropriate educational workloads, classes in conditions that meet the requirements of sanitary regulations. [5, p. 3]

According to O. Menchynska, in solving the problem of preserving and strengthening the health of students it is necessary to take into account a comprehensive approach, which involves the transformation of the educational environment into a healthy living space. The scientist believes that a “healthy living space” is the only valuable and instrumental space of a child’s life at school, at home, in society, filled with educational, work, and diverse communication: with peers, teachers, parents, adults. Despite the different approaches to the definition of educational space and educational environment, it is useful in the study of this scientist is the emphasis in the health environment on the activities and communication with various actors in the educational process. [7, p. 14]

Scientist G. Kovalev in his model identifies three components of the environment: the physical environment, human factors, and training programs. To the physical environment the author includes the architecture of the building of the educational institution, the degree of openness, the design of school structures, the size and spatial structure of classrooms and other premises; to human factors - spatial and social density among the subjects of the educational process, personal characteristics and success of students, personal, gender, age and national characteristics of student and teaching staff; to the curriculum - the structure, style of teaching, the nature of socio-psychological control, forms of education, the content of educational programs. [4, p. 95]

The model of V. Panov's educational environment retains a three-component structure, and important, in our opinion, is the allocation of the activity component, by which the author understands the space, a set of different activities necessary for learning and student development. [10, p. 86-88]

The structure of N. Gontarovska's model of educational environment takes into account the harmonizing strategy in creating the most favorable conditions for the disclosure of creative potential of each child on the basis of components of the educational school environment, including subjects of the educational process, a social component, spatial component, and technological component. [3, p. 119]

Based on the generally accepted structure of the educational environment, which consists of spatial-subject, social and organizational-technological blocks [12, p. 36] scientist S. Roshchina studied the main characteristics of educational environments of educational institutions on the following parameters: the internal space of the educational institution; psychological microclimate; the means by which the school achieves a developmental effect; the potential of the educational institution; the results of the influence of the educational environment on the personal development of the child. It is important for us to try to assess the impact of the educational environment on the formation of various mental formations of the child.

In the most common model of V. Yasvin there are three components of the educational environment: spatial-subject, social and psychodidactic. [15, p. 356] He refers to the infrastructure of the institution, material and technical base, to the social factors, such as the nature of the relationship of all subjects of the educational process, and to the psychodidactic

such as the content and methods of teaching and education.

According to N. Gontarovska and O. Yezhova, the educational environment should contain structural, organizational, and semantic components. Therefore, based on the generally accepted three-component structure of the educational environment, for the health-preserving environment of the educational institution, in our opinion, the material-technical, content-technological and social components are important. According to V. Yasvin, the material and technical component includes the infrastructure of the institution and it's the material and technical base, sanitary and hygienic conditions for maintaining the material and technical base of the educational institution, the level of providing new technologies of design and aesthetic design. The content-technological component includes the content of education and upbringing, technologies, methods, forms of work. In a healthy environment, this component must be aimed at developing students' health competence. Sharing the opinion of N. Gontarovska, the social component of the educational environment includes the nature of the communication of the subjects of the educational process, against which group needs are realized, interpersonal and group conflicts arise and are resolved [3, p. 128]. First of all, it is the relationship between peers, the relationship between students, teachers, and parents, on the basis of which are formed and developed attitudes to themselves, their own health, healthy lifestyle, people around them, the world around them.

## **Conclusions**

Thus, the analysis of psychological and pedagogical literature allows to define the health-preserving environment of the educational institution as a set of certain components, which in combination and interaction contribute to the formation of values to their own health, health of others and ensure their readiness to lead a healthy lifestyle.

Virtually all researchers of the health environment of the educational institution indicate that each institution must have a strong potential to preserve and strengthen the health of children, and the formation of a healthy environment is possible provided that each component of the pedagogical process will perform health function.

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## IMPLEMENTATION OF STATE POLICY IN THE FIELD OF INNOVATIVE EDUCATIONAL ACTIVITIES

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### **Abstract.**

The article analyzes the fact that in the context of globalization, Ukrainian science and education have an urgent need to enter the European socio-cultural space, which suggests not only the implementation of a broad program of activities for creative cooperation but also the country’s openness to economic, cultural, educational, and information investments.

On the one hand, the successful solution of such problems implies the purposeful formation of the universal Euro-Atlantic values and socio-cultural vectors in the mass consciousness, and on the other—the preservation of Ukrainian national identity and uniqueness. [5] They are revealed through the consideration of education as a way to promote Ukrainian interests by expanding the Ukrainian cultural and educational experience and innovative product as a means to gain their own intellectual niche.

The article highlights the ways of implementing state policy in the field of innovative educational activities as exemplified by the cooperation of the State Scientific Institution “Institute of Education Content Modernization” with the representatives of various research institutes, including the Research Institute of Ukrainian Studies, social institutions, Ukrainian World Coordination Council, and NGOs.

**Keywords:** innovative educational activities, social partnership, innovative educational

product, “Ukraine and I” curriculum in Ukrainian studies for Ukrainian weekend schools abroad.

### **Urgency of the research**

The innovative activity is one of the crucial and priority directions in the state policy of Ukraine. Its implementation conforms to the Constitution of Ukraine and is based on the laws of Ukraine “On Investment Activity”, “On Scientific and Scientific-Technical Activity”, “On Scientific and Scientific-Technical Expertise”, “On Special Regime of Innovative Activity of Technology Parks”, “On ‘Yavoriv’ Special Economic Zone”, “On Priority Areas of Innovation in Ukraine”, “On Innovation Activity”, and other legislative acts regulating public relations in this field. [14]

In this regard, the studies of innovative educational activities are of particular interest, as education is an essential driver of increasing the competitiveness of Ukraine in the system of international division of labor, Ukraine’s potential joining the economically developed countries of the world. Financial issues, human capital, innovative modern research during the COVID-19 pandemic in the field of psychology, pedagogy, philosophy [19; 25; 15; 4; 17] and international cooperation are quite crucial in this area and determine the relevance of our study.

### **Analysis of topical scientific problems and research**

The legislative basis for the implementation of innovative educational activities in the education system of Ukraine is the Regulation on the implementation of innovative educational activities, approved by the order of the Ministry of Education and Science of Ukraine dated November 7, 2000, No. 522, registered by the Ministry of Justice of Ukraine on December 26, 2000, under No. 946/5167 (the version of the Regulation of the Ministry of Education and Science of Ukraine dated July 11, 2017, No. 994). [18]

The theoretical and methodological basis of the innovative educational activity has been investigated as by domestic scholars (S. Barannikova, O. Bartkiv, V. Vakulenko, I. Havrysh, I. Herasymenko, O. Dubaseniuk, Yu. Zavalevskyi, B. Zahviazynskyi, I. Ziaziun, O. Kiian, S. Kyrylenko, N. Koshechko, V. Kremen, O. Marynovska, Yu. Trius, A. Furman, O. Shapran, Yu. Shapran, etc.). As well as it is investigated by foreign researchers ([M. Milrad [16], O. Zinina, Yu. Olentsova [24], Y. Gorchev, G. Kimova [7] and others [10; 11; 22]).

O. Zinina and Yu. Olentsova mention that “In this regard, in industrialized countries, the

priority area of investment in education is not only national policy but also the policy of private enterprises. Financial resources in higher education are limited, which, of course, leads to the need to assess the effectiveness of investments in new educational technologies. This situation determines the relevance of the study.” [24]

Valuable for our study is the work by Marcelo Milrad “How Should Learning Activities Using Mobile Technologies Be Designed to Support Innovative Educational Practices?” [16], the proceedings of “The 4<sup>th</sup> International Research and Practical Conference ‘World Science: Problems, Prospects, and Innovations’” (December 23–25, 2020. Toronto, Canada: Perfect Publishing) [20], and “Philosophy, Psychology, and Pedagogics against COVID-19: Manual” (Zhytomyr, 2020). [19]

The importance of partnerships between Ukraine and the diaspora in the field of pedagogical science, which concern the coverage of innovative educational activities, is revealed in the works of Ukrainian scholars of the Research Center “Institute of Ukrainian Diaspora Studies named after Professor Liubomyr Vynar” of the National University “Ostroh Academy” [21; 23]; International Institute of Education, Culture, and Diaspora Relations of Lviv Polytechnic National University; Research Institute of Ukrainian Studies; Center of Ukrainian Studies; Faculty of Philosophy of Taras Shevchenko National University of Kyiv, and other institutes.

Ukrainian scholars point out that “Ukrainians abroad constitute a crucial element of our state policy; the level to which the Ukrainian government is aware of the Ukrainian diasporas’ importance and its responsibility before Ukrainians abroad directly impacts the assertion of Ukraine’s national interests in other countries”. [1, p. 236]

### **The research objective**

The purpose of this article is to reveal the significance and features of social partnership in terms of performing the state policy in the field of innovative educational activities as exemplified by the cooperation of the State Scientific Institution “Institute of Education Content Modernization” with other institutions and public organizations, Ukrainian educational institutions abroad.

To achieve this goal, it is necessary to solve such research problems:

To briefly describe social partnership as an essential tool for implementing innovative activities in the educational sphere of Ukraine;

To designate the specific scientific achievements of specialists of the State Scientific Institution "Institute for the Modernization of the Content of Education" created on the basis of cooperation with other institutions and Ukrainian educational institutions abroad.

**Methods:** empirical research (observation, comparison); theoretical knowledge; general research methods (analysis, induction, deduction, analogy, statistical methods).

### **Statement of basic materials**

One of the important ways to perform state policy in the field of innovative educational activities is the cooperation between Ukrainian scientific institutions, institutes, the Ukrainian World Coordination Council, Ukrainian International School, other educational establishments and public organizations and representatives of foreign scientific institutions, educational establishments, and public associations.

For several successive years, the State Scientific Institution "Institute of Education Content Modernization" in collaboration with the Ministry of Education and Science of Ukraine, as well as the Ukrainian World Coordination Council, has been organizing and holding a number of conferences, contests, and projects in the respective field, including:

the international contest "The Best Ukrainian Language Teacher Abroad", whose winners in 2014–2019 were teachers from Spain, Italy, Kazakhstan, Canada, Moldova, and Norway;

international research and practical conferences with representatives of Ukrainian weekend schools abroad, in particular the international research and practical conference "School System of the Ukrainian Diaspora" (August 21, 2017). [12] It awarded the winners of the international contest "The Best Ukrainian Language Teacher Abroad" and provided discussion of the important issues of modern schooling in different countries; drew attention to the specifics of teaching Ukrainian studies subjects at Ukrainian weekend schools, the opportunity for Ukrainian students to obtain abroad a Ukrainian-standard state school certificate for further admission to higher educational institutions in Ukraine; considered cooperation of scientific institutions and public organizations with Ukrainian educational institutions abroad and other issues.

Given the importance of foreign Ukrainian educational centers both for the preservation of national identity and representation of Ukraine in the global community, the State Scientific Institution "Institute of Education Content Modernization" cooperates with the Research Institute of Ukrainian Studies (hereinafter—RIUS).

In 2017–2018, during the international teachers' contest for the Ukrainian secondary schools and educational institutions of the Ukrainian diaspora "Ukrainian Studies Priorities in the Educational Process", organized by the Research Institute of Ukrainian Studies (order of RIUS dated October 3, 2017, No. 26), representatives of the State Scientific Institution "Institute of Education Content Modernization" formed the professional jury (order of RIUS dated January 15, 2018, No. 2) to provide an independent expert assessment of the contest works. Over 1,000 teachers from Ukraine and abroad (the Hellenic Republic, the Kingdom of Belgium, the Republic of Poland, and the Kingdom of Spain) took part in the contest, presenting their works in 10 nominations. As a result, 291 papers won awards, including 6 works by foreign participants (from Spain, Belgium, Poland, and Greece). [2]

In terms of implementing the new Law of Ukraine "On Education" and the "The New Ukrainian School" concept of state policy in the field of reforming general secondary education for the time period till 2029 (order of the Cabinet of Ministers of Ukraine dated December 14, 2016, No. 988-r), the organizers of the event mention such main tasks of the contest: the specification of priority areas for the formation of educational activities as an important means for transforming national education into a truly Ukrainian one; promotion of social and cultural competencies development that includes the ability to protect and preserve Ukrainian identity traditions, customs, linguistic and cultural practices, inherit the spiritual legacy of the Ukrainian people. [2, p. 236]

The contest was held under the order of the Ministry of Education and Science of Ukraine No. 989 dated August 17, 2016, "On Approval of the Action Plan of the Ministry for the Support of Ukrainians Abroad in General Secondary Education for 2016–2020"; the requirements of the State Standard for basic and complete general secondary education (Resolution of the Cabinet of Ministers of Ukraine No. 1392 dated November 23, 2011) on Ukrainian studies vector for all educational fields and in terms of implementing the Decree of the President of Ukraine No. 580/2015 "On the Strategy of National-Patriotic Education of Children and Youth for 2016–2020".

In 2016, in order to intensify innovative activities at Ukrainian educational institutions abroad, providing them with educational and methodological literature, the State Scientific Institution "Institute of Education Content Modernization" in cooperation with the Research Institute of Ukrainian Studies assisted in delivering textbooks and manuals to the Ukrainian Studies School

of the Native School Society in Cleveland (USA). [6]

In 2019, experts of the State Scientific Institution “Institute of Education Content Modernization” together with representatives of the Research Institute of Ukrainian Studies took part in developing the “Ukraine and I” curriculum in Ukrainian studies for weekend schools abroad (the authors are: O. Kotusenko, N. Mykhailovska, A. Tsipko, T. Boiko, O. Hazizova, I. Krasnodemska, O. Khomenko, S. Boiko). [13; 3]

The “Ukraine and I” curriculum is designed for teachers of weekend schools abroad, as well as parents who raise their children in the traditions of Ukrainian national culture, helping them to enhance their cognition for comprehending versatile modern Ukraine and its past, learn the singularity of the Ukrainian world and features of the Ukrainian community life, preserve the Ukrainian identity by mastering contemporary Ukrainian studies. [13; 3]

The Academic Council of the Research Institute of Ukrainian Studies approved the “Ukraine and I” curriculum in Ukrainian studies for Ukrainian weekend schools abroad in December 2018 (protocol No. 9 dated December 27, 2018), and in February 2019, it was recommended for use by the Ministry of Education and Science of Ukraine (letter of the Ministry of Education and Science of Ukraine dated 28.02.2019, No. 1 / 11-2082).

The curriculum is personality-centered, based on the fundamentally new research, considering the consistent introduction of modern scientific and pedagogical technologies, effective approaches to organizing the educational process, and close cooperation of the teaching staff with parents and children’s families. [8; 9]

The proposed Ukrainian studies curriculum “Ukraine and I” for weekend schools abroad is structured according to the following modules: “My family and I”, “Symbols and Charms of the Ukrainian People”, “Ukrainian Calendar and Household Rituals”, “Ukrainian Natural Environment”, “Fundamentals of Ukrainian Life. “Ukrainian Everyday Life”, “Ukrainian State. Pages of History”, “Famous Ukrainians of Ancient Times and the Present”, “Cultural Monuments of Ukraine”, “Ukrainians in the World”, “The Ukrainian Language is Your Key to the World”.

Each module contains an approximate number of hours for studying the material and lesson topics totaling 35 hours per year. Lesson topics can be chosen by the teacher depending on the students’ age, as well as their level of the Ukrainian language proficiency (from elementary A1–A2 (B1) for ages 6–9 to the higher B1–B2 (C1) for ages 10–15) (Fig. 1).

No.	Module (Modules /Topics for use at the teacher's discretion)	Number of hours. Level of the Ukrainian language proficiency A1–A2 (B1)	Number of hours. Level of the Ukrainian language proficiency B1–B2 (C1)
I.	My family and I.	3	3
II.	Symbols and Charms of the Ukrainian People.	6	3
III.	Ukrainian Calendar and Household Rituals.	4	4
IV.	Ukrainian Natural Environment.	3	3
V.	Fundamentals of Ukrainian Life. Ukrainian Everyday Life.	3	3
VI.	Ukrainian State. Pages of History.	3	6
VII.	Famous Ukrainians of Ancient Times and the Present.	3	3
VIII.	Cultural Monuments of Ukraine.	4	4
IX.	Ukrainians in the World.	3	3
X.	The Ukrainian Language is Your Key to the World.	3	3
	Total	35	35

Fig. 1. Annual distribution of hours for teaching the Ukrainian studies course “Ukraine and I” at Ukrainian weekend schools abroad

The Ukrainian studies course “Ukraine and I” is critical for the formation of the Ukrainian students’ worldview, namely their attitude to the world, whose comprehension is offered through their self-knowledge, learning of their genealogy and people, other nations, expression of their attitude to them. The contents of the “Ukraine and I” curriculum in Ukrainian studies are aimed at showing children and youth in foreign countries the brightest pages of the history and culture of Ukraine. Based on authentic facts, Ukrainian poetry and prose, creative songwriting, artistic, sporting, and culinary achievements, this knowledge will prove the significance of the Ukrainians

in the world civilization and culture, will inspire students to be worthy of their ancestors, will teach them to preserve the independence and autonomy of Ukraine and to protect its interests at the global level.

### **Conclusion**

Substantiation of the importance of innovative educational activities bears theoretical and practical significance for modern education. Analysis of specific ways of cooperation between the State Scientific Institution “Institute of Educational Content Modernization” and the Ministry of Education and Science of Ukraine, scientific and research institutes, public associations and research centers, the public association “Ukrainian World Coordination Council”, the International Ukrainian School (a state international distance-learning school located in the capital of Ukraine Kyiv), and other educational institutions both in Ukraine and abroad is crucial for the implementation of state policy geared to the modernization of the educational process, improvement of educational innovations management, and facilitation of the effective cooperation in the future.

The high level of innovative educational activity and the high quality of the national education system will enable successful representation and defense of national interests in terms of competition with other countries, which will determine the place of a state in the modern world.

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**AUTHOR'S SCHOOL IN UKRAINE AS AN EDUCATIONAL TREND OF THE XXI  
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**Abstract.**

The article reveals the peculiarities of the emergence of such a phenomenon as "author's school"; the analysis of the modern approach in scientific developments of domestic scientists to the interpretation of the concept of "author's school", the achievements of the author's school as a model of general secondary education. Emphasis is made on the specialization of the author's educational institution as a phenomenon of innovative educational practice. The conditions of creation, characteristic features, varieties, and particularities of the functioning of the author's educational institution are determined as an innovative educational system.

**Keywords:** author's school, innovative educational practice, New Ukrainian School.

Considering the reforms of public life in recent decades, it can be noted that in Ukraine for many years there is a process of formation of a new education system focused on joining the European educational continuum with the preservation of national culture, which is accompanied by significant changes in pedagogical theory and practice, which confirm the re-orientation of the educational paradigm, namely: updating the content of education taking into account the competence approach; revision of priorities of education, upbringing and development of the younger generation, especially the future intellectuals; introduction of new pedagogical technologies, in particular, educational management; functioning of innovative educational institutions as an alternative to the traditional school.

An educational establishment is a place where specially trained people, delegated by society and the state, involve children in the achievements of science and culture attaining adulthood. The school is an instrument of the state, and it defines and controls the essence of education, organization, the worldview of the content of education, as well as forms and methods of teaching. The state outlines the purpose of education (targeted education), as well as accumulates and develops various values - moral and ethical, school, daily, and so on. But the educational establishment as a living organism, capable of self-organization, self-reflection, develops, maintains goals closely related to the ideals and values of each child. Taking care of the personal goals of its students and their parents, the school often contradicts the general, official attitudes, trying to respond in a timely manner to the challenges of time and the needs of the individual. Against this background, there are author's schools with carriers of reformation ideas about the purpose, ways, and means of teaching and educating children, based on pedagogical reflection.

We consider the model of the author's school as a prototype of qualitative transformations in education, which depends on a team of professionals who expand the space of educational opportunities. The applied aspect of research and experimental work is to model and implement the best examples of authorial practices of the innovation process, in the process of education or becoming a citizen and patriot of Ukraine.

The need for the author's schools is due to the rejection of ideological attitudes of the administrative-command system of education management. Lyceums, gymnasiums, colleges can develop as author's schools in case of observation of the certain conditions:

- The availability of an original idea that allows achieving significant results; providing it with original content, means, forms, and methods of implementation (for example, the lyceum of aesthetic orientation creates significant opportunities for the development of the creative personality of the pupil, development of non-standard technologies of teaching and education);
- Selection of highly qualified, professionally trained teachers who are able to creatively solve various pedagogical tasks;
- Development of author's curricula and programs that reflect the features of the author's school, its profile;
- Preparation of author's textbooks, textbooks, classrooms, laboratories;
- Creation of author's traditions, which are peculiar to this particular educational establishment, which accumulates the pedagogical experience.

**Analysis of recent research and publications** of the problem on the development of author's schools, their essence, and specifics of work has attracted the attention of many scientists (I. Dychkivska, N. Dichek, Y. Zavalevskyi, L. Kalinina, S. Kyrylenko, O. Liubarska, H. Matveeva, O. Marynovska, I. Melnyk, O. Oleksiuk, N. Orlova, N. Ostroverkhova, O. Piekhota, N. Pobirchenko, O. Sukhomlynska, O. Savchenko, J. Beane, J. Bonstingl, J. Patterson, J. Bonstingl, M. Rutter, S. Purkey, M. Smith, etc.).

**The purpose of the article** is to define the concept, content, and the main characteristics of the "author's school".

### **Presenting the main material**

The current stage of social development is undoubtedly a turning point in human history, at least in that the aggravation of global problems threatens its very existence. It is impossible to exaggerate the role of education in the development of humanity, which in the current conditions, despite some progress, is generally in crisis. On the one hand, we have a complex intertwining of

moral and ethical, social, political, demographic, economic, and other problems, which indicates the inability of the educational system to create a model of human education that would allow him to optimally solve complex issues of his life, successfully achieve individual and social goals. On the other hand, we have the process of alienation of the official education system from the personal interests of the majority people, from their immediate aspirations, preferences, experiences, life plans continues. All this suggests the need for radical reform of the system, its philosophical foundations.

The creation of the New Ukrainian School is, first of all, the formation of the educational environment. In addition to acquiring quality knowledge, children learn to use it in life. Students are encouraged to express their thoughts, feelings, learn to listen and hear each other. At the heart, there is a change in attitude towards the child: respect, attention to her, the search for an individual way of learning for effective acquisition of knowledge.

It should be noted that today there is a number of interpretations of the definitions of “author’s school”. Thus, in S. Honcharenko’s pedagogical dictionary “author’s school” is presented as “an original general pedagogical, didactic, methodical or educational system, developed with taking into account the achievements of psychology, pedagogy, age physiology and other sciences, domestic and foreign experience, which is implemented under the guidance or participation of its author (authors) in at least one educational institution”. [2, p.14-15] According to the interpretations of the “Pedagogical Dictionary” edited by M. Yarmachenko, the author’s school is “an experimental educational institution, which implements a new pedagogical system developed by a specific teacher or creative team”. [6, p. 14]

It should be noted that the author’s schools determine the features of the pedagogical process, performing a number of important functions, the main of which are: the spread of humanistic values and priorities of personality-oriented pedagogy; higher than traditional, the level of education, which is determined by the nature of the relationship and partnership of all subjects of the educational process; content and real objectification of selected dominant values in the pedagogical process; focus on creative search and professional growth, constant stimulation of the mechanism that contributes to the transformation of existing pedagogical practice and the development of innovative thinking and plays the role of “key school”; objectification by the fact of its existence of a new futurological space, which outstrips the nowadays pedagogical traditions

and takes teachers out of school to other time zones, creating the basis for the formation of the “school of the future”. [6]

As V. Sukhomlynskyi noted, “author’s school as a pedagogical phenomenon has spread when the socio-cultural and economic situation changed, the state relieved its pressure on the school, and teachers were able to creatively develop and implement their ideas”. [10]

Encyclopedic definitions emphasize the originality of the author’s idea and the experimental functioning of the institution. Professor N. Dichek, analyzing the concept of “author’s institution” in the context of determining the methodological aspects of the problem of innovation, pays attention to the introduction of paradigmatic and biographical approaches in the study, given the need to consider the pedagogical personality of the teacher-innovator, the creator of the author's school. [3, p. 101] Academician of the National Academy of Pedagogical Sciences of Ukraine O. Sukhomlynska calls the author’s school a pedagogical phenomenon, which is the carrier of reformation ideas about the purpose, ways, and means of teaching and educating children. [9, p. 178-184] The author emphasizes that the founders of such educational institutions in their activities have proposed and developed school values in their institutions, which will always, as long as this school exists, act as a guide in the construction of pedagogical processes. Thus, domestic scientists pay attention to the importance of the personality of the author of the idea, his role in its implementation.

Yu. Zavalevskyi, O. Marynovska define the concept of “author’s school” is “an institution of general secondary education with a high level of innovation potential, the necessary precondition and the result of self-development of its competitiveness by means of experimentally tested original author’s concept of pedagogical system, technologized in essence, which provides stable positive results of activity”. [4, p. 267]

It should be noted that today in Ukraine the author’s educational institutions of the “third wave” work fruitfully, in which the author’s ideas of teachers-practitioners are successfully realized. As S. Kyrylenko marks, “nowadays pedagogical directions have contributed to the creation of a whole network of schools of a new type in Ukraine, which includes more than five dozen general secondary education institutions, which have self-identified as author groups. Author’s schools are those experimental institutions in which teachers have the opportunity to creatively develop and implement their ideas, organize activities that are significantly different

from the mass practice. [1, p. 5]

As N. Pobirchenko noted, the concept of “author’s school” is not used in foreign Western European psychological and pedagogical literature. Concepts such as “effective school”, “alternative school”, “school-magnet”, and “school-focus” are used. [8] These names indicate that the authors use not formalized and not categorically established concepts, but those that are by the level of emotionality not only not inferior to the concept of author’s school, and sometimes even surpass it. For example, the American researcher T. Sergiovanni proposed the concept of “virtuous school”. The definition of schools of this type goes beyond the normative and is transmitted by a set of specific features, including close interaction of all subjects of the educational process; respect and tolerance for each other as a principle of communication; safe living space; the variety of didactic methods and educational technologies. And the position of the head of such a school is defined in terms of “ministering”, “care”, “devotion”, and is “ministering” is the main, system-creating in relation to the management component of the school. [11, p. 115]

Author’s school (institution of general secondary education, lyceum, college, and gymnasium) may arise on the basis of developing an original concept of education. Concept is a certain means of understanding, interpretation of any subject, phenomenon, process, or main point of view on the subject, phenomenon, guiding idea for their systematic consideration. The term “concept” is also used to define the leading idea, the constructive principle in scientific and other activities. [7, p. 17-19]

The conceptual model implements a humanistic, personality-oriented idea, which differs in a fundamentally different understanding of the role of the pupil. The degree of development of the child becomes a measure of the quality of work of the teacher-educator and the whole pedagogical system as a whole. The student really becomes the subject of personal development. Teachers provide a full passage of each age stage: childhood, adolescence, and youth in accordance with its individual, psychophysiological characteristics. Respect for the child’s personality, her dignity, personal goals, needs, interests, creating a favorable environment for his self-determination and self-realization there are necessary conditions for the activities of educational institutions of a new type.

The concepts and practical activity of the author’s schools differ significantly from the

traditional practice of schools and are often based on opposition to this practice, its criticism, and proving the advantages of new approaches over traditional ones. As a characteristic feature of the author's school, many specialists also highlight the fact that they are created on the basis of a beforehand designed original (it means the author's school) conceptual project. The author's schools are usually known by the names of their creators, such as "V. Sukhomlynskyi's school", "A. Makarenko's school", "O. Zakharenko's school", "M. Huzyk's school", "H. Matveeva's school" and others. The essence of the experiment in the author's school is to find new goals and content of education, new technologies of teaching and education in it. For example, modern educational institutions of innovative type, the results of which are published in teaching-methodical aids, include: "School of Health Culture" (author's model of Valentyna Serhiienko), "School of growth of a successful personality" (author's model of Iryna Tkachuk), "School of Success" (author's model of Svitlana Bielukha), "School of intellectual development and civic formation" (author's model of Svitlana Melnyk), "School of becoming a responsible citizen" (author's model of Liudmyla Korinna), "School of modern management technologies" (author's model of Anatolii Ostapenko).

Positive results of functioning and significance of experience for pedagogical science and practice, in this context, belong to Nikolaev specialized school "Academy of children's creativity", author's school of Hanna Matveeva. Its creation took place over several years by the gradual realization of the original conceptual ideas of spiritual enrichment of the individual by means of art by involving in the values of domestic and foreign culture. [5, p. 6-9.]

We tried to outline the characteristic features that are inherent in each author's school, namely:

- Original formulation of the mission/philosophy of the school on the basis of pedagogical or philosophical socially significant author's idea;
- Availability of own, clearly formulated concept, a program of actions (strategic projects) for the implementation of the author's idea;
- The desire for uniqueness, which is reproduced in the functioning and development of the school;
- Formed organizational culture in the school, qualitatively different nature of the relationship between the subjects of the educational process;

- Role performance of “focus school” research and experimental mechanism for other institutions in the educational space of the region, the country;
- Activating role and crucial activity of the director as a professional and charismatic leader;
- Devotion of teachers, students, and parents to the mission and common purpose of the school;
- Creative and exploratory nature of teachers’ work, focus on the personal development of students and professional self-development;
- Optimal conditions for learning and development of students in accordance with the organizational culture and mission of the school;
- Partnership and cooperation in relations between the subjects of the educational process;
- Active public involvement in the school development process;
- Clear division of duties and responsibilities between the subjects of the educational process;
- Verification (effectiveness) of innovations;
- Uniqueness that cannot be reproduced (as a real author’s work);
- Stable positive results of school activity;
- Creation on the basis of the established traditions of the image of the school and its positioning in a society;
- Open demonstration of experience by the educational press and scientific-practical conferences and seminars;
- Replication of individual results (imitation of technologies, methods).

Thus, the analysis of the author’s schools provides grounds to note the following features of their functioning: high level of material and technical support of the educational process and academic level of scientific and methodological training of teachers, numerous lists of author’s training programs, manuals and other didactic materials, successful using of European experience and international cooperation (common projects, exchange of delegations), the authors of ideas-concepts simultaneously act as school administrators.

Agreeing with domestic and foreign researchers, we note that the fact of the existence of the author's schools create a certain spatial-semantic and personal-subjective environment for the formation of "schools of the future", will implement the author's pedagogical concepts and staff technologies necessary for the full functioning of traditional schools where master-teachers and teachers-innovators will work, whose activities are focused on the formation of the child's personality, ensuring its individual development, creating conditions for self-disclosure and self-realization at different stages of its life.

### **Conclusions**

The author's school is an educational institution, the activity of which is based on the innovative psychological and pedagogical concept of the author. Pedagogical teams of author's schools led by their founders develop and implement the latest educational models, new content, innovative pedagogical technologies, methods, forms, means of teaching, education, and management; produce and test new pedagogical systems and technologies; deploy a wide range of experimental activities. The emergence and development of the author's schools are closely connected with the existing acute needs in society to improve educational practice, the social demand for certain ideas for teaching and educating the younger generation.

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## TEACHER'S INTERCULTURAL TOLERANCE AS A KEY COMPETENCE OF THE NEW UKRAINIAN SCHOOL

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### **Abstract.**

The article highlights the problem of educating intercultural tolerance, an important component of the professional competence of teachers of the New Ukrainian School. The concepts of “competence” and “competence education” are defined as the proven ability of a person to use knowledge, skills, and personal, social abilities in educational activities and professional, personal development of a teacher.

The pedagogical conditions are outlined, namely: the creation of a tolerant environment in the student body; acquisition by students of skills on the realization of communicative models of tolerant behavior; involvement of students in the creative work of tolerant orientation.

**Keywords:** intercultural tolerance, professional competence, professional growth of a teacher, New Ukrainian School.

### **Introduction**

For Ukraine, as a polyethnic country and one that has chosen the European integration course of development, the problem of educating intercultural tolerance in the younger generation is of particular importance, which involves the ability to establish, maintain friendly relations with other ethnic, social, age and professional groups, preserving one's own identity. However, no less important is the awareness of the importance of such a component of a teacher's professional competence as intercultural tolerance, because only having such a personal quality a teacher can educate it in his students.

### **Presenting the main material**

Issues of competence were studied by N. Chomskii, D. Chaims, N. Kuzmina, L. Petrovska, I. Zymnia, O. Pometun, O. Ovcharuk, V. Khutmakher, A. Chutorskii, O. Sadokhin, N. Bibik, O. Pavlenko, Y. Shapran, O. Slyusarenko, and others.

The purpose of the article is to highlight the problem of educating intercultural tolerance, an important component of the professional competence of teachers of the New Ukrainian School.

The concept of “competence” has appeared in the pedagogical literature relatively recently and is not sufficiently studied today. The term “competence education” as the achievement of a certain educational result appeared in the 1960s in the United States, Great Britain, and Germany. Competent - experienced in a particular field or issue; “Competence” - a set of powers of the body, the powers of the person established by law, regulation, etc. The term “competence” in the dictionary of modern English provides the following explanations, namely: the ability and ability to carry out the necessary activities; possession of a special field of knowledge; special skills to perform certain professional duties.

Competence (from the Latin *competens* - appropriate, appropriate) is a set of necessary for the effective professional activity (student, teacher), systematic functional knowledge and skills (research and production, socio-political, psychological and pedagogical, economic, subject, and relevant personal qualities).

Thus, competence should be understood as a certain area, range of activities, a predetermined system of issues on which the individual must be well aware, have a certain set of knowledge, skills, abilities, and their own attitude to them. Competence - the quality of personality, its specific acquisition, based on knowledge, experience, moral principles and manifested in the critical moment through the ability to find a connection between the situation and knowledge, in making adequate solutions to urgent problems. [3]

According to the English scientist M. Armstrong, the term “competence”, first, is useful to describe those aspects of behavior that the organization needs to achieve a high level of efficiency. This concept helps to focus on key behavioral issues that affect outcomes. Second, the term “competence” can be used to describe the knowledge and skills expected of an employee to perform his or her duties effectively. [1]

Competences establish the choice of system characteristics for the design of educational standards, educational literature, and indicators of educational quality. Increased attention to

competencies is conditioned by the recommendations of the Council of Europe concerning the renewal of education, its approach to the order of society. Thus, the International Commission of the Council of Europe defines the concept of “competence” as a proven human ability to use knowledge, skills, and personal, social abilities in educational activities and professional, personal development. [4, p. 7]

The functions of competencies in education reflect the social order for the training of young people, are a condition for the realization of personal meanings of learning; cover real objects of the surrounding reality for purposeful application of knowledge, skills, and methods of activity; form the experience of the student’s subject activity; available in various subjects and educational fields; are interdisciplinary elements of the content of education; allow to connect theoretical knowledge with their practical use; are integral characteristics of the quality of training and comprehensive control of students. [5]

Scientists, researchers develop and constantly improve the key components of the professional competence of teachers. Most researchers among the key positions of professional competence of teachers put in the first place productive competence and consider it not only as of the ability to work but primarily as the ability to create their own product, make certain decisions, be responsible for them, willingness and need for creativity. However, such scientists as Sh. Amonashvili, V. Vvedenskii, M. Kolomiets, N. Kuzmina, A. Orlov, V. Pylypivskii, V. Synenko pay great attention to the personal qualities of the teacher (friendliness, sensitivity, balance, tolerance, reflection).

Ukrainian scientists N. Bibik, L. Vashchenko, O. Lokshina, O. Ovcharuk, and others, using the term “competence”, interpret it as a specially structured set of knowledge, skills, abilities, and attitudes acquired in the learning process, allowing a person to determine, to identify and solve, regardless of the context (situation) problems specific to a particular area of activity. [8, p.139-140]

Working on the definition of the “professional standard of teachers”, the Ministry of Education and Science of Ukraine drew attention to the experience of other countries. All the studied countries in terms of professional qualities of teachers can be divided into three groups:

- Countries with professional standards - teacher professional standards (Australia, Great Britain, USA, New Zealand, Czech Republic);
- Countries where similar documents have been introduced, which specify the

requirements for professional competencies of teachers - professional profile of teachers, the framework of professional competencies, etc. (South Korea and Singapore);

- Countries in which the standards of teacher training have been implemented with an emphasis on the qualification characteristics of graduates of the pedagogical program, requirements for their certification, and systematic certification (Norway, Finland, and Japan).

The experience of countries that have been implementing a competent approach to the content of education for many years, allows us to identify common trends, attempts to develop a system of competencies. This system consists of:

- Supra-subject (interdisciplinary, “key”, “basic”) competencies;
- General subject competencies (educational fields);
- Special subjects (in relation to a certain subject).

*Supra-subject* (key) competencies are: synthetic, those that combine a certain set of knowledge, skills, and attitudes acquired during the acquisition of the entire content of education; they are not related to a specific subject; can be metaphorically defined as factual knowledge acquired in school during school life. Examples of supra-subject competencies can be human abilities (creative thinking; ability to communicate in different situations; ability to adapt in different situations; understanding and ability to use technology; ability to research). *General and special* subject competencies are defined for each subject, developed and changed during the whole period of its study. [3]

Following the work of the working group on the implementation of the competency approach, created within the framework of the UNDP project “Educational Policy and Peer-to-Peer Education”, the following list of key competencies is proposed:

- Ability to learn (educational);
- Civil;
- Generally cultural;
- Competence in information and communication technologies;
- Social;
- Business;
- Health-preserving. [9]

According to the provisions of the Professional Standard for the professions “Primary school

teacher of general secondary education”, “Teacher of general secondary education”, approved by the order of the Ministry of Economy, Trade, and Agriculture №2736 from 23.12.2020, the purpose of professional activity is to organize training and education during their education, by forming in them key competencies and worldview on the basis of universal and national values.

The professional standard contains cross-cutting and professional competencies that a teacher must-have. The general (through) include:

- Civic competence;
- Social competence;
- Culture of self-expression;
- Leadership competence;
- Entrepreneurial competence. [6]

The professional competencies that, in accordance with the professional standard, a teacher must have include:

- Language and communicative competence;
- Subject-methodical competence;
- Information and digital competence;
- Psychological competence;
- Emotional and ethical competence;
- Competence of pedagogical partnership;
- Inclusive competence;
- Health competence;
- Design competence;
- Prognostic competence;
- Organizational competence;
- Assessment and analytical competence;
- Innovative competence;
- The ability to learn throughout life;
- Reflective competence. [6]

For Ukraine, as for a polyethnic country, it is important that in emotional and ethical competence the compilers of the professional standard of a teacher prescribe the importance of

empathical listening skills, conflict-free communication, dialogue culture, prevention strategies, and conflict resolution; respect the diversity of opinions and views, accept and appreciate the difference.

The diversity of cultures, traditions, behaviors of people form a significant layer of issues that need to be addressed. Given the importance of educating a tolerant personality, there is an urgent need to teach students to coexist and interact fruitfully, because the future of humanity depends on their behavior in society. Tolerance, as the basis of worldview, should perform a regulatory function, because it is one of the factors that combine the key competencies of the individual. In today's world, general secondary education institutions are designed to be a factor in a tolerant environment, where the authority of the teacher, his pedagogical competence will serve as an example to follow and correct the social, moral, ethical defects of each individual.

Working with the whole class, the teacher must be able to monitor the work of each student, see individual cases of individual manifestations and vary (professionally and tolerantly) to each of them. The ability to monitor the work of students, all together and each in particular, in the classroom - is the starting point for the implementation of an individual approach in school work. This raises the question of the formation of the teacher's observation, the ability to analyze the various manifestations of individual characteristics of students, to draw conclusions, and respond accordingly.

According to O. Savchenko, "tolerance is a sign of a teacher's skill, his pedagogical culture, a position as a person". "Teacher tolerance," says the researcher, - "is, above all, his life position. He must realize that tolerance is a social and individual value not only of education but of society as a whole. Then the tolerant position of the teacher will be manifested in everyday actions, words that create an educational space in which he works with the child". [7]

Only a teacher with high innovative potential, a set of socio-cultural and creative characteristics of the individual, which express a willingness to improve teaching, is subject to the education of a tolerant personality. The innovative potential of a teacher includes the desire and opportunity to develop their interests and ideas, the search for their own non-traditional solutions to problems that arise, the ability to perceive and creatively implement existing non-standard approaches to learning.

The practical implementation of the innovative potential of an individual teacher is especially effective in the presence of a team of like-minded people who are able to implement innovative

ideas, projects, and technologies in the field of education. D. Nolte shared the same opinion, noting that “if your work is aimed at fostering tolerance, then you must, above all, create a pedagogical climate in which there will be no chaos and oppression. Tolerance cannot thrive in such situations”. [2]

Education of intercultural tolerance in students of general secondary education is aimed at creating the maximum possible tolerant educational environment, the center of which is the child and involves the formation of tolerant personality traits of students through traditional forms, methods, advanced technologies of teaching and education. Such pedagogical conditions determine the creation of a tolerant environment in the student body, the acquisition by students of skills for the implementation of communicative models of tolerant behavior; the involvement of students in the creative work of tolerant orientation.

### **Conclusions**

We believe that one of the important competencies of teachers of the New Ukrainian School is “intercultural tolerance” is a quality that implies knowledge and respect for national values, Ukrainian culture; allows to show respect and kindness to representatives of other national cultures and phenomena of national cultures (art, value systems, traditions), causes a positive attitude to cultural differences, the ability to interact and communicate with representatives of other national cultures as equal partners.

Creating the necessary conditions for positive interaction in the educational environment will help reduce the fear of cultural or personal differences, teach to solve problems and conflicts through dialogue, cooperation, and compromise, will form the right system of values. The study of intercultural tolerance will contribute to the study of the peculiarities of other cultures, traditions, customs, beliefs, and cultural self-expression of the individual. The teaching of a tolerant attitude and respect for other cultures leads to the spiritual enrichment of the individual and cultivates kindness, tact, attention in communication with other peoples, intolerance of any manifestations of national supremacy or humiliation. It is the education of intercultural tolerance that creates the conditions for the rapid adaptation of man to the conditions of existence in society, which are constantly changing, which helps to form a multifaceted picture of the world.

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**CIRCULAR ECONOMY IN THE CONTEXT OF SUSTAINABLE DEVELOPMENT  
OF UKRAINE: AN INNOVATIVE  
MANAGEMENT MODEL**

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**Abstract.**

The role of the circular economy in the context of sustainable development of Ukraine is studied. A model of innovative development of waste management for the introduction of a circular economy, which is considered at the micro, macro, meso and mega levels is proposed. This model, unlike the existing ones, is based on the mechanism of integration into the regional waste management system through the creation of a regional agency (RA), as a separate structure

and non-profit organization with relevant rights which provides the opportunity to carry out diagnostics and monitoring for a timely response to the effectiveness of the implementation of innovation development strategy. The model for making and coordinating managerial decisions has been improved in the context of the development of a circular economy, which includes seven stages. The model is based on a target-oriented approach that determines the patterns between indicators of “waste management” and “waste volumes”, “emissions of pollutants” and “capital investments” in the system of interactions between the state, business, society and intermediaries.

**Key words:** circular economy, sustainable development, innovation development, model.

## **Introduction**

The current model of resource management mainly contributes to short-term consumption, which creates an unstable and extremely critical situation in the world. Going beyond the traditional economic model encourages rethinking sustainable development and moving to a circular economy model that aims to reduce waste and minimize costs. This entails a gradual separation of economic activity from the consumption of scarce resources and the removal of waste from the system.

In recent decades, environmental problems have become increasingly apparent. On the territory of Ukraine, the ecological condition of many districts is alarming and there is also a need for environmentally friendly electricity production, in particular, renewable energy production (Pawliczek & Zimmermannova, 2018; Zelinska et al. (2020). Circular economy is a renewed or regenerative production system, which can also be called a “green economy”, a closed-cycle economy or waste-free production (Majerova, 2015).

One of the key elements in a circular economy is waste policy. In Ukraine, it is regulated by the Law of Ukraine “On Waste”, which has undergone numerous changes in recent years, including the last introduced on May 1, 2019 (Shpak et. Al., 2020). However, due to the lack of a sufficient level of infrastructure and insufficient activity at the local level, it is worth noting that the implementation of the law is significantly slowed down. Given this, it is extremely important to choose the right priorities and activities to bring the field of waste management in Ukraine out

of crisis. The main directive in the field of waste management that Ukraine must implement in accordance with the Association Agreement with the EU is Directive 2008/98 / EC on waste.

### **Literature review**

The concept of a circular economy is of great interest today, as it is seen as "operationalization" for companies that are already implementing the concept of sustainable development. Some scholars also emphasize the innovative aspect of sustainable development based on the circular economy, which aims to disconnect from the consumption of resources, ie how goods and services can be consumed, while they do not depend on the extraction of resources, providing closure cycle, which prevents the possible disposal of consumed goods in landfills "(Andrusiv & Galtsova, 2017).

Indeed, "reducing dependence on such resources will improve the ability of future generations to meet their needs" (Majerova, 2015). The development and implementation of a closed-loop model is a paradigm that pushes the boundaries of environmental sustainability by transforming the links between ecosystems and economic activity. In turn, "sustainable development can be defined as development that meets the needs of today, which is able to meet the own needs of future generations and covers their active actions in three areas: economic, social and environmental" (Ivashkiv et. Al., 2020; Andrusiv et al., 2020).

Researchers say that in 2015, the European Commission adopted a new action plan to stimulate Europe's transition to a circular economy to increase global competitiveness, sustainable economic growth and job creation, namely (Andrusiv et. Al., 2020): recycling - no less 65% of EU waste by 2030; improving the process of determining and calculating the processing speed; economic incentives for the sale of environmentally friendly products, support for processing and reuse.

Circulation also opens up new business opportunities, creating new business models for both the domestic market and the conquest of new markets outside the EU (Cherchata et. Al., 2020; Kneysler et. Al., 2020). For example, "2016 in 2016, circular measures such as repairs, reuse or recycling were resumed, bringing in almost € 147 billion in value added and around € 17.5 billion in investment" (Bezuhla et. al., 2019; Ellen MacArthur Foundation, 2018).

Accordingly, the aim of the article is to develop a model for making and agreeing on management decisions for innovative development of the waste management industry for the

introduction of a circular economy in Ukraine.

### **Result and discussion**

In today's context, society and the economy seek to improve the environment and reduce the negative impact on humanity. To achieve sustainable economic growth, it is important to reduce the negative impact on the environment by changing the methods of production, processing and consumption of goods and resources (Mesterházy et. al., 2020). Towards European integration, effective management of available resources and new ways of disposing of waste is extremely important, especially in Ukraine, which is in the process of economic reforms.

In general, European Union (EU) countries are working and reducing emissions, increasing the share of renewable energy sources, but there are countries that are still far from achieving their goal (Chovancová, 2020). Achieving economic growth and sustainable development is impossible without reducing the negative impact on the environment using new and innovative methods of production, processing and ensuring the responsibility for the consumption of goods and resources (Zielińska, 2019). One of the tools to achieve such goals is the transition to a closed-loop economy (circular economy), using the model of a circular economy.

The concept of "circular economy", "closed cycle economy", "circular economy" implies a fundamental rethinking of the system as a whole. The circular economy model is primarily related to strategic management, which involves the exchange of resources and by-products between industrial enterprises on a commercial basis through processing or treatment, ie the waste of some becomes a resource for others (Ünal, 2019). In addition, the circular Business Model Concept (CBM) is becoming increasingly attractive, especially in research institutions, thus promoting the reorganization of the current architecture to create value and supply chains into a sustainable system of production, processing and consumption (Hofmann, 2019). The circular economy is a new economic and environmentally oriented concept aimed at ensuring harmonization between economic growth and environmental sustainability.

Unfortunately, today in Ukraine the linear model of economy prevails: primary raw materials → production → use → waste. That is, with such a model there is a low efficiency of resource use and the generation of adequate and possible waste. Closed-cycle economics is defined as a concept aimed at eliminating the material loop and extending the service life of materials through longer use and increasing the use of secondary raw materials.

That is: primary raw materials → design (products are stronger or easier to restore, upgrade or process) → production from primary and secondary materials (formation of industrial clusters to attract products as resources, both for one industry and for another) → distribution → use, reuse, repair → storage → WASTE (priority order from prevention, preparation for reuse, processing and recovery of energy to disposal as a final option) → recycling → secondary raw materials (strengthening the development of secondary raw materials markets and water reuse). The Seventh EU Program of Action aims to transform the EU into an inclusive and sustainable green economy, ie "to achieve prosperity and a healthy environment by 2050, driven by an innovative, circular economy where everything is saved and rational management of natural resources is ensured" (Majerova, 2015).

The Ministry of Economic Development and Trade of Ukraine has set a task to move to the principles of a circular economy, which takes into account the principle of closed-loop economy<sup>0</sup>

It should be emphasized that the transition to a circular economy in the coming decades will be not only a way to improve the environmental friendliness of many enterprises, but also a necessary measure to ensure continued profitability.

This is due to: resource scarcity (scarcity of natural resources → high demand for resources → rising cost of resources → rising prices for goods); legislative changes and new approaches to management (legislative reform should be carried out at both local and global levels → stimulating the transition of enterprises to new production approaches should use the principles of circular or closed-loop economics → innovative management approaches should be based on "waste management production not as a problem, but as an opportunity "); optimization of production in the future (it is necessary to change and modernize production processes).

Studies of the effectiveness of the use of the circular economy model used in EU countries show a positive impact on emission reductions, job creation. Thus, companies operating on such a model in Europe have a number of advantages at both micro and macro levels. First of all, companies are reducing their dependence on commodity markets and, as a result, are becoming less sensitive to price fluctuations. This is due to the fact that they provide themselves with the necessary raw materials, which by their nature are waste or goods whose useful life has expired. Enterprises also have the opportunity to influence the cost of production by reducing the cost of raw materials. As a result, sales and productivity increase. Moreover, in the future the use of such a model will allow companies to reduce their tax burden, as it is projected to increase tax rates for

companies that do not use resource- and energy-efficient methods. Analyzing the above facts and relevant sources, we found that today there is no detailed and quantitative assessment of the factors that play a crucial role in waste management. In this case, it makes sense to develop tools for management decisions based on the results of statistical analysis and building an appropriate model based on European experience.

Suppose that the preconditions for the transition to a circular economy in Ukraine depend on certain factors (information support, effectiveness of legislation, environmental awareness, sufficient financial resources, requirements of European communities for the implementation of joint investment projects, etc.). That is, there are tasks to explain the trend of waste management in Ukraine, defining their quantitative patterns between "waste management" and "waste" generated by economic activity per unit of GDP, "pollutant emissions" and "capital investment" in protection environment.

In addition, it is necessary to substantiate the results obtained on the development of a conceptual model of decision-making in the system of interactions between the state, business, society and intermediaries. As a result, the objective possibilities of realization of the principles of circular economy in Ukraine are actualized, the algorithm of realization of the purpose is established, the aspect of decision-making at macro level from the point of view of effective interaction "business-state-society" in the sphere of responsibility is explained. Data for studying the impact on waste management in Ukraine are given (Table 1).

Table 1: Data for studying the impact on waste management in Ukraine during 2010–2018

No.	Years	The amount of waste generated from economic activity per unit GDP (power parities), kg / 1,000 dollars	Emissions of pollutants, thousand tons	Capital investments in ecology and rotection, thousand UAH	Waste management I - IV classes, thousand tons (Y - effective sign)
1	2010	1,177.3	6,678.0	2,761,472.1	483,721.5
2	2011	1,172.5	6,877.3	6,451,034.6	431,848.7
3	2012	1,177.4	6,821.1	6,589,336.5	434,296.8

4	2013	1,173.9	6,719.8	6,038,783.0	436,217.7
5	2014	1,001.4	5,346.2	7,959,853.9	313,922.8
6	2015	977.4	4,521.3	7,675,597.0	245,893.4
7	2016	904.2	4,498.1	13,390,477.3	243,115.7
8	2017	1,089.8	3,974.1	11,025,535.2	270,922.2
9	2018	1,015.7	3,866.7	10,074,279.3	274,210.5

Source: grouped by authors on the dream Eurostat.

The coefficients indicate how many units will change the resulting characteristic Y, measured in thousand tons, if one of them changes by 1 (each in units). For example, if the amount of waste generated from economic activity per unit of GDP at constant prices decreases by 1 kg / 1000 dollars. Waste management of I - IV classes will be reduced. Based on the analysis of the impact factors, the following conclusions can be drawn: all the signs of the factors have a positive effect on the result of "waste management".

The circular economy can be considered at several levels: micro, macro, meso and megalevel. The area of responsibility of enterprises is the micro level, where the area of responsibility is production, consumption and possible further waste management (recycling). The main tool is a system of product processing, ie the formation of a circular type of production. At the same time, this should be the case because the implementation of circular economy methods at the macro level concerns the level of efficiency of the business itself in various industries. A survey of top managers of Ukrainian companies from all over the country was recently conducted, answering questions such as: "Assess the importance of implementing the principles of the circular economy (in% from 0 to 100) in your industry in the context of Ukraine's European integration", where the highest the value corresponds to 1. Data on the survey of respondents are given (Table 2).

Table 2: The importance of implementing the principles of the circular economy in some sectors of Ukraine (from 0 to 100%)

Sector	Importance rating scale, points			Weighted average	Rating
	Low (up to 30%)	Moderate (31-70%)	High (71-100%)		
Agriculture, forestry, fishing	25	45	30	51,75	6
Chemical Industry	13	19	68	69,25	2
Electricity supply	24	26	58	59,1	3
Food Industry	34	18	48	54,9	5
Others	20	56	24	51,4	7
Mining industry	14	10	76	71,7	1
Construction	22	37	41	56,65	4

Source: grouped by authors on the dream Eurostat.

Taking into account the obtained results, it is possible to develop and propose a model of making and coordinating management decisions on the development of the circular economy in Ukraine according to the program-target approach at the state level (Fig. 1).

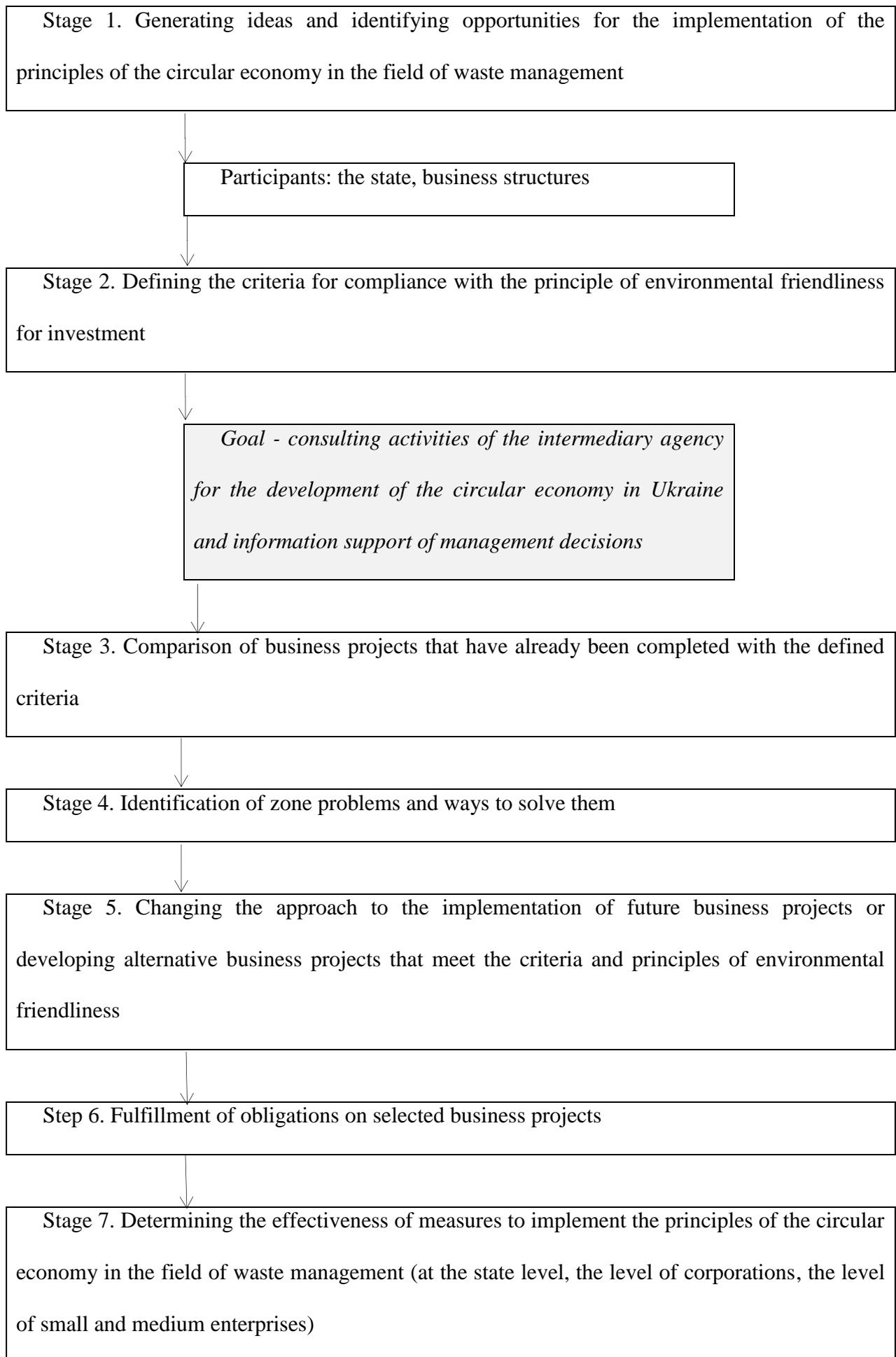


Fig. 1. Model of making and coordinating management decisions in the context of the development of the circular economy in Ukraine

Source: developed by the author

The waste-based model involves the creation and reorganization of existing companies for the processing and use of waste as raw material. Government instruments should stimulate through: funds, public procurement, capital investments in environmental protection, assistance in obtaining grant funds for joint implementation with the EU of investment business projects in the field of circular economy, preferential lending to small and medium enterprises and consulting (creation agencies for the development of the circular economy in Ukraine) in accordance with national legislation and adopted EU directives. The first step is to implement a comprehensive waste management program, which provides a wide range of measures to be implemented. Such a program should provide for the sorting, recycling and reuse of waste in the production process, distribution and disposal of waste that is not suitable for further processing.

The program-targeted approach should have the following principles, namely: environmental friendliness, ie compliance with standards throughout the life cycle of waste; 2) priority in accordance with the hierarchy of waste management methods; 3) the responsibility of the manufacturer; 4) the responsibility of households and organizations that pay in full for the most environmentally friendly way of processing and disposal of garbage and waste.

To achieve the result, first of all, it is necessary to build a basic infrastructure to improve waste treatment methods in compliance with social and environmental standards: full coverage of collection and transportation services, disposal, taking into account the established sanitary requirements. No less important is the issue of ownership of waste. "... In the countries that have shown the greatest success in the field of waste management (for example, in Scandinavia), there is a system in which municipalities are the owners of waste. If businesses or households dispose of waste, they give up ownership of it, while polluting the environment. At the same time, they have to pay in full for the disposal of such waste. Municipalities, alone or together with other municipalities, decide how to dispose of waste. Households pay the highest tariff for landfills, while they pay slightly less for waste incineration" (Ünal, 2019). And as a conclusion, households in developed countries are interested in separate waste collection and further processing.

11–13 million tons of waste are generated annually in Ukraine, the annual amount of waste per capita is about 300 kg, with a significant difference in waste generation between urban and rural areas ("Sustainable Development Goals: Ukraine", 2017).

The implementation of PPP in this area, the Law on PPP, which does not have a clearly

defined legal framework, all this did not lead to an increase in the number of projects. This is due to the fact that: infrastructure facilities belong to the state, and their privatization is often impossible; operators do not have sufficient capacity or incentives to upgrade and build new infrastructure; there are high risks and government regulation and therefore private companies do not enter the market of solid waste management without additional guarantees. As a result, there is a lack of traditional sources of funding to modernize the sector, so there is a need to attract funds from international financial institutions or the private sector.

“Commercial cooperation between central and local governments, on the one hand, and private companies, on the other, is already taking place in such areas as housing and communal services, transport and sports infrastructure. In each of these cases, the private partner participating in the PPP, under certain conditions, receives state-owned objects for commercial use (or uses them to create new assets), while sharing with the state financial, technological and operational risks of managing such facilities. Representative offices of the largest international corporations in Ukraine in the field of solid waste management - Remondis (Germany) and Veolia (France) - carry out only waste collection and disposal”(Ünal, 2019).

Public-private partnership is possible under the use of a program-targeted approach with a clear definition of priorities, ie the definition of long-term strategic priorities that will combine efficiency, in terms of the environment, and the rational consumption of material and energy resources. The amount of industrial waste can be reduced through the use of more efficient technologies.

With regard to municipal waste, which is an integral part of the process of consumption of goods and services by households, the policy should be aimed not at preventing the formation, but at building the most environmentally friendly system for managing their flows. Recycling, for the reuse of waste, is the highest priority for the country and society, as its negative impact on the environment is minimal. Waste incineration and processing into secondary materials and energy is an intermediate position. That is, to implement the principle of environmental safety and economic efficiency.

Today in Ukraine the municipal infrastructure for waste collection and disposal is outdated, tariff funds do not allow for modernization or introduction of modern technologies, public authorities at the local level cannot solve problems on their own due to lack of knowledge about industry regulation mechanisms and use of new technologies. Society as a whole is unaware of

certain benefits of responsible waste management. There is no interest in receiving high quality services. The key factor for achieving the set goals is the effective, on a constant basis interaction of public authorities and private business (operators), which are responsible in this area. Only the joint efforts of the state and private operators will allow to implement more efficient waste management mechanisms and to form a demand for modern mechanisms.

We noted above that the circular economy is considered at the micro, macro, meso and mega levels. The micro level examines the economic behavior of any business entity and the mechanism of functioning of specific markets. The macro level examines economic behavior at the level of the national economy. The meso level is an intermediate level between micro and macro levels. Megalevel explores the system of the world economy, its content, structure and behavior of subjects at the level of international economic relations "(Tukker, 2015). Therefore, the development and implementation of a model for making and coordinating management decisions in the context of the development of a circular economy in Ukraine should take this into account, namely the consistency of interests "goods → waste" and "resource → raw materials" at all levels. In our case, to develop an innovative model of circular economy development in Ukraine, the mega-level is the state, the macro-level is all sectors of the Ukrainian economy, the meso-level is regional agencies and local authorities, the micro-level is municipal housing and communal services and business structures waste / resource ".

To implement the innovative development of the waste management industry according to the program-targeted approach at the micro, macro, meso and mega levels, we proposed to create regional agencies (RA) as separate structures or non-profit organizations with appropriate rights (waste flow management, selection of suppliers services and setting tariffs for consumers, full interaction with producers of goods / waste. The main purpose of establishing Regional Agencies in a certain territory (region) is to coordinate actions between producers of goods and services and municipal structures, implement the principle of expanded responsibility in the field of waste processing, provide recycling services more cost-effectively in cooperation with producers, private and municipal organizations, households (Popadynets et al., 2020). That is, a regional agency is a separate organization that: manages all waste generated in a given area; has an exclusive contract for full service of the territory; increases the interest of operators in investing in the industry; conducts activities aimed at raising public awareness of the importance of waste disposal; unites and constantly interacts with producers of goods and services (mining,

processing and other industries) and organizations in the field of waste management whose activities are aimed at the production of goods and having, at the same time, waste, which is a resource (raw material). Producers of goods and services in this mechanism are both exporters and importers, who have the opportunity to delegate the powers of the RA on the principle of similarity of goods or collectively order services for processing and coordination. Such integration should take place on the condition that the participants pay the appropriate contribution for the creation and maintenance of the necessary infrastructure and efficient waste management without destroying the environment. The control and monitoring of the fulfillment of obligations should be coordinated with the state authorities.

The model of innovative development of the waste management industry for the introduction of a circular economy in Ukraine is given (Fig. 2).

The proposed mechanism is fully integrated into the regional system of garbage and waste management of both enterprises producing goods and services and households. Therefore, success depends on the effective implementation of the administrative system as a whole.

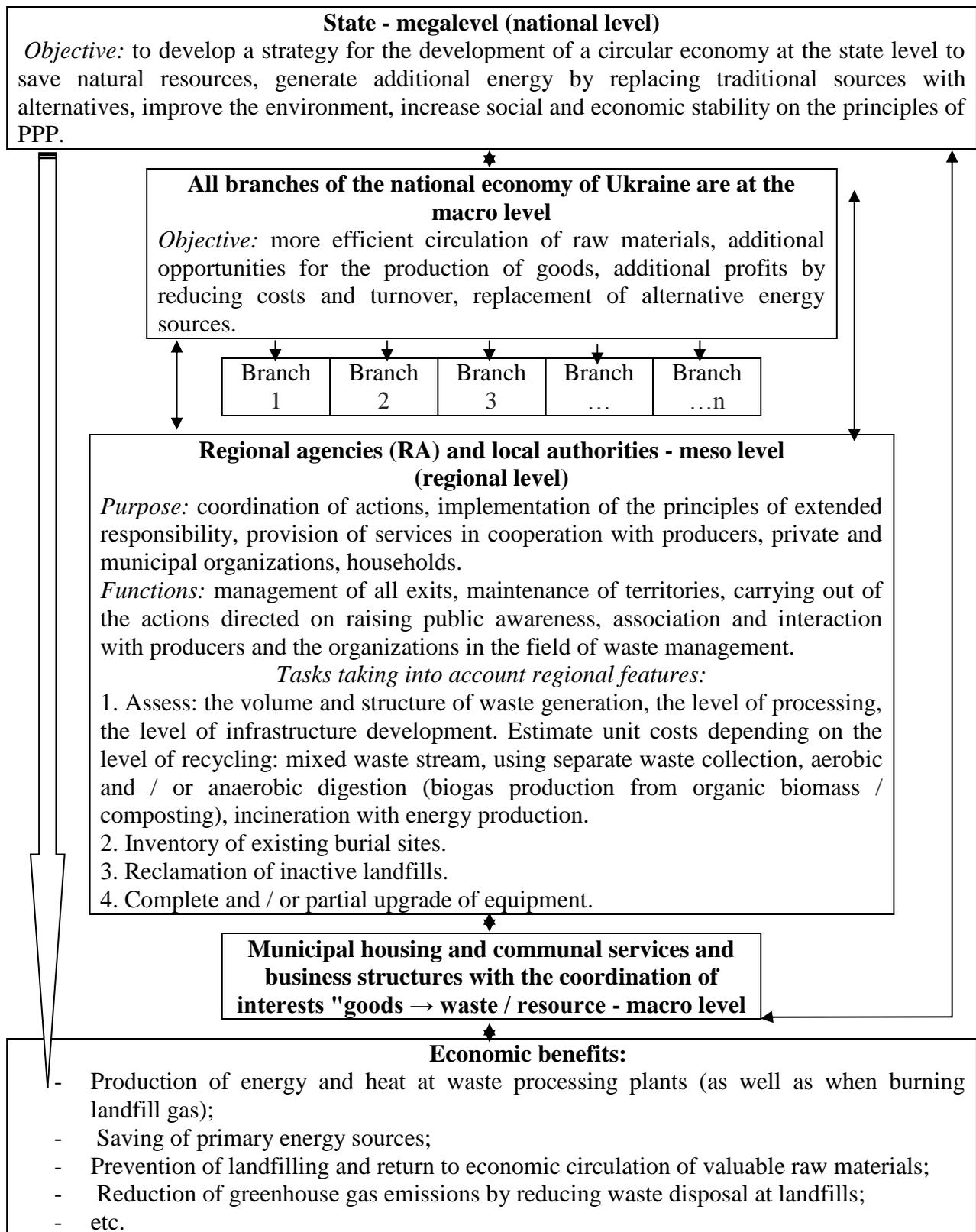


Fig. 2. Model of innovative development of the waste management industry for the introduction of a circular economy in Ukraine

Source: developed by the author

The application in Ukraine of such a mechanism of innovative development of the waste management industry according to the program-targeted approach is very important. Implementation of the proposed mechanism will lead to: savings of limited natural resources; more efficient circulation of raw materials; additional production of goods from processed fractions; obtaining additional income by reducing costs and turnover; generating additional

energy by replacing traditional sources with alternative ones; closure or reclamation of overcrowded and hazardous landfills; increasing social, environmental and economic stability.

The circular economy is manifested at all levels of socio-economic relations and is a component of public policy. The basic preconditions for the transition to a circular economy in Ukraine are characterized by the presence of problems, namely: 1) the problem of resources (distribution, consumption, use, depletion of stocks; 2) the problem of environmental pollution (waste, ecology, climate; 3) the problem of linear production -products-waste). Therefore, the priority is sustainable development, the purpose of which is the introduction of a circular economy.

To implement public policy in the implementation of the circular economy, it is necessary to take into account the interests of all stakeholders who are directly or indirectly interested in developing such a policy. Effective interaction between the state and business is a mechanism of economic growth and social welfare, and an effective direction of this process is public-private partnership (PPP) in such components as: legal, institutional, organizational, economic.

### **Conclusions**

It can be stated that the circular economy is not just a method of dealing with a large amount of waste. All measures must be aimed primarily at sustainable development and economic growth. It should be noted that the goal of sustainable development is actions related to economic growth and development of industry, innovation and infrastructure. The experience of the world's leading countries is important for Ukraine's development because this process is still accompanied by a lack of a unified system and a lack of tools that could establish effective ways to implement a circular economy. Another problem is the lack of environmental awareness of Ukrainian society, but despite all the difficulties, there is a tendency to gradually increase the share of waste used for energy production. The development of a circular economy will allow Ukraine to provide solutions to problems that will correspond to the national policy of the state, namely, the goals of its development.

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**MODERN TAX INSTRUMENTS TO INCREASE THE COUNTRY'S  
COMPETITIVENESS SCENARIOS**

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**Abstract.**

The article examines the prospects of Ukraine's economic development based on the effectiveness of modern tax instruments to increase the country's competitiveness and forming

scenarios for Ukraine's economic development taking into account the tax aspect. As part of a scientific and practical approach to building a system of tax regulation in the context of economic development of the country, we analyzed the three most likely scenarios. The formation of recommendations for the application of tax regulation tools is based on the procedure of their multi-criteria comparison.

**Key words:** tax instruments, competitiveness, tax regulation, economic development.

### **Introduction**

Each sovereign state, in order to ensure its viability and the realization of internal and external development goals, must also ensure the performance of certain state-forming functions, which include: legislative, executive, judicial, law enforcement and others. According to the Constitution of Ukraine, the main duty of the state is to ensure the rights and freedoms of its citizens. An important tool for the implementation of state functions is the tax system of the country [1, 2], which aims to:

1. Planned and rhythmic provision of budgets of different levels with financial resources – fiscal function;
2. Stimulation or restraint of business activity – distributive-regulatory function.

### **Literature review**

Such Ukrainian scientists as O. Atamanchuk, I. Burdenko, V. Vasylevska, V. Geets, O. Kravchenko, V. Margalyk, A. Skrypnyk, A. Sokolovska, T. Yefimenko dealt with the issues of application of tax regulation tools in their works and others. [3-9] Therefore, the scientific issues of studying the economic development of Ukraine in the context of the tax aspect are an important and urgent task that needs to be addressed.

**The paper aims.** Research of Ukraine`s economic development prospects on the basis of application efficient tax tools for increasing of competitiveness of the country. Development of Ukraine`s economic development scenarios taking into account the tax aspect.

## **Methodology**

As a baseline scenario # 1 for further analysis, the forecast dynamics of gross regional product by regions of Ukraine was calculated, which ultimately determines the economic development of the country in terms of gross domestic product. The choice of forecasting method was due to the short duration of the input base of statistical observations, which depended on the objective geopolitical conditions of Ukraine in recent years and the uneven economic development.

The development of scenarios # 2 and # 3 was based on the main forecast macro indicators of economic and social development of Ukraine for 2020-2022, according to the resolution of the Cabinet of Ministers of May 15, 2019 # 555. [10] According to this resolution, today the Cabinet of Ministers of Ukraine is considering the two most probable short-term strategies for further development of the state, which differ in GDP growth. Thus, since these strategies are identified as priorities at the legislative level, they have also been included in the composition of the ones under consideration.

## **Result and discussion**

The forecast of social and economic development of the state for 2019 for the II and III scenarios was determined in the work by the indicators laid down in the State Budget of Ukraine for 2019.

The table 1 shows the consolidated forecast dynamics of gross domestic product according to each scenario.

Table 1. Consolidated forecast dynamics of GDP for 2019-2022, million UAH

Year	Growth rate of gross domestic product,%		
	Scenario I	Scenario II	Scenario III
2019	3.91	3.00	3.00
2020	4.13	3.30	3.60
2021	4.34	3.80	3.60
2022	4.52	4.10	3.30

As can be seen from Table 1, the scenario # 1, based on the average growth rates of gross regional products in each region, is the most optimistic among all others. It envisages a gradual increase in economic growth due to the uneven development of individual regions from 3.9% in 2019 to 4.5% in 2022.

Scenario # 2 is based on a more moderate increase in GDP growth, from 3.0% in 2019 to 4.1% in 2022.

The latter, scenario # 3 is the most pessimistic, as it assumes a slowdown in economic development after 2021 from 3.6% to 3.3%.

Thus, all the considered scenarios are based on the further growth of Ukraine's economy and differ only in its speed. Accordingly, the forecast scenarios of the Government of Ukraine can be described as cautious realism. Based on this, when calculating the planned amount of revenue and expenditure of the State and local budgets, as well as the amount of intergovernmental transfer payments, we assumed that the standards of budget security of the regions will not decrease. Therefore, within each scenario we will consider the following possible options for budget support of the regions:

- Standards of budget security, per 1 person, remain unchanged;
- Growth annually by 3% in comparable prices;
- Growth annually by 6%, etc.

The combination of the three scenarios of GDP growth and three options for budget support of regions within each scenario, allow obtain the appropriate set of events and conduct their multifactorial comparative analysis in the context of tax policy and its impact on the budget process. Based on this, we will consider each scenario in more detail.

Scenario # 1. The short-term forecast of the population of Ukraine in terms of regions is a relatively constant input data that will be relevant for all scenarios without exception. Based on it, the overall population growth rate in Ukraine as a whole during 2019-2022 will be – 4.18 ‰. This means that for every 1,000 people, the number will decrease annually by 4.18 people or 0.418%.

The results of forecasting the volume of gross regional product by region: the total GRP in Ukraine in the baseline scenario # 1 and taking into account the current trends of 2015-2018, should increase by: + 3.91% in 2019; + 4.13% in 2020; + 4.34% in 2021 and + 4.52% in 2022. Then, the estimated average GRP growth rate is + 4.22%. Determination of the planned volumes of gross domestic product is performed on the basis of the corresponding GRP and the coefficient of proportionality between them. It was found above that the average share of GRP in the country's GDP for 2015-2018 was 81.15%.

Planned tax revenues in comparable prices of the base 2017, according to the first scenario, are given in table. 2.

Table 2

Planned tax revenues in comparable prices of the base year in the scenario # 1, million UAH

Years	To the state budget		To local budgets		Consolidated budget	
	Amount, million UAH	Growth rate, %	Amount, million UAH	Growth rate, %	Amount, million UAH	Growth rate, %
1	2	3	4	5	6	7
2019	635,559.5	4.87	259,338.0	1.53	894,897.5	3.88
2020	667,970.7	5.10	263,718.7	1.69	931,689.5	4.11
2021	703,377.8	5.30	268,579.9	1.84	971,957.7	4.32
2022	741,890.5	5.48	273,938.8	2.00	1,015,829.3	4.51
$\overline{T}_{np}$	–	5.19	–	1.76	–	4.21

#### Volumes of tax revenues to the State budget

Their average annual growth rate, if the current GDP growth rate is maintained, will be + 5.19% during 2019-2022.

Volumes of tax revenues to local budgets are in column (4). The average annual growth rate of this indicator for a certain period is + 1.76%.

Consolidated budget data, column (6), represent the amount of revenues to the State and local budgets. According to calculations, its average annual growth will be + 4.21%. Thus, comparing the forecast of growth of consolidated budget revenues and GDP, we can see that they are almost identical.

Regarding the classification of the tax system, the annual tax burden rate H for the entire planning interval will be 27.9%. This means that the tax system of Ukraine will have signs of proportionality, ie, with an increase in GDP, the average rate H remains unchanged.

Earlier it was noted that according to 2018, the average standard of budget security of the regions was 13,289 UAH per person, which was confirmed by the value of the quadratic coefficient of variation, which did not exceed the limit value.

Further development of scenario # 1 provided for the following options for management actions: the level of provision of regions remains unchanged (scenario 1.1), growing annually by + 3% (scenario 1.2), or by + 6% (scenario 1.3). This, in turn, affects the planned expenditures of local budgets, as well as the required amounts of transfer payments from the State budget and its revenues after the payment of transfers.

Planned expenditures of local budgets in comparable prices of the base 2017 are given in table 3. Since their volume depends on the projected population and the level of financial security per person, these calculations are also identical for all other scenarios in table 1.

Table 3

Planned expenditures of local budgets in comparable prices of the base year according to the scenario 2, million UAH

Years	Scenario # 1.1		Scenario # 1.2		Scenario # 1.3	
	Expenditures of local budgets, million UAH	Growth rate, %	Expenditures of local budgets, million UAH	Growth rate, %	Expenditures of local budgets, million UAH	Growth rate, %
1	2	3	4	5	6	7
2019	485,986.2	-0.421	500,565.8	2.566	515,145.3	5.554
2020	483,948.8	-0.419	513,421.3	2.568	543,764.9	5.556
2021	481,929.2	-0.417	526,617.1	2.570	573,985.4	5.558
2022	479,927.3	-0.415	540,162.4	2.572	605,897.1	5.560
$\overline{T}_{np}$	–	-0.418	–	2.569	–	5.557

As can be seen from table 3 implementation of the scenario 1.1 envisages a slight reduction in local budget expenditures due to population decline due to the long-term demographic crisis. In turn, increasing the level of financial security of the regions under scenarios 1.2 and 1.3 requires additional costs.

Comparing the data in table 3 with column (4) table 2 it can be seen that the planned expenditures of local budgets for all options for management actions significantly exceed the projected revenues. This difference is covered by transfer payments from the State Budget of Ukraine.

In all subsequent calculations, the allowable deficit of local budgets was taken at -1.59%, which corresponds to the average value according to 2015-2018. Then, the results of calculations of planned transfers from the State budget and the corresponding local budget revenues for each

management action are in the table 3.

Table 4

Planned volumes of transfers and revenues of local budgets in comparable prices of the base year under the scenario 1, million UAH

Years	Transfers to local budgets, million UAH			Revenues of local budgets including transfers, million UAH		
	Scenario 1.1	Scenario 1.2	Scenario 1.3	Scenario 1.1	Scenario 1.2	Scenario 1.3
1	2	3	4	5	6	7
2019	185,308.6	199,888.2	214,467.8	444,646.6	459,226.2	473,805.8
2020	177,181.9	206,654.3	236,997.9	440,900.6	470,373.1	500,716.7
2021	168,434.5	213,122.4	260,490.7	437,014.4	481,702.3	529,070.6
2022	159,043.4	219,278.5	285,013.3	432,982.2	493,217.3	558,952.1
$\overline{T}_{np}$	-4.70%	3.27%	10.26%	-0.86%	2.42%	5.67%

Data analysis table 4 shows that both of these indicators are elastic in terms of budget support of the regions. In other words, the growth rate of performance indicators exceeds the growth rate of the factor that determines their value.

In conclusion, it should be noted that the level of budget support of the regions also affects the amount of revenues to the State budget less transfers. Thus, according to scenario №1.1, the average annual growth of the latter will be equal to + 8.98%; scenario 1.2 – the increase will be + 6.05%; scenario 1.3, respectively, + 2.54%.

Thus, it can be argued that the current dynamics of economic growth allows systematically increase the socio-economic living standards of the population at a moderate pace.

Scenario 2# . The results of forecasting the volume of gross regional product by region, taking into account the planned dynamics of GDP, are given in Annex E.3. Since the share of GRP in the country's GDP in this study, based on statistics was taken at a constant level, the growth rate of both indicators coincides with the baseline scenario 2, table 1. Then, the planned tax revenues in comparable prices of the base year 2017, according to the second scenario, are given in table 5.

Table 5

Planned tax revenues in comparable prices of the base year according to the scenario 2, million UAH

Years	To the state budget		To local budgets		Consolidated budget	
	Amount, million UAH	Growth rate,%	Amount, million UAH	Growth rate,%	Amount, million UAH	Growth rate,%
1	2	3	4	5	6	7
2019	628,694.3	3.74	258,252.0	1.11	886,946.3	2.96
2020	654,345.4	4.08	261,563.4	1.28	915,908.8	3.27
2021	684,857.8	4.66	265,650.3	1.56	950,508.1	3.78
2022	719,030.1	4.99	270,322.6	1.76	989,352.7	4.09
$\overline{T}_{np}$	–	4.37	–	1.43	–	3.52

Comparing the corresponding indicators from Tables 5 and 2, according to the first and second scenarios, it is possible to draw conclusions about the impact of economic growth on tax revenues. Thus, the reduction of the average annual GDP growth rate by -0.67%, from + 4.22% in the first scenario to + 3.55% in the second scenario, leads to:

– Decrease in the growth rate of tax revenues to the State Budget by -0.82%, from + 5.19% in the first scenario to + 4.37% in the second scenario. This indicates the high elasticity of this

indicator from GDP;

– Reduction of growth rates of tax revenues to local budgets by -0.33%, from + 1.76% in the first scenario to +1.43 in the second scenario. This, in turn, indicates the low elasticity of this indicator from GDP;

– Reduction of the growth rate of tax revenues to the consolidated budget of the country by - 0.69%, from + 4.21% in the first scenario to +3.52 in the second scenario. That is, the rates of economic growth and aggregate tax revenues are almost identical.

The annual tax burden  $H$ , under the second scenario, remained unchanged at 27.9%.

Taking into account the allowable values of the average standard of budget security of the regions, the planned volumes of transfers and revenues of local budgets in scenario 2 are given in table 6.

Table 6

Planned volumes of transfers and revenues of local budgets in comparable prices of the base year according to the scenario 2, million UAH

Years	Transfers to local budgets, million UAH			Revenues of local budgets including transfers, million UAH		
	Scenario 2.1	Scenario 2.2	Scenario 2.3	Scenario 2.1	Scenario 2.2	Scenario 2.3
1	2	3	4	5	6	7
2019	186,756.5	201,336.1	215,915.7	445,008.5	459,588.1	474,167.7
2020	180,055.5	209,528.0	239,871.6	441,618.9	471,091.4	501,435.0
2021	172,340.4	217,028.3	264,396.6	437,990.8	482,678.6	530,047.0
2022	163,864.7	224,099.8	289,834.6	434,187.3	494,422.4	560,157.2
$\overline{T}_{np}$	-3.99%	3.83%	10.72%	-0.79%	2.48%	5.73%

In conclusion, we note that the amount of revenues to the State Budget has also undergone some changes due to the studied factors: according to scenario 2.1, the average annual growth of the latter will be + 7.66%; scenario 2.2, – the increase will be + 4.61%; scenario 2.3, respectively, + 0.95%. As you can see, in terms of ensuring the planned dynamics of GDP, increasing the standards of budget security of the regions by more than + 6% per 1 person becomes burdensome for the State budget. In fact, we will have a situation where our own sources of economic growth will be spent on raising social living standards and vice versa.

Scenario # 3. Forecasting of gross regional product volumes by regions was performed taking into account the planned dynamics of GDP. By analogy with the previous calculations, the growth rates of GRP and GDP coincide with the baseline scenario 3, table 1.

Based on the forecast of population gross regional and gross domestic product according to scenario 3, and using regression models to calculate the planned revenues to the State, local and consolidated budgets in comparable prices of the base year. Summary results of these calculations are given in table 7.

Comparing the corresponding amounts of tax revenues in the first and third scenarios, Tables 2 and 7, we can confirm the tendency to reduce them with a further slowdown in economic growth. Thus, the reduction of the average annual GDP growth rate by -0.85%, from + 4.22% in the first scenario to + 3.36% in the third scenario, leads to:

- Reduction of annual growth rates of tax revenues to the State Budget by -1.04%, from + 5.19% in the first scenario to + 4.15% in the third;
- Reduction of growth rates of tax revenues to local budgets by -0.42%, from + 1.76% in the first scenario to +1.34 in the third;
- A decrease in the growth rate of tax revenues to the consolidated budget of the country by - 0.87%, from + 4.21% in the first scenario to + 3.34% in the third year.

Table 7

Planned tax revenues in comparable prices of the base year under the scenario 3, million UAH

Years	To the state budget		To local budgets		Consolidated budget	
	Amount, million UAH	Growth rate, %	Amount, million UAH	Growth rate, %	Amount, million UAH	Growth rate, %
1	2	3	4	5	6	7
2019	628,694.3	3.74	258,252.0	1.11	886,946.3	2.96
2020	656,677.3	4.45	261,932.3	1.43	918,609.6	3.57
2021	685,667.8	4.41	265,778.4	1.47	951,446.2	3.35
2022	713,199.0	4.02	269,400.2	1.36	982,599.2	3.27
$\overline{T}_{np}$	–	4.15	–	1.34	–	3.34

The decrease in the estimated volumes of revenues to local budgets, due to the slowdown in economic growth, requires sources of additional funds, which are compensated through the mechanism of intergovernmental transfer payments. This, in turn, reduces the amount of tax revenues to the State budget, less transfers.

Taking into account the norms of budgetary provision of regions selected for scenario modeling, we obtain the following dynamics of target indicators, table 8.

Table 8

Planned volumes of transfers and revenues of local budgets in comparable prices of the base year according to the scenario # 3, million UAH

Years	Transfers to local budgets, million UAH			Revenues of local budgets, including transfers, million UAH		
	Scenario 3.1	Scenario 3.2	Scenario 3.3	Scenario 3.1	Scenario 3.2	Scenario 3.3
1	2	3	4	5	6	7
2019	186,756.5	201,336.1	215,915.7	445,008.5	459,588.1	474,167.7
2020	179,563.7	209,036.2	239,379.7	441,496.0	470,968.4	501,435.0
2021	172,169.6	216,857.5	264,225.8	437,948.1	482,635.9	530,047.0
2022	165,094.5	225,329.6	291,064.4	434,494.7	494,729.8	560,157.2
$\overline{T}_{np}$	-3.81%	3.97%	10.84%	-0.78%	2.50%	5.74%

Regarding the amount of revenues to the State Budget, according to scenario 3.1, its average annual growth will be equal to + 7.32%; scenario 3.2 – the increase will be + 2.50%; scenario 3.3, respectively, + 0.54%. In fact, the implementation of this scenario in practice does not involve an increase in the level of socio-economic security of the regions, as the financing of additional expenditures from the State budget will reduce its incentive function for priority sectors of the economy.

### Conclusions

Thus, as part of a scientific and practical approach to building a system of tax regulation in the context of economic development of the country, we analyzed the three most likely scenarios. The formation of recommendations for the use of tax regulation tools is based on the procedure of their multi-criteria comparison.

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**MODERN INVESTMENT STRATEGIES FOR THE DEVELOPMENT OF THE  
CONSTRUCTION INDUSTRY OF UKRAINE**

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**Abstract.**

The article covers the major issues of the assessment of the state and prospects of development of the resource potential of the construction industry of Ukraine, on the basis of which to propose a strategy for the development of the industry; strategy for the development of the construction industry of Ukraine. The authors generalize mechanism of public administration of investment activity in the construction industry of Ukraine and provide its main elements. The authors present the results of annual surveys and the place of Ukraine in international ranking depending

on the indexes. Statistics of dynamics of change in capital investment indicators for 2013-2018 as well as implementation of state housing programs in 2020 are shown. The experience in government regulation and stimulating the construction of developed countries is presented. Directions of formation of investment infrastructure in the construction industry of Ukraine are explained.

**Key words:** investment strategies, construction industry, national economy, public regulation, foreign experience, indicators, ranking, credits, enterprises, capital investment, price.

### **Introduction**

More than 20 related sectors depend on the efficient operation of the construction industry. According to O. Shuliak «... every hryvnia invested in construction works brings additional GDP for Ukraine. As of 2017, the multiplication factor nationwide is UAH 6.76. That's how the multipleir (riffle) effect works». Investment activity in Ukraine is an important component of the economic management system and a tool for implementing the investment policy of the State.

As T. Nakhkur [6] emphasizes, "...in modern conditions, one of the most popular areas of public administration, in terms of its social orientation and investment capacity, is the construction industry". Investment processes in the construction sector provide the reproduction of fixed assets of individual economic entities, sectors of the national economy, in general, through new construction, expansion, reconstruction and technical re-equipment of existing enterprises. [4] In the process of carrying out the production activities of construction companies, investment resources are transformed into fixed assets, and through participation in investment processes, the potential of the construction industry is realized, in general".

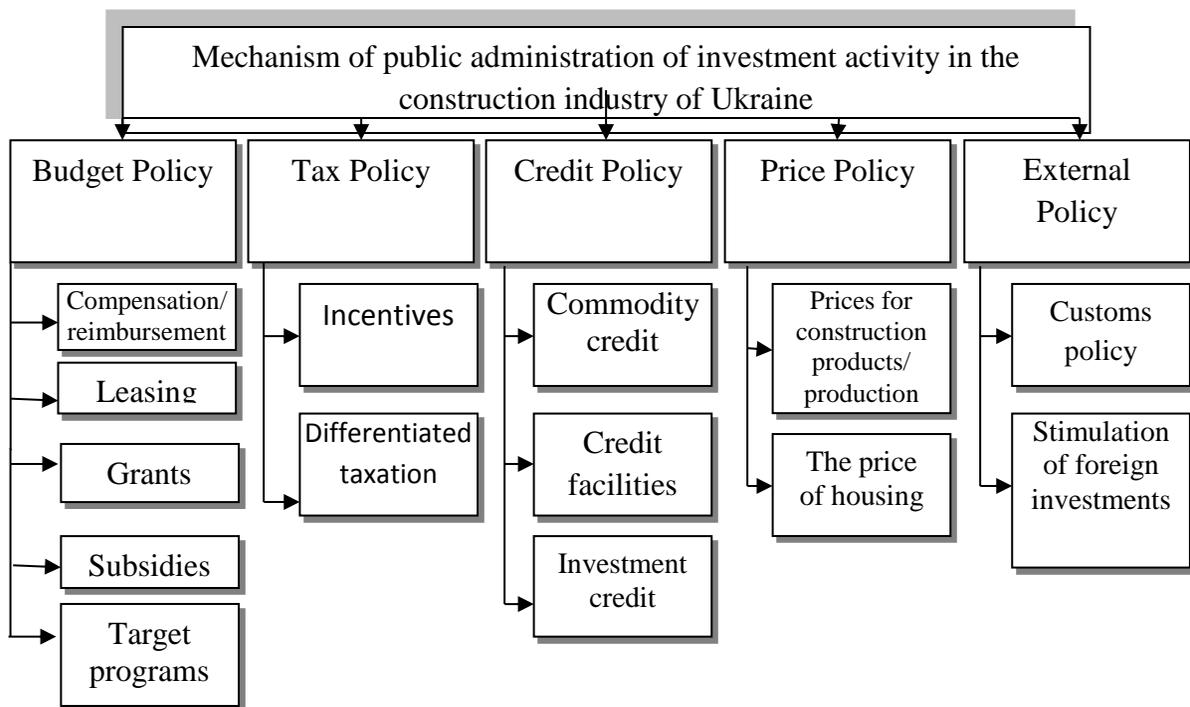
### **The research objective**

The purpose of the article is to: carry out the assessment of the state and prospects of development of the resource potential of the construction industry of Ukraine, on the basis of which to propose a strategy for the development of the industry; strategy for the development of the construction industry of Ukraine, which differs from the already known approaches in the following: it is based on the creation of an innovative construction cluster based on higher education institutions of construction sphere and production and design organizations, involving representatives of local governments and enterprises in the region, application of which enables

new organizational and technological methods and techniques of modern construction.

### The statement of basic material

Public investment plays an important role in financing enterprises. The mechanism of public administration of investment activity in the construction industry is given (Fig. 1).



**Fig. 1. Mechanism of public administration of investment activity in the construction industry of Ukraine**

*Source: generalized on the basis of data. [6-8]*

According to new data from the annual report *WinningGrowthCities* [8], "... 1.8 trillion US Dollars is invested in the world real estate market, which is 18% compared to the previous period of 2017. Capital investments in construction in the first half of 2018 amounted to about 11% of the total - 22.4 billion UAH. Due to the long queue for housing and market capacity, there may be more".

An integral assessment (index) of the effectiveness of the use of instruments for regulating investment processes is also the annual ranking of the World Bank *DoingBusiness*, which determines the level of regulatory instruments.

The results of an annual survey assessing the ease of doing business on ten indicators in 190

countries are summarized in the World Bank's DoingBusiness Rating, which has existed since 2003. Within the framework of the calculations, an analysis of the legal norms applied to private enterprises in 12 areas (indicators) of their life cycle is carried out. The dynamics of change of indicators is given. (Table. 1)

*Table 1*

**Indicators of Ukraine according to the DoingBusiness ranking by criteria**

Criteria	Years					
	2015	2016	2017	2018	2019	2020
Ranking place	96	83	80	76	71	64
Registration of enterprises	76	30	20	52	56	61
Obtaining a construction permit (a building licence)	70	140	140	35	30	20
Connection to the energy saving system	185	137	130	128	135	128
Property registration	59	61	63	64	63	61
Obtaining credits	17	19	20	29	32	37
Investor protection	109	88	70	81	72	45
Taxation	108	107	84	43	54	65
International Trade	154	109	115	119	78	74
Ensuring the implementation of contracts	43	98	81	82	57	63
Solving insolvency	142	141	150	149	145	146

*Source: generalized on the basis of data [9]*

With the increase in the overall ranking by 7 positions, Ukraine showed growth in only five indicators due to the lack of reforms. Therefore, in some indicators there was a decrease in positions.

Ukraine has significantly improved its business climate, but its overall position has also been

affected by significant positive changes in other countries. For example, more than 3,800 reforms have been implemented. 115 countries have implemented 294 reforms that improve regulation in all areas. Among the countries with the best results are the following: Saudi Arabia, Jordan, Togo, Bahrain, Tajikistan, Pakistan, Kuwait, China, India and Nigeria. These countries account for a fifth of all reforms to improve the business climate. [9]

That is, +7 points is not enough for Ukraine's potential. However, on September 20, 2019, the Law of Ukraine No 132 "On Amendments to Certain Legislative Acts of Ukraine Concerning the Stimulation of Investment Activity in Ukraine" was adopted, which will provide an opportunity to raise Ukraine by several points in the ranking. At the same time, Ukraine ranks 146th in terms of insolvency settlement, and electricity connections remain low at 128, despite improvements. [9] That is, in this regard, it is necessary to develop and make new appropriate decisions in areas that urgently need it. At the same time, it is difficult to predict a significant increase in Ukraine's position in the Rating.

But it should be noted that the ranking is very authoritative and indicative in the context of attracting investment into the economy of Ukraine. According to the dynamics, the country has all the initial prerequisites for the formation of a favorable investment climate and a positive image of the country in general. But this requires the desire of the country's political elite to take decisive action to encourage investment.

"Today, Ukraine's reputation as an open and market economy suffers according to other authoritative international rankings. The Corruption Perceptions Index (CPI) is an indicator that has been calculated by Transparency International since 1995. The key indicator of the Index is the number of points, not the place in the ranking. The minimum score (0 points) means that corruption actually replaces the State, the maximum (100 points) indicates that corruption is almost absent in society. As a result, it is minus two points out of 100 possible. That is, Ukraine returned to the level of 2017 and now ranks 126th out of 180 countries. Next in the ranking are Kyrgyzstan, Azerbaijan and Djibouti". [10] (Fig. 2)

In the ranking of the most expensive countries to live in the world Ukraine took 107th place among 132 positions, the most expensive - Switzerland. "In the ranking of the best countries in the world in 2019, compiled by the American magazine US News & World Report, Ukraine took 68th place out of 73".

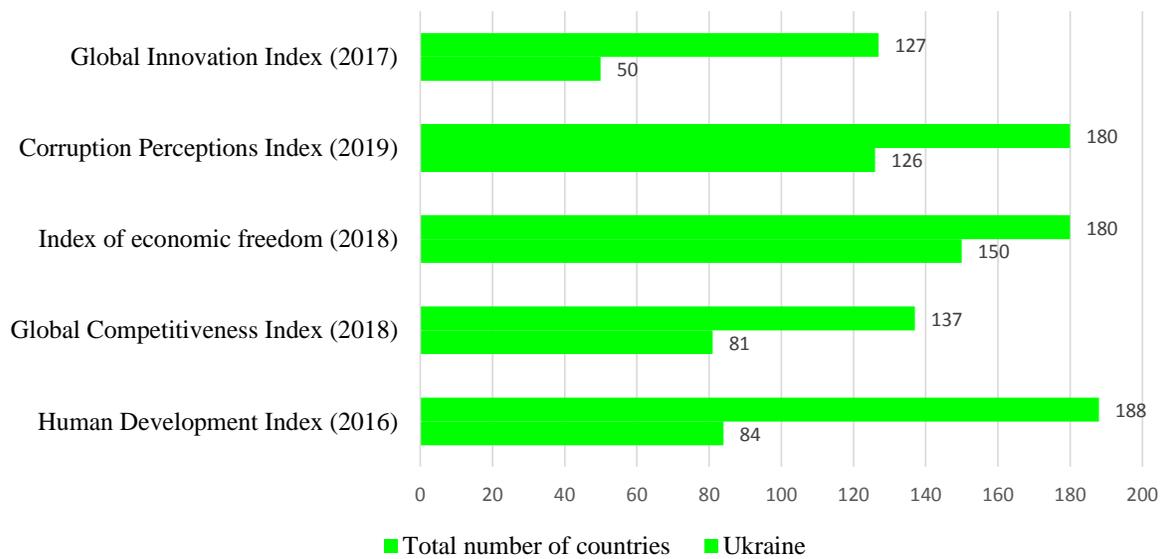


Fig. 2. Ukraine's place in international rankings

*Source: compiled by the authors according to the data. [9; 10]*

In 2018, Ukraine was ranked 65th out of 80 countries. The first place in the ranking was taken by Switzerland, the second place went to Canada, and Japan closes the top three. In addition, the top five included Germany and Australia. At the bottom of the list there are Oman, Serbia and Lebanon. "Ukraine in the LPI 2018 ranking took 69th place out of 160 countries that participated in the assessment, which is 11 points higher than in 2016. In 2010, we had 102 positions. Analyzing the integrated LPI index by components, we note that the situation is not always clear, so according to the sub-index "Customs" - Ukraine took 66th place, according to "Expediency" – 52nd, but according to the sub-index "International Transportation" – 119th" [12-14].

Figure 2.3 shows that the largest and most indicative for the perception of investors in the ranking of economic freedom and perception of corruption in Ukraine are extremely unfavorable. Therefore, it is necessary to treat the international reputation more carefully and prudently, first of all to intensify investment processes and implement urgent measures to reduce corruption and increase trust: to form a professional and independent judiciary (introduce a new procedure for appointing members of the High Qualification Commission and High Council of Justice); ensure the effectiveness and independence of anti-corruption bodies and institutions (conduct an independent evaluation of activities, improve legislation); release human and other resources for effective struggle (deprive the Security Service of Ukraine of powers in the field of combating economic and corruption crimes); launch an open and transparent process of preparation and implementation of the process of privatization of state property, etc.

The world experience of the leading countries proves that “investing in housing construction gives growth to the economy. This requires a few steps. First, it is to "reset" the declaration. Second, it is to strengthen the mortgage. Third, it is to ensure a normal income. For foreign investments, it is to simplify paperwork and the number of procedures, to give an understanding of the return of profits". [8]

According to the data, real estate investments can be considered from different angles, but the main thing - the subject of investment - or the creation (construction) of real estate (construction in the primary market), or investment in ready-made objects (secondary market). An interesting situation is formed in the market of industrial and production real estate. According to the register of industrial parks on the website of the Ministry of Economic Development and Trade, for the period from 2014 to 2017 the number of registered parks doubled - from 14 to 27. This indicator is not an absolute guarantee of prospects (because a registered park is not always operational), but it shows a trend. In addition, the creation of an industrial park on the territory of former industrial plants (so-called "brownfield" approach) significantly reduced the cost of surface infrastructure development". [1; 15] According to the global trend, the production of modern building materials is one of the five most common industries in industrial parks ". (Table 2)

Table 2

**Dynamics of change in capital investment indicators for 2013-2018**

Years	Capital investment (in actual prices), UAH mln.	Where:						Capital investment index		
		Residential buildings	% of the total	Non-residential buildings	% of the total	Engineering structures	% of the total	In Ukraine, % to the previous year	In construction, UAH million	In construction, % to the previous year
2013	267,728	267,728	15.5	41,567	17.9	58,769	22.0	88.9	46,318	95.7
2014	219,420	219,420	15.1	33,177	18.6	46,599	21.2	75.9	36,057	80.7
2015	273,116	273,116	16.7	45,610	15.9	50,949	18.7	98.3	43,464	96.4
2016	359,216	359,216	12.5	44,865	16.5	67,517	18.8	118.0	44,444	91.3
2017	448,462	448,462	11.9	53,372	14.6	78,564	17.5	122.1	52,176	110.5
2018	578,726	578,726	9.9	57,396	15.4	111,315	19.2	116.4	55,994	86.1

Source: generalized on the basis of data. [27]

The situation is interesting in the general structure of public investment depending on the Region of the country. If in 2013 53% of funds were invested in Kyiv, in 2016 this figure was only 18%. The transformation was due to increased investment in the Regions. For example, if in 2013 the Kyiv Region accounted for 1.2% of investments, then in 2016 - 14%. The situation is similar in most Regions. Lviv and Khmelnytsky Regions can also be mentioned as leaders in terms of growth". "During January-September 2018, 337.0 UAH billion of capital investment was transferred to the economy of Ukraine, which is 29.9% more than in the same period of 2017. 35.8 UAH billion of capital investment was received for construction, which is 6.5% more". [2]

According to official data, capital investments in the amount of UAH 584.5 billion were disbursed in 2019 at the expense of all sources of financing, which is 15.5% more than in 2018. Exports of basic industrial building materials amounted to 1258.6 million US dollars, imports respectively – 1,060.7 million US dollars. As a result, total exports of basic industrial building materials decreased by 9.4%, but at the same time exceeded imports by 1.2 times. Exports of basic industrial building materials to the NIS countries amounted to 317 million US dollars, which decreased almost 2.1 times in accordance with the indicators of exports to EU countries - 664.4 million US dollars, went down by 1%. Imports of basic industrial building materials from the NIS countries amounted to 258 million US dollars, which is almost 2.2 times less than the volume of imported materials from the EU - 561.5 million US dollars". [16]

Investing in real estate is one of the most effective ways to obtain a stable income and has the corresponding advantages: protection of your capital from devaluation. Investment does not require special knowledge and experience, regular income is higher than with a bank deposit. But investing will be profitable if you consider investing as a long-term project that takes a long time.

Bureaucratization and many inefficient procedures all scare investors. According to experts [1; 17] "... more than 8.5 months for land registration, more than 50 paper documents, duplication of data in documents, many unnecessary contacts with the authorities. And, as a consequence - the long duration of land registration, complexity and confusion of the registration procedure, non-transparency of registration, competition between authorities for control over the process of land formation and allocation, lack of protection of bona fide landowners, high corruption risks, etc."

According to the head of the State Construction Inspectorate O. Kudriavtsev [17; 18], "In order for the construction industry of Ukraine to work as a monolithic organism today, effective

communication with the participants of the urban planning process in the Regions is necessary. The problems, which exist in the industry today, need to be solved to the Regions. One and significant step will be changes in approaches to imposing fines. First, if violations are identified, recommendations for their elimination will be provided first. Second, the penalties will be differentiated and will depend on the class of consequences (liability) of the object. Third, as a result of unscheduled inspections, fines will be applied only for non-compliance with the requirements of the regulations. Fourth, the customer will be able to extend the order".

Having your own home is a necessary component of a full life for everyone. The Basic Law of the State is the Constitution of Ukraine and its Art. 48 stipulate that "... the State creates conditions under which every citizen has the opportunity to build housing, buy it or rent it". [19]

Unfortunately, today there are still outdated norms of housing legislation that do not correspond to reality and do not ensure the constitutional right of citizens to housing. "Today, outdated regulations continue to operate, which partially regulate housing issues, issues of registration of citizens in need of better housing conditions, and providing them with housing that does not meet modern requirements today.

Since the early 2000s, the most real opportunity to improve the living conditions of citizens has been to participate in State and regional housing programs. The responsible executors of a number of State and regional housing programs are regional administrations and the state.

It can be noted that the legislation in the field of housing needs to be systematically updated in accordance with today's realities, and these housing programs are not always provided with sufficient budget funding, which is why they lose their social significance for the population. Implementation of the programs is ensured through the formation of a mechanism of real partnership between the authorities and the regional department of the State Youth Housing. The State has committed itself in 2020 to implement housing programs to improve the lives of ordinary citizens (Table 3).

Table 3

**Implementation of state housing programs in 2020 (plan)**

Program	Funding
Providing State support for the construction (purchase) of affordable housing	100.0 mln UAH
Reducing the cost of mortgage loans to provide affordable housing for citizens in need of better housing conditions	40.9 mln UAH
State preferential lending to individual rural developers for construction (reconstruction) and purchase of housing	At the expense of the special fund – 39.1 mln UAH
Partial compensation of interest rates on commercial bank loans to young families and single young people for construction (reconstruction) and purchase of housing	At the expense of the special fund – 23,4 mln UAH
Emergency loan program for the reconstruction of Ukraine (financial agreement between Ukraine and the European Investment Bank)	6,200.0 mln UAH
Subvention from the State budget to local budgets to support the development of united territorial communities	2.1 billion UAH
State Fund for Regional Development - 7 500,0 mln UAH	

*Source: generalized on the basis of data. [16]*

Taking into account the economic, social, military and political situation, it is necessary to take measures to relieve social tensions related to the reform of housing policy in Ukraine, which, in turn, will enable citizens to resolve the housing issue; the State - to reduce its housing obligations and maintain public confidence in the government; local governments - to prevent the emergence of new long-term construction and complete existing unfinished buildings; construction companies - to increase the number of jobs and ensure the flow of investment in this area.

Numerous international studies show that investment in residential real estate is one of the key factors in GDP growth. Investing 80 billion UAH in residential real estate - this is the level of

unsatisfied demand for housing in Ukraine - will lead to an overall economic growth of at least 540.8 billion UAH. New financial instruments are needed to meet existing demand, which will expand the ability to buy real estate. [5] Expanding opportunities and creating preconditions for Ukrainians to purchase housing will stimulate economic development of the country in general.

Today, the development of Ukraine can be described as a process aimed at democratization and European integration and which requires the formation and implementation of effective and efficient mechanisms of public administration. Reforming the national economy and increasing the welfare of the population are especially important for investment activities.

The development of investment activity is aimed at creating an attractive investment environment and a significant increase in investment, and therefore is a priority for the State in a market transformation.

"Of some interest is the positive experience in government regulation and stimulating the construction of such developed countries of Western Europe as Germany, Finland, Sweden, which, in our opinion, it would be useful to adopt Ukraine, given the domestic realities. For example, the problem of buying a home, its solution in these countries is directly related to stimulating the birth of children in young families. For example, in Finland, a law passed by parliament to limit all types of taxation of legal entities and individuals to a total of 32% is effective; a fixed rate of bank loan for the purchase of apartments by young families at 3% per annum in installments up to 20-25 years, the possibility of reducing by 25-50% the cost of payment for apartments purchased by young families depending on the number of children born". [20]

In Germany, there is a support system for citizens and, especially, young families who want to build a house or buy an apartment in the property. This system can be called "accumulative-revolving". Its essence is that the existing construction savings banks in Germany, signing a contract with working citizens who want to buy their own housing, to finance the construction. The future homeowner places a certain amount to his account on a monthly basis. In addition, according to current legislation the employer adds 78 euros (936 euros per year) to the salary per month, the State another 93.6 euros, or 10% of 936 euros. Practically, in addition to personal contributions, the current account of the future homeowner, in the construction savings bank, gets about 1,000 euros a year. Thus, "construction capital" is accumulated, and when it reaches a certain amount (approximately one third of the cost of housing), "the State allocates 10% of the

value of a house or apartment, and the construction savings bank issues a loan at a very low interest rate. Once a house, or an apartment, is purchased, a revolving component of the "accumulative-revolving" system begins to operate, encouraging young families to have more children. Such families, with at least two children, receive 40 thousand euros in subsidies from the State for 8 years after the purchase of housing. For children the State provides with 4 thousand euros of environmental allowance and 3.2 thousand euros of energy subsidies. Return money allows families with two or more children to significantly facilitate and expedite the repayment of a loan issued by the construction savings bank". [20; 21]

The introduction of such a system in Ukraine, or some elements, can be implemented. For example, it would be advisable to organize and create an appropriate number of branches of Savingsbank or some other commercial banks in the form of "construction savings banks". That is, "in almost all developed countries, the issue of pricing in construction is the object of close attention of the State. In Sweden, for example, price monitoring and control is carried out by the State Administration of Prices and Competition, which reports to the Ministry of Civil Administration". [20] Besides, there are specialists, from 2 to 10 people, whose functions include tracking prices for construction goods and services, as well as making proposals for their regulation, in all 23 provinces of the country. The Swedish government has the right to take direct action on the prices under the law on price regulation. One such measure is the freezing of prices for construction products, used in extreme cases and for a short time. This may be the threat of a general significant rise in prices, the emergence of sharp imbalances in the construction market, inflation, and others. There may also be a selective freezing of prices for certain construction goods or services, including housing fees. The law provides for the possibility of the State to set the maximum level of prices for individual construction products, to introduce a procedure whereby price increases are allowed only after prior notification and justification. The control of prices for construction products in Sweden is based on the law on the obligation to provide information on prices, the level of competition and is carried out in various forms. The specialized body of public administration for price formation and competition in the construction market constantly monitors price fluctuations in general, in the country and in some specially defined areas of activity, in particular, housing, transport and communications, energy and others. It affects the price level through state monopolies and state-owned enterprises. The state strictly regulates purchase prices for the most important types of construction products.

Every year the level of the price of goods is determined in negotiations between the government and the association of manufacturers of building materials. Finally, a special area of housing pricing, the extremely high level of which encourages the state to provide citizens, especially young families, with housing subsidies and soft long-term loans. Certain functions in the field of pricing control have self-government bodies, as they have a monopoly on water supply, sewerage and some other activities. [20; 21] "The experience of developed foreign countries shows that the customer plays an important role in pricing in construction. If the state is mainly engaged in regulating the rate of return, then the activities of the customer largely depends on reducing production costs. In England, Finland and Sweden, the customer's representative is often an architect. He sets the preliminary cost of construction of the object, on the basis of bidding, selects a general contractor, which is in contract with him and determines the economic methods of production, in order to optimize the cost of construction. When the price of a construction project exceeds the rate of "production costs plus the average rate of return", government agencies can intervene and adjust the price. Usually, the average rate of return is 10-12% of production costs when carrying out construction and installation work. If the rate of return is higher, government agencies study and analyze the causes of growth. In cases where the increase in the price of the construction object is not associated with objective reasons that cause an increase in production costs, measures are taken to limit the price". [20; 21]

According to the Law, there are various schemes of joint investment. The concept scheme is widely used. Many communal systems, roads, and public buildings are backed up, or reconstructed, by private investors who operate these systems. In this case, private capital is invested in socially significant facilities, which are built with the participation of budget funds. At the same time, investors receive exclusive rights to the full or partial use of these facilities, for example, to the operation of buildings and facilities, for a certain period, with their subsequent transfer. However, this happens with the participation and under the control of the municipal government, because a number of communal systems are monopolists. Such a scheme was used during the construction of the metro in New York, the airport in Athens and a number of other large projects in Europe, Japan and the United States. The principles of public-private partnership have been widely used in Great Britain and Germany since 1990. Elements of such a procedure were used in Poland, for example, during the construction of the facilities of the 2014 Winter Olympics in Sochi. [21]

The system of public financing of housing construction in developed countries is based on a variety of specialized financial institutions - construction, mortgage companies, investment banks, credit unions, as well as several government financial technologies: construction savings, mortgage lending, public and private financing, and various mixed forms of public and private funding. In these countries, the state has effective market instruments of state regulation of investment processes through the markets of mortgage secondary loans using public (or semi-public) financial institutions. [6]

"Governments of most developed countries actively implement state regulation of construction: support various mechanisms for investment in construction, have direct and indirect influence on construction processes, so the main goal is to systematize experience in construction management and features of state regulation of construction in economically developed countries".

State regulation of investment processes in foreign countries pursues the following main goals: directing investment to restructure the economy to increase its efficiency; turnover of savings in investments of the real sector of the economy; formation of efficient and controlled state capital markets; reduction and insurance of investment risks; improving the investment climate for domestic and foreign capital. State legal guarantees to investors are the most important criterion of a favorable investment climate. [21; 22; 23]

Foreign experience indicates the feasibility, given the current state of Ukraine's economy, the introduction of some methods that do not require direct funding from the State, ie on the basis of resource adequacy.

We can agree with the conclusions [25; 26] that "... investments from the regional budget should be used mainly as a means of creating primary conditions for attracting private and foreign investments in the development of priority and socially oriented industries. Special attention needs to be paid to investment projects with mixed financing - using the communal share of investments as a guarantee of the targeted direction of investment resources. "That is, it is necessary to implement the relevant tasks for the formation of investment infrastructure (Table

Table 4

**Directions of formation of investment infrastructure in the construction industry of Ukraine**

Tasks	Directions of formation
Legal regulation of investment funds	<p>Introduction of appropriate standards for transparency and public accountability.</p> <p>Adoption of the law on mutual investment funds (granting the status of a non-issue security with an open upper limit of issue).</p> <p>Creation of specialized real estate funds (REIT).</p> <p>Establishment of the institute of "investment / financial advisers".</p>
Removing corruption	<p>Strengthen control in the relevant institutions of power and provide stricter indications for violations of the law.</p>
Improving the work of insurance companies on investment functions	<p>Introduction of compulsory motor third party liability insurance.</p> <p>Providing a separate and special tax regime for insurance companies.</p> <p>Market liberalization with the involvement of foreign insurance companies.</p> <p>Creation of new institutions in the insurance market, which provide only long-term types of insurance.</p> <p>Increasing the transparency of insurance companies.</p>
Improving the funded pension system	<p>Creating a pension registration system.</p> <p>Support for the creation of intra-corporate pension funds.</p> <p>Development and adoption of a bill on the creation of a system of accumulative (early) pension provision.</p>

*Source: improved by the authors*

That is, we came to the conclusion that to improve the investment climate in Ukraine it is

necessary to optimize the number of redundant procedures and documents by revoking some permits (for example, to develop a land management project, to conduct expert monetary assessment), and to abolish duplication of functions of State Geocadastre. It is also necessary to reduce the time of registration of land plots by reducing the time for administrative procedures and increase revenues to budgets by standardizing restrictive rules.

The main risks of the buyer of real estate at the construction stage, according to experts are the following: «... delays in completion of construction or commissioning; non-completion of the construction object; the impossibility of putting into operation an object built in violation of building codes; obtaining as a result of a facility other than the one planned for construction (for example, lack of landscaping); the need to prove their rights to the object in connection with the "double" sale, etc.".

Today it takes 8.5 months to register a land plot, 55 paper documents are formed for registration, and 70% of data are duplicated in registration documents, 17 contacts with the authorities for registration. We list the consequences of inefficient procedures in construction: long duration of land registration, non-transparency of land registration, complexity and complexity of registration procedure, competition between authorities for control over the process of land formation and allocation, high corruption risks, lack of protection of bona fide landlord, budget losses etc.

State regulation of investment activities is carried out through direct and indirect methods. Direct methods contribute to the efficient functioning of the economy and all its subjects, while indirect - have an indirect impact on the market through certain corrective tools that ensure the effective development of the economy. And to promote investment processes, public authorities use incentive methods: financial, tax, infrastructure, etc. (Table 5).

The example of many countries shows, however, that tax benefits should be used in countries with economies in transition, and countries with developed and strong economies use financial incentives. [24] That is, it is necessary to introduce compulsory insurance, which will allow not only the investor but also the insurance company to be interested in completing the construction.

Table 5

**Methods of state stimulation of investment activity in Ukraine in the construction sphere**

Methods	Instruments
Tax incentives	Reduction of the tax rate, reduction of the investment tax, refusal of the tax on reinvestment, tax crediting, etc.
Financial incentives	Soft loans, investment guarantees, interest-free loans, etc.
Infrastructural incentives	Preferential financing for specific infrastructure projects, provision of land plots or necessary premises for free use or at preferential prices, etc.
Specific stimulation of investment processes in the construction industry	<p>Preferential financing of specific projects and assistance in carrying out feasibility studies of projects.</p> <p>Example:</p> <ul style="list-style-type: none"> <li>- Investment grants (Poland, Slovakia, Czech Republic, Hungary, Romania, Bulgaria, Serbia);</li> <li>- Employment subsidies (Poland, Slovakia, Czech Republic, Hungary, Romania, Serbia);</li> <li>- Reduction or exemption from income tax (Poland, Slovakia, Czech Republic, Hungary, Serbia);</li> <li>- Real estate tax exemption (Poland, Romania);</li> <li>- Exemption from other taxes (Romania, Bulgaria, Serbia);</li> <li>- Sale of real estate at a reduced price (Hungary, Bulgaria, Serbia).</li> </ul>

*Source: improved by the authors*

Current global trends in the development of the construction industry are accompanied by technological innovations that affect the economic situation of the construction sector. Therefore, the main priorities for the inflow of foreign investment in Ukraine are: stabilization of the political situation, the formation of an appropriate legal environment for business, development of external information support for foreign investors, development of investment projects and software, infrastructure, marketing research and advertising, specialized newsletter, etc. That is,

today there is a need for further search for alternative sources of financing and the introduction of new market mechanisms of public financing through the optimization and improvement of public administration in the investment environment, the development of investment competition. Non-interference by the state led to serious economic consequences.

To improve the investment climate, it is necessary to optimize the number of redundant procedures and documents by revoking some permits (for example, to develop a land management project, to conduct an expert monetary assessment), and to eliminate duplication of functions of the State Geocadaastre in approval and registration. It is also necessary to reduce the time of registration of land plots by reducing the time for administrative procedures and increase revenues to budgets by standardizing restrictive rules.

### **Conclusion**

To improve the investment climate in the development of the construction industry of Ukraine it is necessary: first, to optimize the number of redundant stages, procedures and documents. To do this, it is necessary to implement the process of cancellation: permission to develop a land management project, a separate permit for expert monetary valuation, approval of the sale of land to foreign legal entities of the Verkhovna Rada and the Cabinet of Ministers, duplication of functions of the State Geocadaastre. It is also advisable to introduce: an exhaustive list of documents and an exhaustive list of grounds for refusal, the formation of a copy of the public cadastral map by the person concerned through the website, automation of regulatory monetary valuation; secondly, to reduce the term of registration of land plots by 2 times. Reduction of terms of registration by - reduction of terms for administrative procedures: preliminary approval of location, decision-making on transfer of the land plot in the property or use, drawing up of the documentation on land management of the state registration of the land plot; third, to increase budget revenues by 1 billion UAH per year. Increase by standardizing restrictive rules: stimulating land inventory by local governments, the object of taxation is land based on inventory results, publicity of data on land tax payment, the possibility of acquiring non-agricultural land by foreign investors without the consent of the Verkhovna Rada and the Cabinet of Ministers; fourth, to simplify the formation of land under buildings requires: land on which the building was put into operation, to form only on the basis of technical documentation.

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## METHODOLOGICAL BASIS OF CONTROLLING IN THE FIELD OF HEALTH CARE

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### **Abstract.**

In the article the methodological basis for controlling in the field of health care is proposed. It was given the author's definition of controlling in health care, which is methodical concept that provides analytical and synthetic information support to the management system in order to appropriate management influence on the object. It was determined the classification of controlling in health care.

**Key words:** controlling, strategic management, health care, health care system, medical institution.

The system of management of the national economy and its sectoral segments is slowly but surely integrated into the international globalization space through the gradual and purposeful transformation of many organizational and functional entities, the effective activities of which determine the growth of welfare and socio-economic development. Therefore, effective and efficient management is the key to the strategic and successful functioning of all components of the national economy, which is determined by the management system of both the subjects of management of state institutions and many economic entities.

The conditions for the functioning of the health care sector require the use of modern

advanced management technologies that take into account the trends of globalization of socio-economic processes and the direction of social needs. And the use of new management concepts at the macro and micro levels will ensure the solution of strategic tasks to improve the efficiency of the health management system, taking into account the experience of European countries.

Modern concepts of strategic management include controlling, which is widely used as a management tool of the business entity and is aimed at providing the necessary synthetic and analytical information in the process of making strategic management decisions. The theoretical and methodological basis of controlling has been gradually developing over a long period of time.

The origin of controlling was in the segment of institutional management and has its roots in the Middle Ages. In the 15th century, at the court of the English king, there was a position called "Countrolloun", whose job was to document and control cash and commodity flows [1].

According to D. Lozovytsky, controlling as a system allows to optimize the solution of the problem: "limited resources - infinite needs". In other words, it is a system of interrelation of management actions on objects of management by means of various tools for the purpose of achievement of efficiency of activity [4].

Researcher L. Pysmachenko believed that controlling is a system of regulating costs and results of management activities, which helps to achieve the goals of the organization, as it avoids surprises and responds in a timely manner if the effective operation of the organization is in danger [5].

In the scientific work of Professor E. I. Maslennikov, controlling is an appropriate management subsystem of the business entity, which allows to detect deviations from the accepted and approved procedures, regulations, rules and to assess the causes of these deviations [6].

In the scientific works of M. Pushkar and R. Pushkar controlling is a separate information subsystem of the subject for strategic management based on the synthesis of knowledge in

management, marketing, financial and management accounting, statistics, analysis, control and forecasting [7].

Thus, the process of implementing controlling in the field of health care is quite possible, but requires a sound, permanent and adaptive application of management techniques and appropriate tools, given the problems and complexity of situational tasks in the medical field.

Controlling in the health care system can be an effective tool for strategic management in the medical field. Controlling is an ambiguous term, as it has a significant amount of theoretical and practical interpretation, both from the point of view of researchers and business entities. G. Grigoriev's research notes that "the crisis of the 1930s in the United States prompted the development and justification of building a controlling system.

The socio-economic crisis has led to the bankruptcy of many businesses and prompted managers to seek new methods and views on the management system. At that time, conceptual and theoretical principles of controlling began to develop.

In 1931, the Institute of Controllers of America was founded in the United States as a professional organization designed to clarify and explain the content and essence of controlling, to develop its methodological support. Since then, despite the reorganization of this structure into the Institute of Financial Directors (Financial Executive Institute, 1962), the institution has had a great influence on the overall development of controlling and its further development, taking into account the solution of financial management, budgeting systems and management accounting" [2].

According to the author, controlling is a methodical concept that provides analytical and synthetic information support to the management system in order to appropriate management influence on the object.

Polish economist-researcher S. Marciniak substantiated that the classical classification of controlling is focused on the following criteria:

- Subject of activity;

- Time of implementation;

- Areas of activity;

- Goals of activity;

- Tasks of activity.

At the macroeconomic level, controlling "is a tool of state regulation according to G. Grigoriev. It ensures dynamic and sustainable functioning, and efficiency of the national economy" [2].

Thus, the theoretical-methodological and practical-functional significance of controlling provides an opportunity to identify the types, forms and methodological support of this tool of strategic management, which should be used in the management system of health care.

The classification orientation of controlling in the health care management system is presented in Fig. 1.

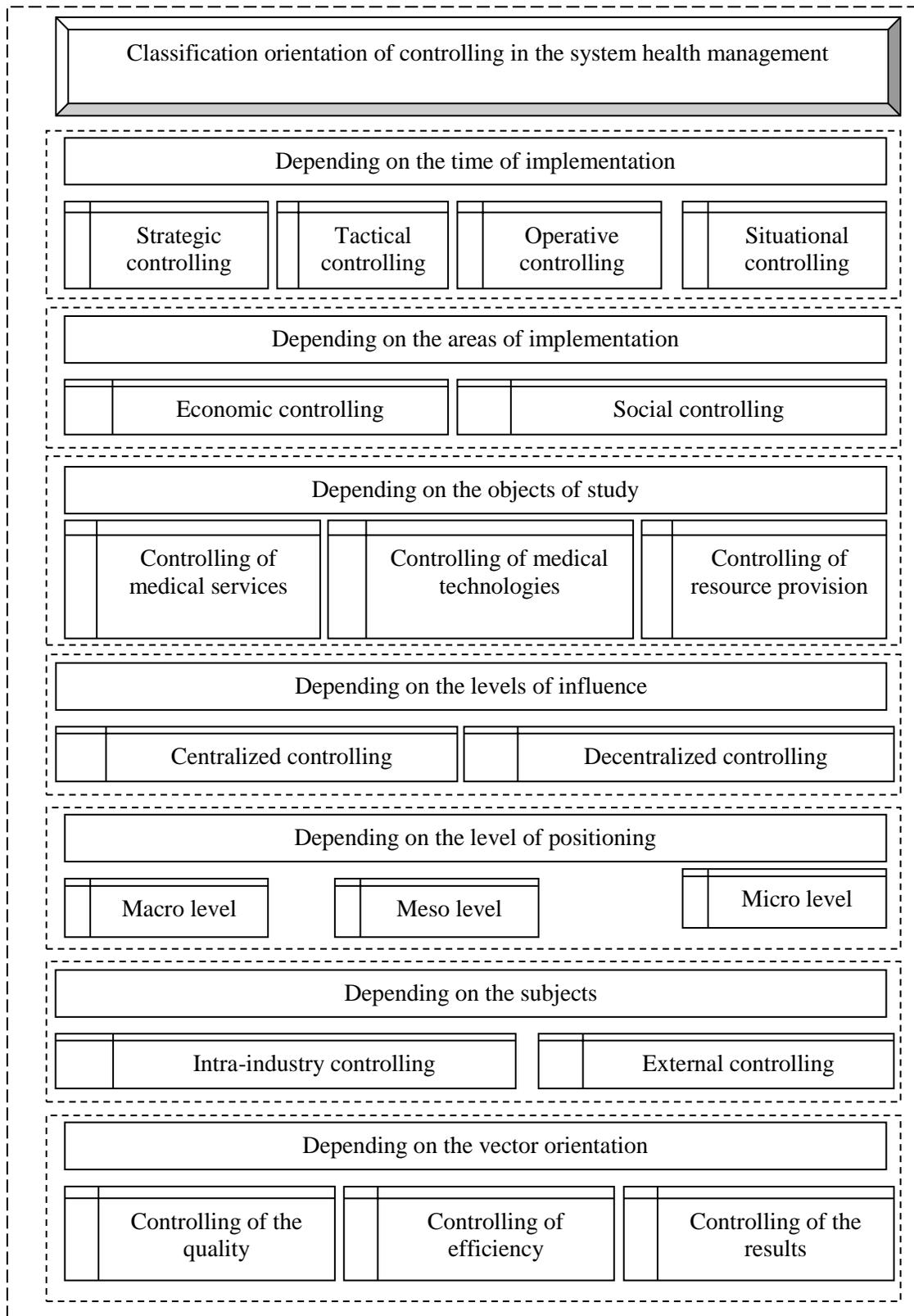


Fig. 1. Classification orientation of controlling in the health care management system

Controlling in the health care management system operates with a multifaceted and multivariate set of techniques, methods, techniques, mechanisms and algorithms. It provides a qualitative assessment of the actual state of the intra-industry object from the standpoint of social significance and economic theory.

Systematization of controlling in the health care management system according to the criterion

of implementation time assumes the presence of:

- Strategic controlling;
- Tactical controlling;
- Operational controlling;
- Situational controlling.

Situational controlling provides an opportunity for intra-industry management to take into account relevant situations, actions, processes, dispositions and phenomena that affect the functioning and development of the health sector.

Operational controlling is aimed at solving problems in the short term with the use of possible tools for this purpose, taking into account the adaptive and permanent influence of factors.

Tactical controlling provides a gradual solution of strategic tasks in the structural and functional intra-industry environment, and strategic controlling, which is not limited in time, provides solutions to complex problems that are related to the priority components of the development of the medical sphere of the country.

Economic controlling takes into account aspects of the functioning and development of the industry, taking into account financial and economic indicators, and social takes into account aspects of meeting the needs of consumers in the functioning and development of the medical sector, which in turn affects the health of the nation.

Depending on the objects of research, there is controlling of medical services, controlling of medical technologies and controlling of resource provision. The latter models the increase of the appropriate level of efficiency of provision and use of resources in the medical sphere, identifies potential opportunities and needs in the provision of medical services.

Centralized controlling provides support to top-level administrative management for the overall management and coordination of lower-level management structures and their structural units, and decentralized controlling depending on the size of structural units can be located either under management or at a lower level, provides support to decentralized structural units and is responsible for operational planning and management of these segments [3].

Depending on the level of positioning, controlling takes place at the macro level, meso level and micro level, which is positioned by conducting a hierarchical study from a medical institution to an institution of state regulation in the medical field.

Depending on the subjects of intra-industry and external controlling, the vector orientation of controlling is focused on controlling the quality of medical services, controlling the effectiveness of medical services and controlling the socio-economic results of the functioning of medical institutions and the industry as a whole.

Note that the effectiveness, efficiency and effectiveness of controlling in the management system of health care and the validity of its structural and functional role and content in the implementation process depends largely on the conceptual, methodological and applied principles relating to the organization of intra-industry controlling, its structure, principles selection of instrumental support and methods, their interrelation and coordination.

The adaptation of controlling in the health care management system is based on the idea of transferring managerial authority and responsibility for decisions to lower levels of the hierarchical intra-industry system and facilitates decentralized intra-industry management to identify relevant segments and control their quality and efficiency.

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**INTEGRATED QUALITY SYSTEM OF  
TRAINING OF MANAGEMENT STAFF**

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**Abstract.**

In modern conditions of development of social and economic systems the management plays an exceptional role. The managerial component, its efficiency and structural quality becomes a determining factor in the strategic development of the economy and society. The responsibility that rests on the modern manager, involves a high level of his training and the availability of innovative mechanisms for the systematic improvement of his professional competence throughout almost his managerial career [3, p. 109-111, 154-156]. With all the additional importance of the empirical experience of management personnel, it should be noted that in the period of post-industrial development of society and the formation of an innovative economy it becomes absolutely insufficient. This fact does not rule out the importance of practical experience for the effectiveness of management, but determines the need to develop criteria for assessing the so-called "value of practical experience". Here it is important to take into account the positions and approaches in the development of competitiveness, investment and innovation policy, especially business organizations. It is clear that the level of modern management and clarification of the criteria of its effectiveness is objectively determined by the state of society, the level of economic development, science and education. Management is also part of the culture of society. It is influenced by national and international economic traditions. Management cannot be transferred from one cultural environment to another without proper adaptation, while

maintaining "healing properties" and socially positive performance. Thus, the quality of management is a direct result of positive socio-economic and cultural-historical development of society. At the same time, the development of a professional management system will be impossible without the systematic introduction of innovations to improve the quality (efficiency and effectiveness) of management.

**Key words:** professional management system, principles of integral quality of management, efficiency and effectiveness of management activity, professionalization of management, intellectual capital, managerial capital, innovative dynamics of management, managerial science, creativity, managerial innovations.

Historical and managerial research on the formation of a professional management system is of particular importance today for understanding the specifics of future management development. These studies have both scientific and practical value, as they form a holistic and systematic vision of the processes of professionalization in management, primarily from the standpoint of historical development.

The structural logic of historical and managerial research of management involves the study of the problem of identification of management in the system of socio-economic and economic activities of society. This, in turn, indicates the need to study system categories and concepts of management. The most important condition for understanding the formation of a professional management system is the study of historical preconditions of management and their modern innovative dynamics of development [3, p. 31]. The study of these problems makes it possible to judge the concepts of the actual management language, management research, the objective history of management and its main schools, the management process and the basic elements of the management system, the connecting processes of the management system. For the system of basic elements of professional management it is necessary to constantly maintain their innovative nature of development, and managerial innovations themselves gradually not only get the same status as technological, but also act as more priority, as they provide a strategy of scientific and technological progress [7, p. 256-258, 268]. A particularly innovative product of management

research is fundamental managerial innovation, ie that which is the result of basic management science.

The study of management is a process that lasts throughout a managerial career, sometimes a lifetime. Naturally, the professional study of management should be structured, have a gradual content with the fixation of specific goals and objectives. It is absolutely wrong to believe that the study of the basics of management is the final stage of all knowledge in management. Knowledge of the fundamental positions of management acts only as a process of preparation for further study of management at a high level and in various forms of specialization. Thus, an accurate study of the fundamental principles of management determines the quality of professional growth of management in the future, but it is also important that the content of fundamental knowledge in management has a scientifically and practically proven conceptual platform and some dynamics of innovation.

Effective management is a complex process of interaction of professionally trained people who are able as a result of focused business activity to lead the organization to achieve the effect of organizational synergy. The management of any organization justifies its professional right to exist in the structure of the enterprise, if it is able to ensure the growth strategy of this enterprise and, thus, strengthen the system of its competitiveness in the market [2, p. 85-86]. Strategically important in the activities of management staff is also their ability to constantly improve their professional and business qualities [8, p. 17-18]. The mechanism of integrated training of management staff involves the ability of management to master the maximum list of innovative and creative tools for a positive solution to modern problems of socio-economic development of the organization. At the same time, it is necessary to pay attention to the basic principles of management training, without which the integrated mechanism will not work. Let's define some important landmarks of this activity.

First, modern training of managerial staff requires flexible and adequate training systems that contribute to the formation of managers' innovative thinking and a sufficient level of professional competence. A sufficient level of professional competence presupposes the conformity of the professional knowledge base of managers to the nature of the managerial tasks to be solved. In this regard, the structural and functional training of management is a priority, as it involves a

system of specific specialized knowledge of management in the overall process of enterprise management. Considering the essence of the management process, it becomes clear that management is manifested both in theory and in practice, primarily through functions. It also means that the primary specialization of managerial work is associated with detailing the specifics of work within a single function or related functions of management. For example, the functions of forecasting and planning are integrated into the strategic direction of management, which characterizes the work of functional management staff. And the functions of organization, coordination, regulation and control determine the actual nature of the administrative activities of management, which is characteristic of a more linear management staff [4, p. 51]. Therefore, in the training of management personnel it is necessary to take into account the features of the functional characteristics of the management process so that the primary specialization of management personnel were focused on practical work within certain management functions. A more in-depth specialization of management personnel can be determined on the basis of the specifics of the use of methods, structure and connecting processes, which together with the functions of management are the basic elements of a professional management system.

Then, an essential point is the characterization of management retraining systems, taking into account their managerial careers. Increasing or decreasing the level of activity of the manager in the hierarchical structure of the organization entails a change in its structural and functional responsibilities. This, in turn, involves changes in the nature and content of the process of retraining managers. Of course, in practical management, such specialization in management functions is important for those companies that have already achieved a high level of efficiency and scale of production. Corporations, especially multinational corporations of the holding type, are characterized by the most extensive functional structure. Thus, the practical need for a functional approach to building a management system is enhanced by the organizational and economic growth of the enterprise.

Third, the basic elements of a modern management system are functions, methods, structure and connecting processes (communications, management decisions, personnel technologies). Given this, the professional knowledge base of management staff is their competence in the field of these basic elements and the innovative dynamics of their development. But professional

competence must be structured, otherwise there will be no objective opportunities to improve the quality of management and conduct effective selection of management staff. This allows us to conclude that management work is structurally and functionally heterogeneous, and the effective use of functions, structural components, tools, methods and connecting components of management requires constant development of a specific research base of management (which, for example, is not completely identical to economic research).

Fourth, structural and functional training of management staff is also determined by knowledge of the components of the management process. The system of professional behavior of the organization's management involves work, first of all, with the resource state of the enterprise. It is material, financial, human and information resources. The effectiveness of managerial influence depends on the correct ratio of the proposed management system with the initial and potential resource capabilities of the enterprise. The most important part of starting the management process is the search and selection of priority goals of the enterprise, which should be a system of targets for specific activities. Possible limitations and changes in the implementation of the management process are associated with the knowledge of the management of the enterprise indicators of boundary conditions, which involves the implementation of prognostic, informational and analytical functions of management. Thus, effective structural and functional activities of management staff is possible with knowledge of indicators of the control loop, which is considered in management as a set of limiting indicators, ie "resources - goals - boundary conditions" taking into account the projected and planned dynamics of their changes.

Thus, the analysis of the problems of structural and functional training of management staff involves an in-depth study of the modern dynamics of the basic elements of the management system [4, p. 29-31], which makes it possible to draw the following promising conclusions for integrated management training:

1. Problems of functions, methods, structure and connecting processes are not new to management, but their development and dynamics are constantly registered and analyzed by management science. This work is the basis for supporting the positive and cost-effective development of both science and management practice;

2. Research of basic elements of the management system can be carried out both from the point of view of the traditional approach (schools of industrial, scientific and administrative management), and also from the point of view of system and situational (innovative) approaches (schools of "human relations", "organizations as systems"). In each case, the problem of studying the basic elements of the management system will be different, and the end results will lead to the emergence of new modern management technologies;

3. A new vision of interaction and analysis of the basic elements of the management system will be in the case if to conduct research from the standpoint of development of schools "classical economy", "management economy", "business economy", "innovation economy", and, finally, digital economy "in the era of singularity [1, p. 14-16; 5, p. 134]. This approach will be transformed in management into the following technologies of management training: "technical-operational" - "formal-analytical" - "system-procedural" - "innovative" - "integrated";

4. The basic elements of the professional management system are constantly in a state of development, which necessarily changes the views and theories of management;

5. Industry as a sphere of economic activity is a technological environment for the application of knowledge of management staff. The initial professional knowledge of management is based on knowledge of the system of basic elements and connecting processes of management. The strength of the impact of industry knowledge on the nature and effectiveness of the modern management process is not decisive. Important processes of training and activities of management staff will determine the interdisciplinary and intersectoral processes of development of modern society.

The formation of an integrated management system depends on the development and operation of certain prerequisites that directly affect the emergence of a new quality of management, namely the development of the integrated stage of management. Among such prerequisites it is necessary to name factor processes of professionalization of administrative activity, growth of intelligence of administrative work, innovation and creativity of modern management [6, p. 39-41], the processes of capitalization of human resources and the development of intellectual and managerial capital. An important factor in the integrated

development of management is also the development of the process of interaction between science, analytics and management practice. Given the growing need of modern society in the transition to an innovative economy and the formation of knowledge management mechanisms, it is necessary to focus on the study of the interaction of science, analytics and management practice with the definition of certain qualitative stages of development. Let's define the main features of this interaction.

The process of interaction of science, analytics and management practice is heterogeneous and has qualitative stages of development. The basic logical scheme of this process was offered in researches of Kuznetsov E., namely, the system interaction of separate stages - "convergence - connection of the 1st level and integration - connection of the 2nd level and organic synthesis and integrity" is defined. [3, p.135-139]

It should be noted that each stage is characterized by a certain level of development of science, analytics and practice of management, and a certain mechanism of interaction. The characteristics of each stage are important for understanding the objectivity of the formation and development of a professional management system and its effectiveness. The nature of managerial innovation also has its own characteristics at each stage. The process develops in such a way that the first random and chaotic connections grow into connections of an integrative property. Then qualitative conditions for organic synthesis are gradually formed, where practice becomes a continuation of scientific activity, and science becomes a continuation of practice. The integrity of the process adds the conditions of inseparable connection, integrity and complete unity of science, analytics and management practice. The bifurcation process takes place between the stages, which makes it possible to determine the distribution of the elements of the previous and next stages. Innovative processes that stimulate the transition from one stage to a higher stage of development create a research, analytical and practical basis for integrated management.

Integral performance management means a system of factor evaluations of management effectiveness, which gives a diffusion of results. This significantly increases the overall effectiveness of management and creates opportunities for systematic disclosure of the professional potential of management. In general, the integrated approach (integrated theory) is an approach to man, society and science, which affects all areas of human activity and is carried

out within a systematic holistic philosophy [5, p. 5-11]. The concept of "integral" means that in a particular area seek to synthesize into a single complex model of methods and theories that have proven their correctness in certain contexts [7, p. 168-170], while abandoning both gross reductionism and the so-called "subtle" reductionism (in other words, the unjustified extension of the method, effective in one specific context, to all others).

Recognition of the fact that professional management develops on the basis of the concept of system-integrated professionalization of management, which was proposed by Kuznietsov E., creates certain logic of systemic development of management in the XXI century. The new integrated management paradigm is based on the innovative development of the economy and society, which proves the need for systematic professional training of management throughout their management careers. As a result of specialized training, the effectiveness (professional potential) of management activities appears, and the achievement of the necessary planned socio-economic indicators will determine the effectiveness of the management system. The efficiency and effectiveness of the management system in this sense create the conditions for the formation of an integrated management system as a necessary effective force for positive socio-economic changes in modern innovation society.

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**STRATEGIC MANAGING THE SOCIO-ECONOMIC COMPONENTS OF THE  
NATIONAL HEALTHCARE SYSTEM**

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**Abstract**

Strategic management is one of the main tools widely used by the national economics. Nevertheless, the use of strategic management in Ukrainian healthcare system is limited by many factors one of each is a lack of understanding the necessity of this tool and a lack of will to change this socio-economic sector in Ukraine on the principles of effectiveness.

This article is focused on forming theoretical and methodological basis for use of strategic management in the national health care system.

**Key words:** strategic management, health care, healthcare system, medical institution.

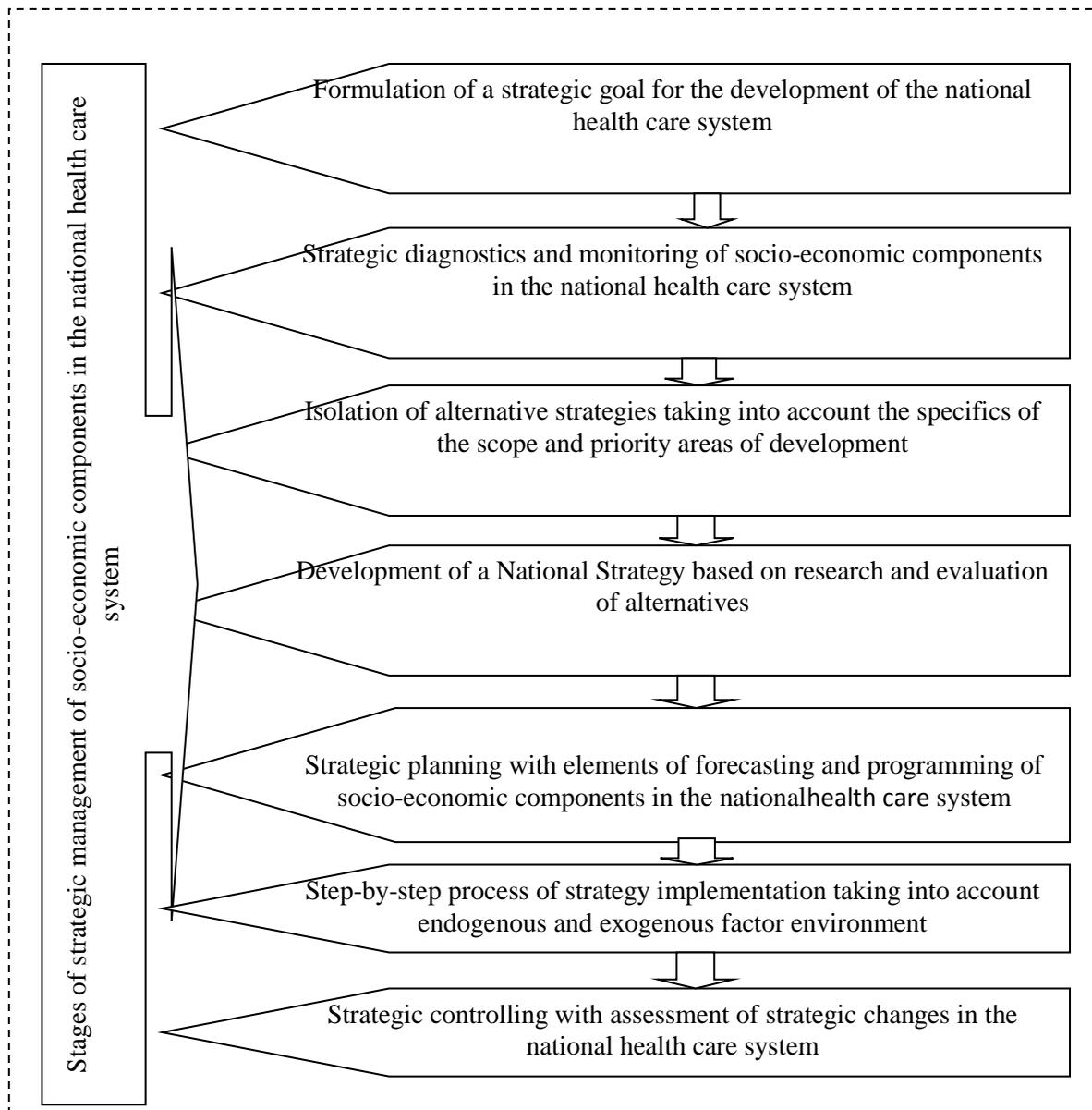
**I. Introduction**

Current global trends in the development of management processes in the healthcare field prove the need for fundamentally new approaches to strategic planning and organization of

medical institutions, built on finding the optimal ratio of available resources and potential of the medical institution. Although the manifestations of globalization in the Ukrainian medical services market have not yet reached the global scale, and the market itself is in its infancy, European integration processes and strengthening international cooperation are becoming a driving force that encourages domestic medical institutions to use innovative methods and technologies of strategic management. In a market economy and in the context of medical reform, medical institutions in the status of municipal non-profit enterprises should conduct strategic planning of their activities, focusing on obtaining positive financial results, which should be a source of development and reproduction of medical institutions. According to the terms of health care reform, as a result of autonomy processes, medical institutions are transferred to the status of municipal non-profit enterprises, and their leaders are managed by independent organizations that need to learn to manage. Given this, the use of strategic management methods and technologies should become an effective tool to help health care managers adapt to new socio-economic changes.

## **II. Theoretical and methodological basis for strategic management in the national healthcare system**

The effectiveness of the elements of strategic management depends on the optimal ratio of basic components, a clear relationship between the subjects of the developed strategy and control. The sequence of stages of strategic management of socio-economic components in the national health care system, which emphasizes the process of isolating certain stages, is presented in Fig. 1.



**Figure 1. The sequence of stages of strategic managing the socio-economic components in the national health care system**

Each of the presented stages of the phased process of strategic management of socio-economic components in the national health care system can be detailed under the influence of the factor environment, which provides an opportunity to increase the effectiveness and timeliness of strategic decisions in the implementation of current tasks.

According to some scholars, strategic management is a dynamic and consistent set of five interdependent management processes, namely: environmental analysis; definition of mission and goals; strategy choice; strategy implementation; evaluation and monitoring of implementation. On the other hand, the basics of strategic management are: analysis of the external environment of a certain structure; internal diagnostics (assessment of strengths and weaknesses) of the

organization; definition of mission and goals; development, evaluation and selection of alternative strategies for specific subsystems of the organization; development and detailed definition of corporate strategy as a program of specific actions and activities; strategy implementation [2].

It is necessary to note, that each of the studied stages of strategic management of socio-economic components in the national health care system is supplemented and adjusted in the implementation process, taking into account the changing environmental factor and changing current goals and objectives.

In addition, the optimal connection of all stages increases the overall efficiency with a high degree of efficiency in the use of resource potential in achieving the strategic goal.

Strategic management must meet not only the modern conditions of use of methods and tools, but also be aimed at increasing the competitive position of the national health care system. The prevalence of globalization, including in the medical field, reveals both opportunities and threats to the national system, which in turn requires permanent control over certain stages with a clear definition of stakeholder groups and responsible institutions. It should be noted that strategic diagnosis and monitoring of socio-economic components in the national health system should provide an appropriate information and analytical basis for the formation of the optimal opportunity to develop and select the most effective strategy, the implementation of which will solve the tasks associated with providing the population of quality medical services.

The selection of alternative strategies, taking into account the specifics of the scope and priority areas of development provides an opportunity to determine effective and optimal strategic directions for the functioning of the national health care system. This approach is the basis for developing a National Strategy based on research and evaluation of existing alternatives.

At the state level, this strategy should include a process of addressing the most important issues related to public health and improving relevant indicators of the functioning of the health care system, taking into account the positive experience of European countries.

Among the basic and priority issues of the National Health System Strategy are:

- Application of the principle of human-centeredness in the national system;
- Reduction of mortality, disability, infectious diseases;
- Growth of indicators of health, satisfaction with medical services, well-being and socio-economic support of medical workers, as well as the level of legal protection of patients;
- Financing of the health care system, taking into account micro-, meso- and macro-level functioning;
- The most efficient use of human resources, involvement of free economic zones and colleges in the staffing of relevant medical structures of various levels and specializations, prevention of migration of medical workers, which is needed in our country.

It is important to note that the problem of migration of medical workers has arisen for a long time and needs immediate solution precisely because the state is gradually losing its specialists, professionals, most narrow specialists, as well as junior medical staff, which are so necessary for our health care system. The main reason for this process is low motivation, both material and moral, low levels of well-being and social security. This problem needs to be addressed immediately, the neglect of which can lead to certain collapses of medical institutions and a significant reduction in the quality and quantity of medical services.

The socio-economic components of the national health system are fundamental to the most effective process of developing and implementing a development strategy within the governance mechanism. The development of the optimal strategy is carried out taking into account the complex influence of endogenous and exogenous factors through the formation of a complex system of actions of the respective groups, which provides a purposeful solution of current, tactical and strategic tasks.

At the same time, the process of building a strategy in the national health care system is, first

of all, the choice and separation of measures and actions of interconnected structures and institutions, which in a certain format should solve important socio-economic problems and tasks to improve quality, accessibility and level of medical services for all groups of the population, regardless of the regional aspect.

The analysis of the dynamics in the health care system is carried out on the basis of modern methods and approaches, taking into account industry characteristics and specific features of the functioning of certain components. Based on the detailed analysis, priority strategies for the development of the health care system are developed within the established management objectives. This takes into account the variability of strategic approaches and directions, as a result of which it is possible to obtain an optimal implementation plan that will take into account the principles of strategic management, the principles of balanced resources in the health system and the relationship of basic elements.

The choice of the most effective strategy depends on both systemic and random endogenous and exogenous factors that require analysis and adequate assessment. In turn, the possibility of implementing basic strategies with the improvement of tooling increases the effectiveness of strategic planning. The phased implementation of the strategic plan in the health care system should be carried out with the optimal implementation of measures in accordance with the developed plan. It should be noted that regular monitoring of the implementation of the strategic plan will provide an opportunity for ongoing adjustment to improve and take into account the impact of internal and external factors.

We emphasize that the programming methodology is based on the mechanism of correlation and coordination of interests of certain groups of stakeholders through market and non-market levers, as well as focused on the strategic development of socio-economic relations in the health care system.

The study confirms that programming within the framework of strategic planning is carried out taking into account certain levels, namely:

- At the micro level through programs for the development of business units with the help of

optimal tools;

- At the meso level with the help of strategic programs of innovative development and introduction of modern technologies in medicine, taking into account budget plans, as well as the subject direction of industries and regions;

- At the macro level in the form of programs and budget plans developed by the relevant institutions, taking into account territorial features and specifics of regional development.

Mandatory comprehensive information and analytical support of certain functions of strategic management, aimed at ensuring the effectiveness of strategic management institutions to implement strategic goals in the national health system, which are aimed at sustainable development of the entire system, and obtain the necessary information to adjust measures and strategic objectives.

The information support of the strategic management system in the national health care system consists of standard segments, which contain performance estimates based on a comparison of the actual performance of basic facilities with established standards, which can be adjusted under the influence of factor changes. In turn, indicators in the form of absolute and relative indicators provide optimality and clarity of the received information for the purposes of strategic management.

The formation of databases is also carried out on the basis of assessing the effectiveness of socio-economic, socio-medical nature, which depends on the chosen mechanism for building a management system.

It is noted, that the formation of information and analytical assessments based on the results of statistical modeling of real processes using economic and medical-mathematical modeling with the construction of optimal simulation objects, as well as the implementation of indicators of dynamics of certain socio-economic components taking into account the influence of factor environment and internal relationships of the national health care system.

To build an effective system of information and analytical support of strategic management, it is possible to use methods and approaches of diagnosis and monitoring, which are a set of permanent procedures and actions aimed at identifying, grouping, systematizing, analyzing, storing and transmitting relevant information on socio-economic and other components of the national health care system. For optimal design and effective use in the national health care system, it is possible not to create a special institution, but to clearly define the functional responsibilities and priorities of existing government agencies, taking into account the methodology of strategic management.

We emphasize that the strategic management of the socio-economic component in the national health system can be represented as a rational system of regulation of socio-economic processes through the coordinated activities of relevant institutions during the implementation of relevant stages, starting with strategic planning and achieving strategic goals. taking into account control and diagnostic measures and corrective actions of operational and tactical nature.

Among the basic and corrective stages of strategic management of the socio-economic component in the national health care system are the following, namely:

- Strategic forecasting and programming;
- System strategic analysis;
- Step-by-step strategic planning;
- Implementation of strategies based on the organization of permanent control measures;
- The relationship between the relevant management;
- Current adjustment of actions and methods;
- Obtaining the results of strategic management in compliance with the mission and strategic goals.

The analysis of research confirms the fact that an important and basic stage of strategic management of the socio-economic component in the national health care system is strategic forecasting and planning, which form a balance of potential opportunities and needs taking into account the strategic goal. Strategic forecasting and planning should be based on the construction of a conceptual model of task-potential-result, which provides variability and effectiveness of the results of each stage of strategic management based on the development of strategic programs and plans of long-term and current nature.

The choice of strategy for the development of certain components in the national health care system is based on informed decisions on the choice of the optimal information model of the object of management with the establishment of relationships between management and elements of the factor environment. In addition, strategic planning formulates targets for performance by levels and areas, as well as specifies the implementation of sectoral policies in the health care system, using systematic and semantic approaches.

The process of implementing strategies is based on the implementation of real programs that are efficient and effective within the established management system of the respective facilities.

To obtain feedback on the process and results of strategy implementation and the level of effectiveness of strategic management in the health care system, an important step is the introduction of strategic controlling with a detailed assessment of strategic changes in the national health care system. The functioning of institutional controlling is carried out through the relationship of the subjects of appointment, conduct and evaluation, which provides an opportunity to objectively assess the degree of achievement of objectives and the effectiveness of the use of resource potential. Institutional controlling uses system tools that contain appropriate control methods, principles, levers, measures and actions aimed at solving the tasks and objectives of controlling.

We emphasize that the implementation of certain control actions after each stage of strategic management provides adjustment of actions and mechanisms to increase the efficiency of resource use and adequate response to changes in the factor environment. The timely detection and assessment of endogenous and exogenous factors makes it possible to balance needs and

resources with mandatory compliance with the deadlines for organizational and procedural stages of strategic management in the health care system.

### III. Conclusion

Thus, the definition of the main stages of strategic management of socio-economic components in the national health care system ensures the optimal process of achieving strategic goals and objectives. Isolation and evaluation of the effectiveness of each stage provides an opportunity to optimize the level of resource security and balance the needs and capabilities of the management system, through the perfect construction of direct and inverse relationships of endogenous and exogenous nature.

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**THEORETICAL AND METHODOLOGICAL APPROACHES TO MODELING  
INDICATORS OF ECONOMIC SECURITY ASSESSMENT IN THE PUBLISHING  
INDUSTRY**

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**Abstract**

The article considers methodical approaches to modeling indicators of economic security assessment in the publishing industry. A comprehensive multilateral study of the impact of qualitative and quantitative components of the intra-industry environment, processes and conditions of mobilization of innovation and investment sources to increase and improve the system of indicators of economic security of the publishing industry based on typological features and taking into account intra-industry economic imbalances. These processes provide optimal instrumental support for assessing the mechanism of economic security of the publishing industry in terms of structural and functional changes in the intra-industry environment. It should be noted that the process of modeling indicators of economic security assessment in the publishing industry allows timely detection and elimination of negative consequences with the consistent formation of the mechanism of economic security in the intra-industry environment.

**Keywords:** economic security, publishing industry, system approach, macroeconomic environment, intra-industry system.

**Formulation of the problem**

In today's conditions, there are various tools for research and improvement of the structure of economic systems in the publishing industry, which does not have a general methodological unity, but reflects some aspects and aspects of the studied subsystems and can be used for different purposes.

**The purpose of the study:** is to substantiate and analyze the theoretical and methodological approaches to modeling indicators of economic security assessment in the publishing industry.

### **Introduction**

A significant contribution to the study of the problem of economic security of the state and entrepreneurship was made by domestic scientists: O. Arefieva, V. Geets, Z. Gerasymchuk, V. Dukhov, M. Yermoshenko, J. Zhalilo, S. Zlupko, T. Kuzenko, O. Kuzmin, A. Kirienko, T. Kovalchuk, B. Kravchenko, M. Lesechko, E. Maslennikov, L. Melnyk, I. Mikhasyuk, S. Mocherny, V. Muntian, N. Nyzhnyk, Y. Safonov, G. Sytnyk, A. Revenko, O. Tereshchenko, S. Shkarlet, V. Shlemko, V. Yarochkin and others. Despite the importance of research by a significant number of scientists on this multifaceted and complex issue, many aspects have not yet been clarified or resolved.

### **Presenting the main material**

The following main directions are distinguished in modeling:

- Economic-mathematical modeling, which combines different approaches, ranging from mathematical multilevel systems for modeling management decisions and ending with the simulation of management and development of the economic system, as well as a formal description of information-analytical and management relationships;
- Structural and naturalistic modeling of the behavior of objects, both in real conditions and in the laboratory, for example, the study of management style, role-playing management games, etc.;
- Use of economic and statistical methods for empirical analysis of the parameters of the economic system on the basis of sample surveys of its objects.

A model is a visualization of an object, a system, or a concept in some abstract form that allows for appropriate research. In general, any model has the following structure:

$$N \longrightarrow X, F \longrightarrow P, \text{ where}$$

- N – the set of input variables of the economic system;
- P – the set of output variables of the economic system;
- X – set of parameters of the economic system;

– F – function, functional, algorithm or formal representation of the dependence of variables P on variables N in the economic system.

The modeling process in the publishing industry is built using:

- An integrated approach in the formation of a set of indicators that affect the economic security of the industry;
- Qualitative approach in the implementation of expert qualitative assessment in the economic system;
- Normative approach in determining the optimal values of economic security indicators in the publishing industry;
- Quantitative approach in the formation of methodological support for the process of assessing economic security in the publishing industry.

The purpose of modeling indicators of economic security assessment in the publishing industry is to find effective regulatory influences in the intra-industry environment, which will help create an effective system of economic security in the industry and will provide an opportunity to timely identify negative phenomena, actions, processes and other threats to production, economic and socio-economic interests of the publishing industry. The modeling system must prevent losses in the intra-industry economic environment. The modeling will allow to determine the main characteristics and results of the implementation of intra-industry management policy and to search for priority management solutions to meet the modern needs of consumers of publishing products, taking into account the economic security of the industry.

In the context of the formation of the mechanism of economic security of the publishing industry, it is necessary to explore the following aspects:

- Structural and functional, which reflects the structure and functions of subjects at the micro, meso and macro levels; the main segments are the structure of the intra-industry environment, the functional relationships between the subjects of the publishing industry;
- Functional and production - reflects the specialization of individual business operations and production cycles in the domestic environment; the main segments are functions, operations and production cycles;
- Production and technological, which reflects the production processes in the intra-industry environment; the main segments of operational processes and the relationship between them;

- Information-analytical, which reflects the relationship between sources and consumers of analytical information in the publishing industry; the main segments are the sources of analytical information and its stakeholders, as well as the links between them;

- Information technology - visualizes the processes of formation and processing of information, the formation of management decisions, which allows purposefully, systematically and quickly respond to change in the environment; the main segments are the processes of technological information processing and the relationship between them;

- Managerial, which characterizes the system of intra-industry management, the composition of its bodies and facilities, managerial subordination; the main segments are business units and intra-industry subordination.

The main aspects of the description of the system of economic security in the intra-industry environment of the publishing industry are interrelated.

When describing them, it is possible to use the proposed tools and their combinations, which will ensure acceptable adequacy of the model in terms of requirements defined by the specific task and the purpose of modeling in the formation of economic security in the publishing industry.

We agree that the assessment of the economic security of the national economy should be based on a multi-criteria statement, as the application of the established parameters allows for a comprehensive study of the object. In order to conduct scientific and methodological research, it is proposed to use multifunctional indicators, which are formed according to the relevant content: financial; economic; social; production; energy; investment; innovative; demographic; food; foreign economic [1].

Modeling is an important form of cognitive in economic activities of the publishing industry, which allows you to explore the possibility of implementing the same function by different internal segments. However, the main advantage of the models is the ability to predict the state of the relevant economic system.

When modeling indicators of economic security assessment in the publishing industry, it should be remembered that the activities of economic entities in the publishing industry are focused on the systematic development of business, which encourages them to use new approaches to organizational, creative and operational activities of publishers. The activities of economic entities in the publishing industry are aimed at preparing and launching competitive

publishing products on the consumer market, optimizing management processes, which will increase productivity in the intra-industry environment.

The scheme of the process of modeling the impact of the external environment on the publishing industry is visualized in Fig. 1.

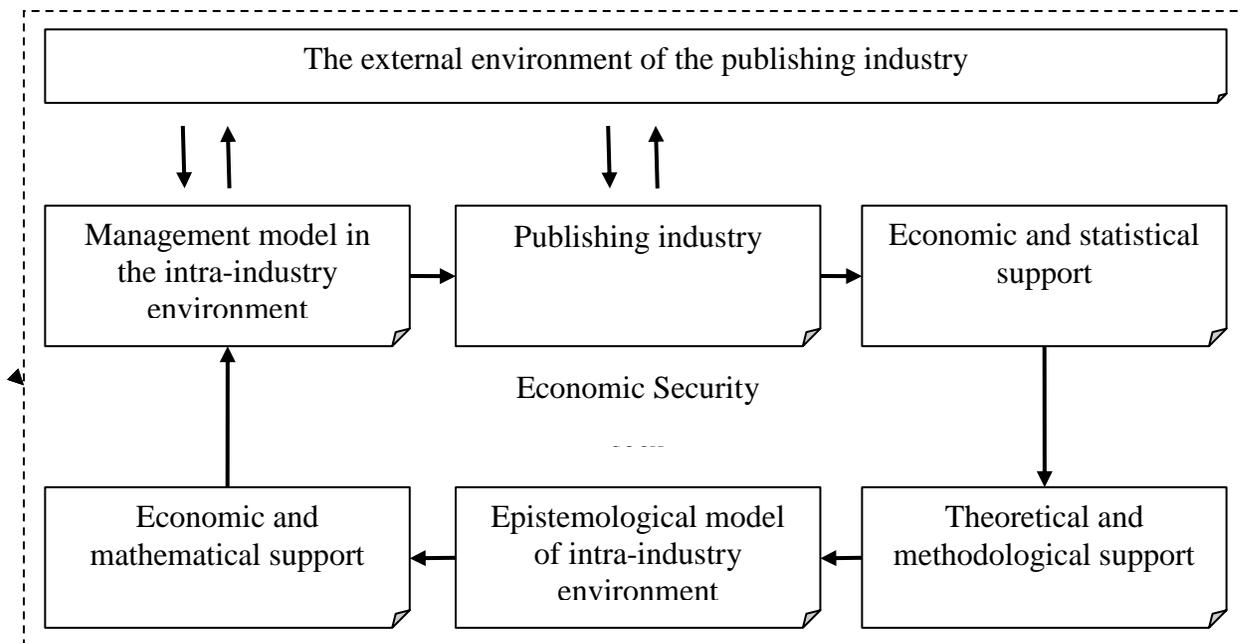


Fig. 1. Scheme of the process of modeling the impact of the external environment on the publishing industry

Modeling in the publishing industry can be divided into two groups. The first group is characterized by formal modeling of the economic system using economic and mathematical methods in various aspects without the use of formalization of both the structure and the complex of relations between the subjects of the intra-industry environment. The obtained results are used as an additional criterion in making intra-industry management decisions.

The first group includes models of management decisions and information flows, which are formed by individual tasks of intra-industry management and can be considered as systems of models that are mono- and multilevel.

Instrumental support of this group are: methods of mathematical programming (linear, nonlinear, discrete, dynamic), compositional and decomposition algorithms, network models, game theory, reference estimation, game simulation, etc. A large list of research methods of intra-industry operations and their application provides a basis for streamlining the processes of intra-industry management, improving the production and technological structure of individual business units in the publishing industry.

Information-analytical models are built on the principle of minimizing the total cost of transmission of analytical information on processes in the intra-industry environment, if it fully provides all stakeholders. This formulation of the problem identifies the structure of the system with the structure of its information-analytical component, which is justified for conservative functions in the system of intra-industry management, when the quality of the results is determined by the cost of information about the object.

Note that when solving the tasks by the proposed method, compact information models are formed using the principle of minimizing communication links in the intra-industry environment. The integrated information-analytical model sets tasks for the development and implementation of a data processing system with the simultaneous rationalization of the structure based on the separation of routine and creative management decision-making procedures.

The second group is characterized by the use of fully or partially formalized model of the structure of the intra-industry environment, which allows you to directly use in practice the results.

The models of this group allow us to study the relationships and relations between the individual subjects of the intra-industry environment of the publishing industry. The model of production-technological relationships is based on the assumption that at the grassroots level of intra-industry management the decisive factor influencing the structure is the nature of operating technology, which indirectly affects the level of economic security of the entity and the publishing industry as a whole. The links between production and technological processes in the publishing industry are different:

- By types - general, consistent and multilateral;
- By intensity - strong, medium or weak.

The functional-managerial relationship model allows stakeholders to estimate the intensity of relationships between functions performed by in-industry management personnel on a scale that ranges from a very strong relationship to a relationship between functions is undesirable. The causes and factors that lead to the relationship in the appropriate environment are also diagnosed. We will note that by means of procedures of formalization options of assignment of functions on economic units of publishing branch, including their specialization are analyzed.

This model is used to study complex functional and organizational-technological relationships, as well as to justify the intra-industry structure or its rationality.

The model of factor statistical analysis is focused on the study of the goals of the publishing industry, which determines the list of basic functions and tasks in the system of intra-industry management. This model is used when the composition and characteristics of businesses and consumers of publishing products (services), so it is used to redistribute intra-industry functions and tasks, as well as to adapt the internal industry environment to external conditions under the influence of unpredictable processes, actions and more.

The study of economic and mathematical instrumentation has shown that the most adequate for the tasks of the mechanism of economic security of the publishing industry is dynamic modeling based on methods of algorithmic description. The main advantages of this modeling are:

- Methods of dynamic modeling allow to identify the root causes of negative trends even before the manifestation of their full-scale negative impact on economic security in the publishing industry;
- In these models and algorithms current processes are investigated that gives the chance to diagnose in real time influence of external negative phenomena, processes or actions;
- The obtained results allow to make sound intra-industry management decisions, and implement them in the appropriate purposeful sequence and hierarchy.

We agree that the application of a dynamic approach in the formation and calculation of the level of economic security in the publishing industry allows to group a wide range of indicators by main functional components and operating index indicators allows to calculate and analyze the index of economic security of certain indicators, components of economic security and economic security and comparing these indicators for a certain period to assess the direction and dynamics of the industry, changes and dynamics of its economic security [2].

Dynamic models characterize the economic security of the publishing industry in dynamics, and the model itself consists of lag endogenous variables. The dynamic model not only reflects the dependence of intra-industry variables on time, but also takes into account their relationship over time.

Dynamic models are divided into continuous - if the change of the variable is continuous, and discrete - if the change of the variable occurs at some special time, and at other times remains unchanged. Discrete systems are divided into deterministic - if the change of a variable at special moments of time is quite predictable, and stochastic - if the change of a variable is known with

some probability [3].

Thus, the economic-mathematical model will adequately assess the existing systems of criteria and parameters of economic security of the publishing industry and should have the following features:

- Complexity, the need for analysis and accounting of all aspects of the object of intra-industry research;
- Systematic, accounting for relationships and interdependencies;
- Multivariate identification and justification of several options for ensuring the required level of economic security in the publishing industry;
- Acceptable risk, namely identification and implementation of available measures to prevent the occurrence of crisis phenomena (situations).

Note that the functioning of the publishing industry in terms of external factors is constantly in danger of disruption or deterioration of the socio-economic situation due to changes in input and output flows, which are unpredictable in the economic environment.

The risks of adverse events in the publishing industry of the national economy are an important issue in modern publishing and a basic parameter for the realization of danger in business entities. The set of measures aimed at addressing these issues in the European vector of development of the national macroeconomic environment is not effective enough due to many problems related to technical, technological, financial, economic, resource and social capabilities of publishing entities, as well as difficulties in assessing and forecasting of certain economic processes in conditions of uncertainty, namely with inadequate information and analytical support [4].

The research confirmed that balanced socio-economic achievements in the publishing industry are manifested through socio-economic indicators that reflect the dynamics of the level of use of the relevant results of the intra-industry environment and stakeholders in general and individual groups.

Modeling of indicators of the economic system is associated with the selection of certain factors that affect the functioning and development of the intra-industry environment. The structuring of the factor intra-industry environment is carried out using a vector that takes into account the positive, negative, controlled and uncontrolled factors influencing the economic system of the publishing industry.

An important stage of modeling in the formation of the mechanism of economic security in the publishing industry is the calculation of indicators that help assess the factor environment and enable optimal response to possible changes in the intra-industry economic system.

The first indicator of the modeling system in the formation of the mechanism of economic security in the publishing industry is an indicator of the level of planning the impact of controlled and uncontrolled factors on the economic system of the intra-industry environment. The indicator is calculated as follows:

$$H_{nl} = \frac{\sum_{i=1}^n \sum_{j=1}^n Z_{\Pi K_{ij}} + \sum_{i=1}^n \sum_{j=1}^n Z_{\Pi H_{ij}}}{\sum_{i=1}^n \sum_{j=1}^n Z_{K_{ij}} + \sum_{i=1}^n \sum_{j=1}^n Z_{H_{ij}}} * K_r, \quad (1)$$

$H_{nl}$  – indicator of the level of planning the impact of controlled and uncontrolled factors on the economic system of the intra-industry environment;

$Z_{\Pi K_{ij}}$  – the planned number of controlled factors influencing the economic system;

$Z_{\Pi H_{ij}}$  – the planned number of uncontrolled factors influencing the economic system;

$Z_{K_{ij}}$  – the number of controlled factors influencing the economic system;

$Z_{H_{ij}}$  – the number of uncontrolled factors influencing the economic system;

$i$  – the number of functional strategies for the development of the economic system;

$j$  – the number of stages of strategic development of the economic system;

$K_r$  – adjustment factor that takes into account the state of the intra-industry environment in transformational conditions.

The second indicator of the modeling system in the formation of the mechanism of economic security in the publishing industry is the indicator of regulation or controllability of the appearance of controlled and uncontrolled factors  $H_{PK}$ , which is calculated by the formula:

$$H_{PK} = \frac{\sum_{i=1}^n \sum_{j=1}^n Z_{HK_{ij}} + \sum_{i=1}^n \sum_{j=1}^n Z_{HH_{ij}}}{\sum_{i=1}^n \sum_{j=1}^n Z_{K_{ij}} + \sum_{i=1}^n \sum_{j=1}^n Z_{H_{ij}}} * K_r, \quad (2)$$

$Z_{K_{ij}}$  – the number of controlled factors influencing the economic system;

$Z_{H_{ij}}$  – the number of uncontrolled factors influencing the economic system;

$Z_{HK_{ij}}$  – unplanned number of controlled factors influencing the economic system;

$Z_{HH_{ij}}$  – unplanned number of uncontrolled factors influencing the economic system;

$i$  – the number of functional strategies for the development of the economic system;

$j$  – the number of stages of strategic development of the economic system;

$K_r$  – adjustment factor that takes into account the state of the intra-industry environment in transformational conditions.

Note that the uncontrolled factors influencing the economic system include those factors that the economic system can only try to indirectly influence, but can not manage them (the number and structure of consumers of publishing products, their habits, traditions, consumer behavior, decision-making mechanism ; competitive environment; national, regional and territorial governments, their policies and decisions; general macroeconomic, political, cultural situation and segmental security in the country, etc.) Uncontrolled factors that affect the economic security of the publishing industry must be diagnosed and investigated.

Controlled factors influencing the economic system, in turn, are divided into two major groups: factors that are controlled at the macro level of the intra-industry environment, and factors that are controlled at the micro level of the publishing industry.

In determining the level of planning and regulation of controlled and uncontrolled factors influencing the economic system of the intra-industry environment, it is necessary to carry out their structural and substantive study, which is necessary to form reserves to improve the mechanism of regulating economic security of the publishing industry, as well as management and networking in the intra-industry space.

Thus, methodological approaches to modeling indicators of economic security assessment in the publishing industry provide a comprehensive multilateral study of the impact of qualitative and quantitative components of the intra-industry environment, processes and conditions of mobilization of innovation and investment sources to increase and improve the system of indicators of economic security of the publishing industry based on the selection of typological features and taking into account intra-industry economic imbalances.. These processes provide optimal instrumental support for assessing the mechanism of economic security of the publishing industry in terms of structural and functional changes in the intra-industry environment. It should be noted that the process of modeling indicators of economic security assessment in the

publishing industry allows timely detection and elimination of negative consequences with the consistent formation of the mechanism of economic security in the intra-industry environment.

The use of system tools is the basis for the construction of conceptual and simulation models in the system of intra-industry economic security. Therefore, an effective tool in the process of forming the mechanism of economic security of the publishing industry is the model, which should take into account the properties of intra-industry processes, objects and entities, and adapt to a fluid controlled and uncontrolled factor environment, avoiding instability and turbulence.

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