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**ECONOMIC PROCESSES IN SAFETY
MEASUREMENT**

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The monograph covers the theoretical and methodological foundations of the formation of economic security system and the determinants of its development. Special attention is paid to the influence of geoeconomic factors on the country's economic security in the conditions of globalization and the elimination of the negative impact of world crises on the economic security of Ukraine. The monograph provides a thorough analysis of the international policy of ensuring national security in the context of economic and social aspects. The problem of economic security of regions and economic entities is investigated.

The monograph is intended for scientists, lecturers, civil servants, specialists, managers of enterprises and financial institutions, teachers, postgraduates, students, as well as a wide range of readers who are studying national economic security problems.

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INTRODUCTION

The modern economy of the country is in a situation of constant changes of the external and internal environment under the influence of economic and political factors. This instability requires the state, society, business entities to search not only ways to adapt to changing conditions, but also the introduction of proactive measures to ensure the country's economic security.

The urgency of this problem is increasing as a result of the acceleration of the globalization of the world economy and the constant participation of Ukraine in these processes, especially those related to its accession to the associate membership with the European Union.

In today's conditions, the issue of the internal regional economic security of Ukraine is intensifying in connection with the aggravation of the political situation in the country. These problems require revision of existing concepts of economic security and improvement of the priority ways of ensuring it.

In the context of accelerated globalization, aggravation of contradictions in various spheres of human activity, international competition and competition in national markets, increasing the number of natural disasters, catastrophes and man-made accidents, the importance of ensuring security in general and economic security, in particular at all levels, is increasing.

The stable development of the national economic system is inextricably linked with the country's economic security. Economic security is a multidimensional phenomenon, and its state is dynamically changing. Economic security of the nation in today's conditions becomes one of the main problems that requires attention and careful study of specialists of different profiles.

The current state of development of the national economy is characterized by the presence of a significant number of factors that negatively affect the functioning of the state, regions, enterprises, organizations, institutions. The study of the composition of these factors and their impact on the state of economic security of the state as a whole and various objects of the economy is of interest to researchers. Despite the large number of publications, there remain many unresolved issues in the management of economic security, which is protection against threats both at the state level and at the level of economic entities.

Issues regarding the definition of the essence of the category of economic security, the list of its structural subsystems and elements that significantly affect its status and determine the country's development prospects remain insufficiently settled.

The problem associated with the impact of globalization and regional factors, including transboundary importance on the level of economic security of the country, is not fully explored. The current state of the methodological foundations for securing the hierarchy of economic security is not perfect, but the accumulation of knowledge, the appearance of official documents and methodological recommendations for calculating the level of economic security in Ukraine testify to the urgency of both theoretical and methodological research as well as applied aspects of ensuring economic security .

The presence of regional disproportions in socio-economic development, the strengthening of the disintegration of the country's economy, and the imperfection of the mechanisms for managing regional development raises complex challenges for the further evolution of the scientific foundations of the territorial organization of the economy, which would meet the needs of a new period of development and modernization of the socio-economic system of Ukraine. Modern challenges call for a reassessment of the traditional principles of the economy and the development of new ones, which are primarily concerned with spatial development of the economy and its system organization in market conditions, creation of real prerequisites for ensuring economic security and sustainable development of the Ukrainian economy and conditions of turbulence of the environment.

Economic globalization is an objective stage in the development of the world economy, has both positive and negative consequences, which collectively form the source of the threat to the security of the balance of economic systems. In this regard, the presence of threats and risks leads to the expediency of introducing a relatively new category of "global economic security" into scientific circulation and the development of models and practical measures that contribute to ensuring this component of the economic security system.

In Ukraine there is no clear program for solving existing problems in the innovation and marketing sphere of the national economy. In fact, there is no

coordination and interconnectedness of measures to form a national strategy for economic development in a globalized world.

In conditions of global economic crises, the probability of their negative impact on the development of individual countries of the world, which are active participants in world economic processes, is growing. In order to identify trends in the dynamics of GDP changes in individual indicators for their further consideration in anti-cyclical regulation with the help of the econometric basis in the monograph, their interdependence is determined.

The neural model of forecasting developed based on real information takes into account the influence of internal and external changes on the domestic economy, confirms the possibility of their application for system analysis, forecast and quantitative assessment of the impact on the main macroeconomic indicators in terms of uncertainty, asymmetry of information and possible changes in economic development trends.

The urgency of the issue of state regulation of the social orientation of the economy increases in the current conditions of the economic crisis, which negatively affects the economic activity and the welfare of the population in the medium and long-term.

Foreign experience of the leading countries of the world proves the expediency of increasing the role of the state, specifying its functions in the implementation of social policy and expanding the range of economic socialization. The experience of solving the problems of national security in all its components, accumulated by the developed countries of the world, promotes the efforts of other states to develop and implement their own national security concepts and strategies, aimed at the reliable protection of national and economic interests.

During the years of independence, the state policy in Ukraine in the area of energy intensity of the economy was generally rather marketable and unsystematic. Because of this, despite a significant reduction in the energy intensity of GDP (almost three times), Ukraine continues to lag behind developed countries significantly behind these indicators. Therefore, the introduction of energy saving and the widespread use of renewable energy sources is an important condition for the transition of Ukraine's economy to the low carbon develop-

ment path. The solution to this problem has become a major task for improving the competitiveness of the country's economy.

Between investments and economic threats, in practice, there are direct and inverse relationships. The emergence of economic threats in the economic sphere, on the one hand, holds back the flow of investments that are being directed there, and on the other, contributes to the intensification of new investments that can neutralize this type of economic threat. In this sense, we can talk about structural shifts in investment capital and the change in the share of public and private investment in the relevant industry. Actuality obtains an estimation and forecasting of the investment vector-structure of the domestic economy.

The main condition for stable economic growth of the country and the preservation of economic security is the dynamic growth of investment potential. It is volumes, structure and efficiency of investments that determine the results of business entities, prospects for their development, as well as the level of competitiveness of the economy as a whole.

Countries that will not be able to create opportunities for effective innovation will risk hopelessly lagging behind in competitiveness and security issues, both in economic and social development, because today's security depends on its intellectual and investment-innovation potential.

The state should develop a system of policy support for innovation in the real sector of the economy, to find mechanisms for influencing the market, which will stimulate the business to finance and implement new technologies (production, management). The use of new technologies involves an exit to a new level of security, which is accompanied by environmental and reliability requirements.

Improving the existing model of the innovative economy, taking into account the current features of the state regulatory system, the state and capabilities of the manufacturing sector, the high level of requirements and needs of consumers, dynamic and irreversible processes of globalization is possible only if the actions of all participants in this process, including the state, are combined. That is why the interaction of the subjects of innovation development is proposed to be based on the principle of innovative partnership, which is a logical continuation of the social and investment partnership.

Public-private partnership in the innovation-investment sphere is considered as new technologies of economic development and is a peculiar determinant of innovation and investment security of the national economy.

The modern system of international security is in the process of deep transformation, being under the influence of globalization processes. As a result, fundamentally new features of the world order are formed, and international processes are manifested in the form of contradictory tendencies, and new challenges and threats to international security are constantly emerging.

The dynamism of the changes taking place in modern society and the modern world directly influences the state of national security of Ukraine, forcing the society, scientists and practitioners to find adequate solutions to new challenges and threats.

The monograph "Economic Processes in the Security Dimension" represents a fundamental scientific work, which is based on the research of researchers in the field of economic security, which have been tested in textbooks and scientific publications in recent years and are aimed at deepening the theory and methodology of economic security of Ukraine at different levels of management.

The team of authors expresses its gratitude to the General Director of the European Business Assembly (EBA) prof. John A. Netting (UK), to individual members of the EBA Board of Directors – Anton Savvov (Ukraine), Ivan Savvov (Great Britain) for contributing to the preparation of monograph materials and working with regional partners, which is a permanent interactive platform for international economic, academic and intercultural cooperation with Ukraine.

CHAPTER 1 THEORETICAL-METHODOLOGICAL BASES OF FORMATION OF THE SYSTEM OF ECONOMIC SECURITY

1.1. System analysis of economic security research

The possibility of socio-economic development and the growth rates of national economies directly depend on the state of economic security. As the world experience shows, ensuring economic security is a guarantee of independence of the state, a condition of stability and effective functioning of society. Economic security is a kind of component of national security and at the same time belongs to the system of categories of economic theory. In the scientific circulation in Ukraine, this definition came about a little over ten years ago, which is a rather short time for its comprehensive theoretical and methodological analysis. This is evidenced by scientific contradictions, which are due to the lack of a unified approach in understanding the nature and essence of economic security, in developing and mastering effective ways and means of preventing threats and ensuring the stable development of the country's economic system. Therefore, the development of fundamental and scientific-applied problems of economic security expresses not only the demand of economic theory, but also the need for economic practice.

Despite the relative novelty of the theory of economic security and the issues of its provision have a long history of socio-economic theoretical and methodological research.

Today, economic security means the state's ability to protect the national economic interests from external and internal threats, to pursue the progressive development of the economy in order to maintain the stability of society and sufficient defense potential in all conditions and variants of development of events [1, c. 13].

For the first time, the solution to the problem of ensuring economic security, within the national framework, arose in the United States in the 1930's. Its relevance was conditioned by the redistribution of raw materials markets, the intensification of competition in world markets, and the monopolization of domestic markets. This period is associated with the First World War and the Great Depression. In 1934, US President F. Roosevelt formed the Federal

Committee on Economic Security, and in 1935 - the Office of Social Security. In the same year, laws were adopted on the economic security of the person and social protection of the population.

It should be noted that in the former Soviet Union, from the moment of its creation, special attention was paid to certain aspects of security. First of all, it is about ensuring the country's defense capability. In the economic sphere, security issues were considered mainly in the field of foreign economic activity or economic crime. Therefore, in the early 1990s, the issue of economic security was particularly relevant for those post-socialist countries whose economies were undergoing a transformation period of their development. New landmarks, ways and means of forming a fundamentally different model of national economic security became necessary. These problems were first considered in 1994 in the publications of Abalkina L., Arkhipova A., Gorodetsky A., Mikhailova B., Senchagova V. and others.

At the same time in Ukraine, G. Pasternak-Taranushchenko initiates the science of the economic security of the state - ecosystems (economic security of state), which is based on the theory of potential conflicts, which implies that the emergence of a new independent state in the arena of the world economy at the same time gives rise to its conflict with other states [2].

O. Baranovsky, A. Baland, V. Begm, Z. Varnalia, A.Vlasyuk, A.Galchinsky, O.Gordienko, B.Gubsky, V.Heyets, M.Yermshenko, I Zhalyla, S.Kireyeva, S.Kyrylenko, V.Kyrylenko, S.Kovalchuk, V.Muntiyan O.Niikov, M.Pavlovsky, S.Pirozhkov, A.Revenko, V.Selivanov, A.Sukhorukova, and other belonged to the domestic school of economic security theory.

Research by Ukrainian scientists of the essence of the category "economic security" began with ways to solve this problem within our country. The concept of economic security of Ukraine, developed in 1999 by the Institute for Economic Forecasting, which defines this category as "... the capacity of the national economy to provide its free, independent development ..., as well as the country's sufficient defense potential in all kinds of adverse conditions and scenarios for the development of events. , and the ability of the Ukrainian state to protect national economic interests from external and internal threats "[3, p.4]. The document also identifies the main threats to Ukraine's economic security and discloses their essence, examines the issues of the safe functioning of indi-

vidual sectors of the economy, provides an integrated index of Ukraine's economic security.

In 2003, the Law of Ukraine "On the Fundamentals of National Security of Ukraine" came into force (twice revised in the future: December 15, 2005 and July 01, 2010) [4]. National security in this Law is already defined as "the protection of vital interests of man and citizen, society and the state, in which sustainable development of society is ensured, timely detection, prevention and neutralization of real and potential threats to national interests". The same Law expanded considerably the list of economic threats and directions of the national economic policy of the state.

However, among Ukrainian scientists and practitioners, a single theoretical and methodologically grounded point of view on economic security has not yet been formed as a scientific category. This is evidenced by the fact that today a significant number of the definitions of economic security is proposed.

Among the Ukrainian scholars, this is "the presence in the state of sufficient opportunities to ensure the reproduction of productive potential in industry, agriculture and in all areas of social work ... as well as to ensure the stability of the social system, the sovereignty of the state" [5], and "the ability of the state to ensure the protection of national economic interests from external and internal threats, to pursue the progressive development of the economy in order to maintain the stability of society and sufficient defense capacity in any conditions and variants of the development of events "[1], and" the ability of the state to independently produce and implement its own economic policy, as well as to define and realize its own national interests, etc. "[6], and" the ability of the national economy to expand its self-reproduction from the purpose of satisfying a certain level of needs of the own population and the state, confronting the destabilizing effects of factors that threaten the normal development of the country, ensuring the competitiveness of the national economy in the world system management "[7].

In today's direction, a sufficiently thorough knowledge base has been formed today, based on scientific-theoretical and applied research. But this does not diminish the versatility and openness of a scientific discussion on the country's economic security. The main difficulty of unambiguous formulation of this category, as well as its individual directions, remains the peculiarity of this

sphere and the practical ways of achieving economic security of the national economy. Among the main characteristics of economic security include the following:

- economic security is one of the most important national priorities;
- economic security is closely linked to the geopolitical strategy and the institutional aspects of the country;
- economic security is a characteristic of the economic system that determines its independence, stability and its ability to be dynamic and consistent;
- the criterion of economic security is the economic processes at a certain point in time;
- an indicator of the level of economic security is the system of indicators of general economic and socio-economic importance, having a quantitative expression;
- economic security is determined by the efficiency of the economy and should be supported by all its links;
- The effectiveness of the scheme for ensuring the economic security of the national economy is related to the level of risks that are disproportionate to the economic system.

In the situation that has arisen, it is expedient to raise the question of what constitutes the modern concept of economic security of the national economy and how legitimate economic security can be considered as the main factor of stable and dynamic development of the economy, its competitiveness and efficiency in the domestic and foreign markets.

Economic security is part (one of the elements) of the national security of the country, which determines first of all industrial, technical and industrial safety. There is a large number of definitions that reveal the economic security of the national economy, based on its specifics.

In the process of further development of research in this area, scientists begin to take into account the impact of the macro and micro environment on the economic situation of individual subjects.

It should be noted that this approach has its positive and negative features. Among the positive ones one can note: taking into account the mobility and the probability of the influence of the market environment. Among the negative ones are, first, the process of adapting to changes in the market environment in-

volves the transformation of the economic system; secondly, on the basis of such an interpretation of economic security, the ability to predict and counteract possible threats and the possibility of forecasting the prospects for further development of the economic system disappears.

In our opinion, the most appropriate modern economic conditions of Ukraine is a resource-functional approach. The authors of this approach believe that economic security is the state of most efficient use of economic resources to prevent threats and ensure the stable functioning of the economic system in the present and future [8].

Thus, the most common definitions of economic security are the following:

- this is a process aimed at creating conditions for a continuous one adaptation (adaptation) of economic activity or economic functioning before changes in the external environment when achieving the target [9, p. 93];

- is the state of the most efficient use of resources in order to neutralize threats and ensure stability in the present and the future [10].

- it is a state of protection of people, society, state, the environment from excessive danger [11, p. 370].

According to P.V. Pashko, economic security is a state of economic provision of the national security of the state, a nationwide set of measures aimed at the constant, balanced and stable development of the state's economic system, ensuring the self-sufficiency and stability of the system, including the mechanism of counteraction to internal and external threats [12].

A more complex interpretation of the essence of the concept of "economic security" can be defined through the identification of its main objectives, in particular:

- ensuring high financial efficiency of work, financial stability and independence of the enterprise;

- ensuring technological independence and achieving high competitiveness of the technical potential of the enterprise;

- achievement of high efficiency of management, optimum and effective organizational structure of enterprise management;

- achievement of a high level of qualification of personnel and its intellectual potential, proper efficiency of corporate R & D;

- Minimizing the destructive impact of the results of industrial and economic activity on the state of the environment; - high-quality legal protection of all aspects of the company's activity;

- ensuring the protection of the information field, commercial secrecy and achieving the necessary level of information support for all divisions and departments of the enterprise;

- effective organization of the security of the personnel of the company, its capital, property, as well as commercial interests [13, p. 47-48].

Considering the peculiarities of the interpretation of the essence of the term "economic security", it should be noted that its content, the essence and structure of individual components are directly related to the peculiarities of models of market and administrative-planned economy. In today's conditions, the country's economic security must be shaped in line with the pace of economic development. This is relevant and necessary, since it is the present economic security of the national economy that determines the future development of the whole economic system. Economic security requires constant study in the field of concentration of efforts and resources, definition of clear priorities of the economic policy of the state, which will ensure the country's stable economic development.

1.2. Modern methods of assessing the level of economic security of the country

Concerning the concept of economic security of the national economy in the current conditions of development of countries, it can be argued that the majority of domestic and foreign scientists operate on the concept of "criterion of economic security". Therefore, in our opinion, it is advisable to consider approaches to determining the level of economic security on the basis of critical security indicators, which form its analytical apparatus.

Scientists use methods that can be grouped into four groups to determine the country's critical level of economic security.

The first group should include approaches based on the study of the pace of change and comparison of the main macroeconomic indicators of economic development with their threshold values. The main problem with using this ap-

proach is to identify exactly those indicators that will fully reflect the economic situation of the country and will provide a comprehensive description of the level of economic security of the national economy. Confirmation of this is a scientific debate with regard to such a technique. Thus, the most widely used method is S. Glazyev, where the author identifies 22 main indicators, which in his opinion are the main criteria of economic security of the country [14].

Later A. Illarionov criticized the list of these indicators, based on their inequality with the international statistics of the country [15].

The Institute for Economic Analysis conducted practical calculations, whose results cast doubt on the reality of the values of the threshold indicators S. Glaziev. It was proposed as quantitative characteristics of economic security of the national economy to use indicators of economic policy of the state in the areas of state entrepreneurship, fiscal policy, monetary policy, foreign exchange policy, foreign trade policy. The Center for Financial and Banking Studies, IE RAS, offered 150 indicators that most fully characterize the socio-economic situation of the country.

Domestic scientists are invited to assess the economic security of Ukraine with the help of indicators presented by 14 groups, which are calculated on the basis of the provisions of the Concept of Economic Security of Ukraine [16].

At the state level, a methodology for assessing the country's economic security, based on several synthetic indicators, is proposed. Methodical recommendations for calculating the level of economic security of Ukraine, approved by the order of the Ministry of Economic Development and Trade of Ukraine dated October 9, 2013, No. 1277, allow calculating the level of economic security of Ukraine in 10 groups of components: economic security, which, in turn, have an appropriate number of indicators and weight for the calculation of the final index of economic security. The total number of indicators is 127. For each indicator, the indicator is set with 5 variants of values: critical, dangerous, unsatisfactory, satisfactory, optimal. Also, each type of security has already calculated the weighting factor used to calculate the sub-indices of economic security and integral index of economic security [17].

In our opinion, the list of these indicators should be based on the national interests of the individual country, on the basis of which it is possible to determine the threshold values of these indicators for each of the world's economies.

This is confirmed by the World Bank methodology, which involves the calculation of the relevant indicators for a particular country, their comparison with the average world values and the subsequent ranking on the level of economic security (from acceptable level to catastrophic).

Another methodological approach to determining the level of economic security in the country is based on expert assessment. This method involves the calculation of an integral indicator based on the use of a system of indices that characterize the economic security of the national economy. The weight of the indicators is determined by the experts. It should be noted that in this approach there are also various points of view regarding the use of synthetic indicators in the calculation of the integral index. In our opinion, such an assessment of the level of economic security is subjective and does not reflect the qualitative nature of economic security.

The third method is based on the quantitative determination of the economic threat to the national economy. The basis of this approach is the principles of determining the relations of Ukraine with the countries of the world. It takes into account the system of indicators that characterize the country's GDP, gross national income, balance of external current operations. In this sense, investment protection of the country's economic security, which determines the features of the restoration of fixed capital and minimizes internal economic threats, is of great importance.

The fourth approach involves the application of applied mathematics, which allows to build complex quantitative models that describe the state of the national economy. It is these models that can be used as definitions of the threshold values of economic security indicators of the country. In our opinion, this approach allows us to comprehensively assess the interdependence of individual indicators of the level of economic security of the country and determine the directions for its increase. Instead, the use of a mathematical device significantly limits the number of indicators that can be used. Retrospective analysis of methodological approaches to assessing the level of economic security in the country makes it possible to draw conclusions:

- the variety of economic indicators used in assessing economic security;
- the impossibility of using a single integrated indicator for different countries of the world in connection with their specific national interests;

- about the significance of the investment process as the main factor determining the quantitative threat to the economic security of the national economy;

the priority of mathematical methods in assessing the level of economic security

- on the need for comprehensive application of methods for assessing the economic security of the national economy in order to improve the level of forecasting its development and preventing economic threats.

At the same time, not all indicators of economic security are quantified. Therefore, the application of a multidimensional approach makes it possible to reveal those aspects of a phenomenon that is difficult to detect, based on a limited number of even the most important indicators.

1.3. Structural elements of economic security of the national economy

According to the study "economic security" is a multicomponent concept, therefore, it is necessary to study it from the standpoint of different approaches.

The synthesis of the concept of "economic security" should take into account its key aspects that are encountered in all definitions of this category, namely: the notion of interests and threats in the economic sphere.

In studying the problems of economic security of the national economy, it is necessary to comprehensively and fully take into account the above-mentioned categories.

It should be noted that the economic sphere is a subsystem of society, which is responsible for the production, distribution, exchange and consumption of material goods and services necessary for the life of individuals. For the organization of the economic sphere, the balance of interests and threats, as well as the means of economic activity, becomes of great importance.

Thus, interests in the economic sphere should be, first of all, the creation of material conditions for the life of society through the intensification of the economy. Thus, individuals are the source of interest in the economic sphere, and the interests themselves turn into private ones.

Proceeding from the above, the threats to the country's economic security will be those shocks that will negatively affect the processes of economic growth, taking into account the requirements of the social environment.

Then, under the economic security of the national economy, we will understand the process that results in economic growth, taking into account the requirements of the social environment, as well as the ability of the economic system to neutralize the threats that lead to imbalances in the economic sphere.

The object of economic threats must be the corresponding economic system of national states, which is a set of elements. In this sense, it is advisable to apply an approach geared towards achieving consistency between elements of economic security. Then, this category should be studied as a result of the interaction of economic threats to the economic system and the mechanism for neutralizing these threats through market forces, as well as state intervention. In other words, economic security is the counteraction of the economic system to a negative change in its elements through the prism of economic interests of the country in order to achieve its homeostasis.

This interpretation of economic security allows us to consider it from the standpoint of a systematic approach that can reveal the essence of economic security and define the basic concept. The following terms should be included in the main concepts that exhaust the economic security:

- economic system - the scope of the course of all economic processes carried out in society on the basis of existing ownership relations and economic mechanism that determines the level and criteria of economic security;

- the interests of the state in the economic sphere - the main priorities of gaining a competitive status economy, which determine the level of economic threats and the mechanism of their neutralization;

- element of the economic system - an object characterized by socio-economic relations, organizational and legal form of economic activity, economic mechanism, the properties of which can be changed;

- economic threat - a negative tendency that can weaken the competitive status of the country's economy;

- counteracting the economic threat - a cycle of institutional regulatory and organizational and economic actions to change the properties of economic threat.

Economic security will be determined by the interconnections between elements of the economic system and economic threats. In the event of an economic threat to any of the elements of the economic system, there is an auto-

matic opposition to the institutional, legal, organizational and economic nature, aimed at its neutralization. And all this process is carried out through the prism of the economic interests of the state, which can cause a change in the element of the economic system and at the same time to neutralize the existing economic risk. That is, the relationship between the element of the economic system and the economic threat, which contributes to the diffusion of properties of these categories, is established.

Thus, the economic security of the national economy will be a system of interconnections between elements of the national economic system and possible threats that may cause changes in their properties, and which are formed on the basis of the interests of the state in the economic sphere and are aimed at achieving the homeostasis of the economic system, that is, a balanced state that characterizes the stability of the economy.

It should be noted that the application of a systematic approach to the study of economic security made it possible to determine the correspondence between its individual elements. To reveal the same essence of economic security as a category, a method of structural analysis should be used which will allow to evaluate its content.

For the structural analysis of economic security as a system of connections between its individual elements, it is necessary to determine the relationship between its main categories and the generalized indicators of their impact on the efficiency of the entire economic system.

The purpose of securing economic security should be the self-regulated state of the economic system, which is achieved through the influence of the authorities of the economic system, as well as by optimizing the level of openness and activity of economic processes. The economic system management body also defines the economic priorities of development and forms a mechanism for protecting the national economy from possible economic threats. The emergence of economic threats, in turn, involves reformatting the economic interests of the state, with the key factors of the competitiveness of the economic system (infrastructure, technological development, labor market, geographical location and political regime of the state) and affects the activity of economic processes. Taking into account the peculiarities of economic security, its management should be based not only on the use of administrative and regulatory measures,

but also on market mechanisms, the integrated impact of which will achieve the stability of the national economy.

The decomposition of the integral economic system into separate components allows us to identify the relevant elements of the national economy. These elements should include: socio-economic relations, economic mechanism, economic structure of productive forces. The balancing of the development of these elements of the economic system will preserve the economic security of the national economy, and their development will determine the activity of economic processes, which directly affects the self-regulated state of the economic system.

Structural analysis allows us to form a new definition of economic security as an economic system managed by the administrative authorities and a market mechanism for achieving the stability and balance of the national economy due to its openness and the activity of economic processes depending on the priorities of national interests and economic threats that are determined at a particular time point, the level of competitiveness of the national economy.

The conducted structural analysis revealed the role of openness of the economy and its influence on the activity of economic processes (characterized by the intensity of the direction of investment resources in the relevant sectors of the economy) in the system when establishing the level of economic security of the national economy.

It can be argued that there is a causal relationship between economic security and the investment process. An increase in the level of economic security has a negative impact on economic activity, which impedes the growth of productive efficiency. The consequence of this is the redistribution of resources of the economic system, which forms new investments in the relevant branches of the economy and leads to the cyclicity of the investment process, which directly determines the self-regulated state of the economic system.

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CHAPTER 2. ECONOMIC SECURITY AS AN INTEGRAL SYSTEM

2.1. External and internal elements of the economic security system

The problem of economic security is becoming increasingly relevant due to the dynamic trends in the modern world. Economic security is one of the most important components of the national security system. The urgency of this problem is increasing as a result of the acceleration of the world economy globalization and the constant participation of Ukraine in these processes, especially those related to its accession to the associated membership with the European Union.

In today's conditions, the issue of the internal regional economic security of Ukraine is intensifying in connection with the aggravation of the political situation in the country. These problems require revision of economic security existing concepts and improvement of the priority ways of ensuring it.

The solution to the multifaceted problem of economic security is constantly at the center of attention of Ukrainian and foreign scientists. In recent years, there have been numerous publications related to the study of individual issues of the problem, as well as, to the theory and practice of economic security. These include the issue of economic security in the context of the economic category [1,2,3], the conceptual framework of economic security [4,5], entrepreneurship [6], in the context of certain types of economic activity and competitiveness of the country and business entities [7, 8], in the direction of attracting foreign capital [9]; as a result of management activity [10,11]. However, there is a lack of systematic methodological studies of economic security as an integral category with the system's generally accepted conceptual apparatus of this independent branch of economic research.

Issues regarding the definition of the essence of the category of economic security, the list of its structural subsystems and elements that significantly affect its status and determine the country's development prospects remain insufficiently settled. The problem associated with the impact of globalization and regional factors, including transboundary importance on the level of economic security of the country, is not fully explored. The current state of the methodological foundations for ensuring the hierarchy of economic security

(from mega-level to personality) is not perfect, but the accumulation of knowledge, the appearance of official documents and methodological recommendations for calculating the level of economic security in Ukraine, for example [12], testify to the relevance of both theoretical and methodological research, and applied aspects of economic security.

The concept of "economic security" is relatively new for Ukraine, it has entered into use in economic science and official documents in the early 90's of the last century with the acquisition of independence of the country. In general, the term "safety" comes from the Latin word "securitas", which is translated as "without concern, fear". Etymologically, the term "safety" comes from the Greek and means "to have a situation". In the Oxford Explanatory Dictionary, security is interpreted as: "1) freedom or protection from danger or anxiety; 2) measures taken to ensure the security of the country, person, values "[13].

In a relatively short period of time, scientists have proposed specific terminology using the concepts of the new classical economic science ("security threat", "safety indicator", "security threshold", "neutralization of threats, danger", "ensuring national, economic security", "financial security", "regional and international security", "macroeconomic security", etc.). An appropriate methodological toolkit for scientific analysis has been formed, indicating the creation of a separate sub-sector of economic research, a science that studies the theoretical and methodological principles for ensuring the country's economic security and is called "ecosestate". Economic security of the state or ecosestate as a science began to develop in Ukraine since the late 90's of the XX century. The name of science comes from English "economic security of state", abbreviated — ecosestate. Ecosestate as a science should have its own methodology of scientific research, distinguishing it among other sciences. G. Pasternak-Taranushenko, one of the first researchers of this problem, systematically formulated the foundations of modern science of economic security — ecosestate [14].

Subsequently, according to some scholars' approaches, economic security was considered in the narrow sense — only as one of the components of national security, according to other approaches, economic security was treated as an independent subject of scientific research. In our opinion, the truth must be in the middle. We agree with O.S. Vlasyuk [15] that economic security

should really be regarded as an independent subject of scientific analysis, but not to exaggerate its specifics. This means that it is advisable to take into account the existence of links and interdependencies between economic, political, social, environmental, information and other security. At present, the vast majority of foreign scientists consider economic security as an independent subject of scientific research.

In spite of certain achievements in the development of the conceptual apparatus of the ecosestate, the scientific disclosure of certain concepts and definitions of the complex system — economic security, its separate subsystems and elements - that is, the thesaurus — was not fully implemented. Thesaurus (from Greek θησαυρός — treasure), in the general sense, is a special terminology, definition and terms of a special field of knowledge.

The basic characteristics of economic security as a science (from the standpoint of object, subject, the presence of systematized knowledge, concepts, relations with other sciences) are given in the work of O.S. Vlasyuk [15]. It is noted that the economic security of the state is an important component of national security. At the same time it is a relatively independent system, which has its own structure, internal logic of development and functioning, means of action on all other aspects of the safe existence of the individual, society and the state.

We believe that the object of the study of ecosestate is global security, the security of the state, regions, enterprises, organizations and individuals, conditioned by the state of the economy, which society must maintain and develop on a progressive scale. The subject of the study of economic security is the activity of the individual, society and the state to protect their interests from internal and external threats both in the economy as a whole, and in certain spheres of economic activity, its components; as well as conceptual foundations for the economic security formation; general patterns of its development; principles and basic directions of ensuring economic security.

There were separately presented scientific approaches to the definition of economic security through the construction of the hierarchy of its main types. For example, Z.V. Yakubovich [16], O. Ruda, L. Malyuta [17] propose the following hierarchy of various types of economic security in the context of concepts state, region, enterprise: global economic security, international economic security, national economic security, economic security of the region,

economic and property security of enterprises. The main disadvantage of such a structure is the lack of level of individual economic security.

Thus, O. M. Lyashenko, B. V. Pleskach, V. K. Bantush distinguish six hierarchical levels of economic security: individual, local (micro level), regional (meso level), national security (macro level), international security as a component of global security, global security (mega level). Although scholars consider such hierarchical levels through the system of security creation, they, in our opinion, can also be used to characterize economic security.

There are proposals for the definition of economic security as a vertically integrated three-level (national, regional, local government) system with developed horizontal links at each of these levels [18], which are insufficient due to the fact that the international level of economic security and the level of individual economic security are not taken into account. There are proposals for a broader interpretation of the structural hierarchy of economic security, including the economic security of rural formations [19]: economic security of the state, international economic security, economic security of territories. Here the functional approach to certain types of economic activity prevails rather than the approach of the structural hierarchy. In our view, the hierarchical structure of the system of economic security should include: economic security of the individual (base level); economic safety of the enterprise, organization, institution (micro level); economic security of the regions (including the borderline) (meso level); national economic security (macro level); international economic security as a component of global economic security; global economic security (mega level).

In our opinion, economic security of the person acts as the main object of the economic security system and represents the security state of its vital interests in the economic sphere. The economic security of the individual is expressed in preserving the most important interests of the individual, included in the socio-economic relations and forms the basis for its steady development. The peculiarity of the concept of the economic security of the individual lies in the fact that it acts not only as an object, but also as a real subject of economic relations, which means that it reflects both the condition and the ability of the individual to undertake in certain conditions the natural right to a quality standard of living .

In addition, it must be taken into account that the economic security of the individual acts as a set of economic, social, demographic, environmental, technological, scientific and information relations [20].

The next component of the system of economic security, in our opinion, is "economic security of enterprises, organizations, institutions, farms". The conducted study made it possible to draw a conclusion regarding the versatility of the concept of "economic security of enterprises, organizations, institutions, farms". Scientists suggest to consider it from the standpoint of the state: the efficiency of the use of resources, production system, economic development, protection of activities and interests, harmonization of the latter.

Rational, in our opinion, is the following definition of the concept of economic security of the enterprise (ESE), which clearly and at the same time most fully reflects its essence [21]. In the proposed definition of the economic security of the enterprise, the following was specified:

- the efficiency of the use of resources serves as a means of achieving the ESE;
- the main feature of the status of the ESE is the presence of the company's competitive advantages;
- the definition indicates the limit of reaching the goals — maximum approximation;
- under the terms refers to a constant change in the environment.

All these characteristics can be disseminated to other entities — organizations, institutions, farms. Therefore, under the economic security of enterprises, organizations, institutions, farms we should understand the state of enterprises themselves, organizations, institutions, farms characterized by the existence of competitive advantages achieved by the effective use of existing own and borrowed resources, timely implementation of a set of measures to protect their activities for maximum achievement of the set goals in the short-term and long-term period in conditions of constant environmental changes.

In the early 90's of the XX century. the power-saving approach was used, according to which the company's economic security was to protect the commercial secret of the enterprise, and "the degree of reliability of the entire information storage system is determined by the level of security of the weakest

link that is the personnel of the organization". The authors of this approach are: V. Yarochkin, A. Shavaev, V. Barsukov and others [22].

The growth of the crisis in the country's economy, increased competition gave a boost to consider the economic security of enterprises wider and understand that the preservation of information, of course, is very important, but this is just one aspect of economic security.

Destructive factors of the environment have led to the definition of the company's economic security as a defense against internal and external threats and the negative impact of the environment. Among the supporters of this approach are D. Kovalev, T. Sukhorukova [23].

There was another approach to the enterprise economic security with the further market relations development, according to which this concept is considered from the standpoint of the availability and necessity of ensuring the competitive advantages of the enterprise. Proponents of this approach [24] characterize the enterprise economic security essence in the context of competitive advantages, conditioned by the correspondence of material, financial, personnel, technical and technological potential and organizational structure of the enterprise, its strategic goals and objectives will provide it with a certain level of economic security.

Well-known scientists Y. Oleynikov and S. Pokropivny are the founders of the resource-functional approach to the definition of "enterprise economic security", according to which economic security is defined as "the state of the most effective using of corporate resources to prevent the threats occurrence and ensure the enterprise stable operation in present and in the future "[25].

The advantages of this approach is complex and comprehensive study, within which an analytical assessment of the external and internal environment is conducted, a mechanism for ensuring the enterprise security as a whole is provided, taking into account the time interval.

There is an approach that identifies the company's economic security with its sustainability and development. The founders of this approach, G. Kleiner, V. Tambovtsev, R. Kachalov [26] disclose the economic security essence only in the sustainable development context of the enterprise without providing deep identification for protection against internal and external threats and the negative impact of the external environment.

The next approach combines several key positions at the same time. For example: V. Gusev, V. Demin, B. Kuzin determine the economic security of the enterprise as "a state of resources effective usage and existing market opportunities of the enterprise, enabling to prevent internal and external threats, ensure long-term survival and market sustainable development under his chosen missions "[27]. This definition is the most complex, due to the fact that it reveals various aspects of economic security, the impact on its state of the external and internal factors in the context of strategic development of an enterprise.

In modern studies, there is also a tendency to consider this concept from a wider perspective. We can distinguish the following common features during the work analysis [28] in the definitions herein economic security: economic security coupled with the need to protect them from internal and external threats; the economic security level depends on the effectiveness of the enterprise potential usage and market opportunities; the task of forming and maintaining a certain level of economic security is associated with the objective need to ensure the stable functioning and development of business entities.

Regarding regional economic security, there is no single position among scientists to determine its essence, its components and its place in the structure of economic security. At the same time, the peculiarities of cross-border cooperation as an element of regional economic security are not given enough attention. The S. Naumenko's work [29] indicates that the economic security of the region is a complex polystructural category that describes the level of protection against potential threats, the independence and capacity for self-development of all economic sectors, social services and their relationship with the features of regional development.

In the context of cross-border cooperation, each of the components of economic security becomes of particular importance, since the level of security affects the intensity of business relations between the border areas. Strengthening economic security of border regions is possible if the implementation of a coherent set of measures which are necessary in different fields: foreign trade, manufacturing, finance, food and commodity and resource security, investment processes, environmental protection.

Economic security of the region (mesoeconomics security) has its own peculiarities in the formation and functioning of regional systems for ensuring

economic security, that is, those institutions and mechanisms that are designed to protect the economic interests and property of the individual, population, region economic entities. The special role of the meso levels is that they act as buffers when the threats to stability become more acute for the main levels of the economic system and serve as reserves for the surplus or lack of factors, resources and conditions for sustainable development [30].

From the point of view of regional economic security, the region's economy acts as an object of protection, and for meso level it is a set of regional economies. At this level, regions' interaction problems within the framework of a unified economic system, cooperation with subjects of foreign states can be solved, lobbying of interests at the state level can be implemented.

The specific factor of the threats emergence to the economic security of the Ukraine regions is their place in the general economic space, the concentration of natural raw material resources, production potential, transport corridors, linking regional economies on their territory. The regional system formation of an economic security should be based on the justification of the system region economic interests of the interacting and flows, practically, from the national economic interests system [31].

The variability of international political and economic situations, as well as increasing the intensity of cross-border processes, necessitates the search for new instruments for stabilization and cooperation at the level of neighboring countries in the framework of regional economic security. Ukraine is a state that borders on 7 countries, meaning that it is important to determine the basic means dependence degree of the Ukraine's economic security on the implementation specifics of the foreign economic policy and cross-border cooperation with these countries. At this stage, relations between neighboring countries are specific, as they can be divided into three main directions of implementation: 1) cooperation that takes place on the border of Ukraine with the EU member states; 2) cooperation in the post-Soviet border with the former Soviet republics; 3) Coastal cooperation between Ukraine and Turkey [32]. At present, there has been an increase in the risk of cross-border processes with the Russian Federation associated with military actions in the state.

In this context, economic development of these regions and cross-border cooperation, as well as the protection of Ukrainian borders from hostile encum-

branches, are an important factor in ensuring the economic regions security. The basis of cross-border cooperation is the process of establishing ties and contractual relations in the border areas in order to find solutions to common problems.

National economic security of the state is a state of the economy and institutions of power, providing guaranteed national interests protection, harmonious, socially oriented development of the country as a whole, sufficient economic and defense potential, even for the most unfavorable variants of internal and external development processes. Firstly, the general state of Ukraine's national economic security in the context of developing a market economy and civil society is an integrated macroeconomic indicator of socio-economic development of the country; secondly, the basis for the development of a strategic state policy and concrete measures for its implementation, and thirdly, a decisive condition for the harmonization and implementation of the entire system of economic interests of the country [33].

International economic security as a global security can be defined as the world economy state the based on mutually beneficial cooperation of countries in solving national and international economical problems, with free choice and implementation of their planned social and economic growth. The international community has established a system of international economic organizations: WTO, IMF, IBRD to ensure international economic security.

The most common interpretations of global economic security are those that provide for the establishment and maintenance of the world economic relations system functioning, the world economic system, the efficient interaction of economic blocs and national economies. The process of economic globalization involves creating new opportunities for economic development and at the same time contributing to the aging of the old and the formation of new contradictions in the global economy, which some authors categorize as global threats to humanity.

Economic globalization is an objective stage in the development of the world economy. It has both positive and negative consequences, collectively forming the source of the threat to the economic systems balance security. In this regard, the threats presence and risks leads to the expediency of introducing a relatively new category of "global economic security" into scientific circula-

tion, the models development, and practical measures that contribute to ensuring this economic security system component.

Global economic security is a set of measures aimed at ensuring sustainable global economic development, whose goal is to achieve maximum security and a high standard of living for each individual, regardless of nation or nationality, provided that the world is preserved for future generations [34].

In addition to the economic security definition through its hierarchical structure, a significant amount of scientific research was conducted on the basis of its functional components (Fig. 2.1).

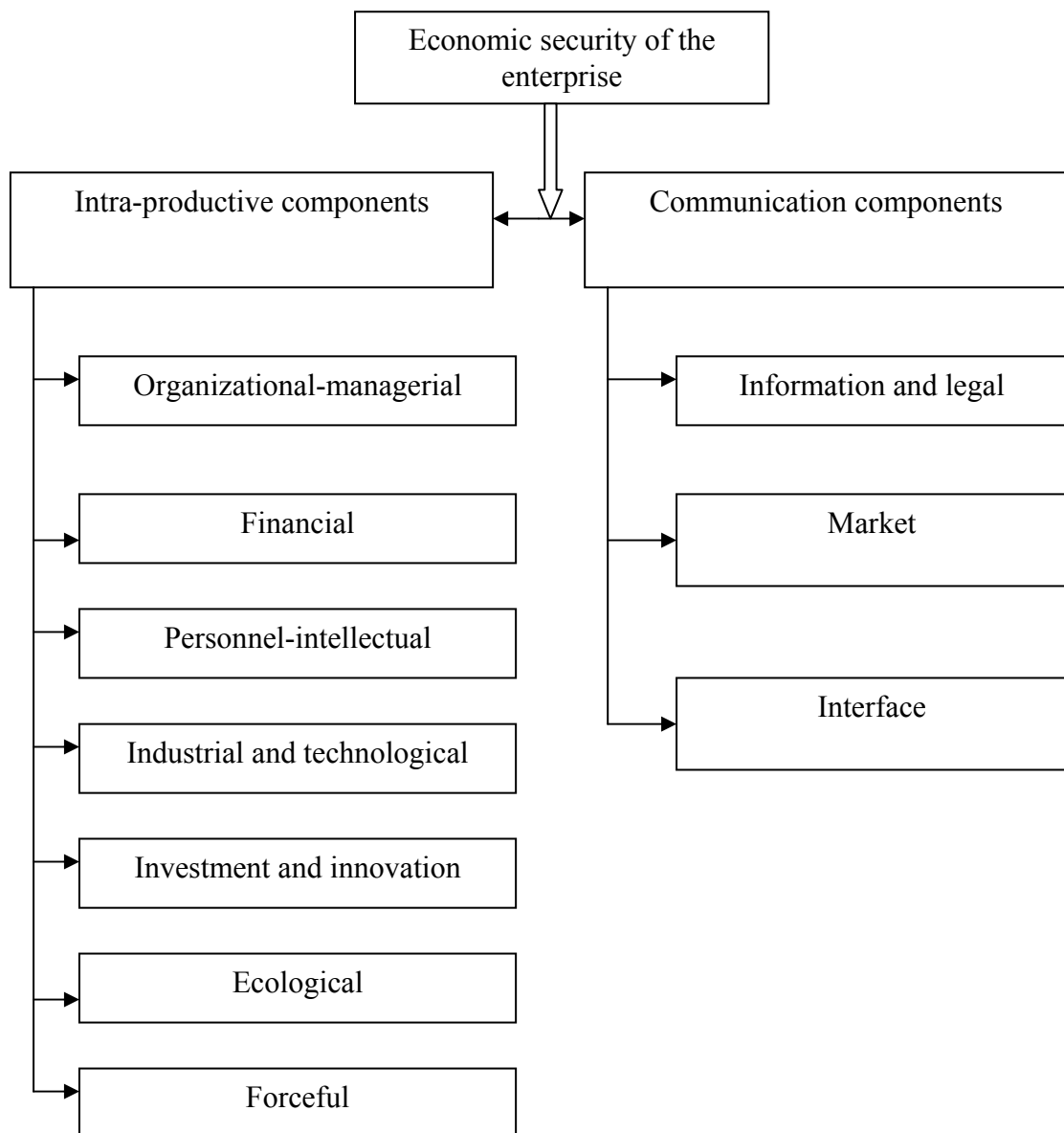


Fig. 2.1. System of functional components of economic entities security

Indeed, the economic entities' security essence is most fully disclosed through the system of its functional components (subsystems), which we divide into internal production and communication. Under the economic security functional components of economic entities are understood as a set of basic directions, in order to ensure their economic security, which differ significantly in their content and purpose. The internal components of economic security are related to the main spheres of their activities, while the communication components provide both external and internal connections between the individual elements of the economic security of enterprises, organizations and institutions.

Each of these components is a peculiar block (subsystem) with the aim of achieving the appropriate level of entities economic security, and we think it is necessary to characterize each of them individually.

A significant component is *the organizational and managerial component*, it is due to the fact that the organization of the enterprises establishment, organizations, institutions precedes all the processes of their functioning. But the most important in the functioning process of the enterprise, organization, institution is a financial subsystem (component) of economic security, since under finance management market conditions is the basis of the functioning of any economic system.

The essence of *the financial component* lies in the activities of an enterprise, institution, organization, aimed at ensuring an adequate level of their liquidity, profitability, solvency, provides timeliness of monetary payments and repayment of loans, effective monetary provision of production processes. The main threats to this component are unstable monetary and tax policies of the state, rising inflation, unprofessional financial management.

Personnel and intellectual component is characterized by the development of intellectual potential of economic entities and effective staff management. The proper level of economic security depends to a large extent on the staffing, their intelligence and professionalism, the motivation system, selection and training of personnel. The main threats to this component are insufficiently qualified personnel, poor intellectual potential development, inefficient personnel management, lack of social security and career prospects, the highly skilled personnel transfer to competitors, and the inadequate protection of the rights totality to intellectual property.

The production-technological component is characterized by timely updating of the main production assets, by the advanced technologies implementation level and energy-saving technologies in the process of activity, by the utilization efficiency of production capacities and materials and by the ability to produce competitive products (services).

The main threats to this component are violations of technological discipline, the lack or limitation of innovation activity, investment unattractiveness, significant energy intensity of production and technological processes, inefficient organization of production processes and logistics.

The main feature of the innovation activity of an enterprise, organization, institution is its excessive risk. So, the application of high technologies and the introduction of a new high-quality product into the range of services does not necessarily cause excessive demand, and may negatively affect both the financial condition of enterprises, organizations, institutions and their corporate image. Therefore, it is important not only to create conditions for increasing the possibilities of using innovations at the enterprise: food, technological, economic, organizational at the level of world standards; but also to conduct a comprehensive study of their perception on the market.

A significant type of enterprise activity is the investment activity. The investment implementation, and especially innovative projects, is, in return, associated with the external and internal factors' influence, which is accompanied by an increased risk degree. In order to minimize the negative risk factors' impact and their neutralization, it is advisable to consider the risk management system of investment projects. In turn, such a system will make a contribution into enterprise's financial sustainability growth and economic security insurance of business entities. Therefore, we consider it expedient to allocate a separate component of economic security — investment-innovative, which is accomplished through the investment activities implementation of enterprises, organizations, institutions.

The ecological component is associated with minimization of enterprise losses from environmental pollution and the enterprise itself, compliance with ecological requirements for products. Negative influences on economic security belonging to this component appear in the health threat of the enterprise's employees; loss of profit due to the high level of environmental fines and pay-

ments; competitiveness reduction of the enterprise and manufactured products; image undermining.

Forceful component is to provide physical security to employees of economic entities, preserve their property, capital, which should be included into security service's functions of the enterprise, organization, institution. The main threats to this component are: raider hijacking, criminal actions, ineffective security or lack of security.

As part of the *communication component*, the leading place belongs to informational and legal security. The informational and legal component provides all aspects of the business entities's activities. Information is the most valuable and expensive resource. Information allows the enterprise, organization, institution to respond adequately to any changes in the external and internal business environment, to plan effectively and carry out their business activities.

The legal support of the company's activity is related to the current legislation observance both in the production field and marketing activities, as well as in the field of right for patent usage, licenses and quotas for natural resources usage, export quota and common. The main threats to the informational and legal component are unstable legal and regulatory framework, law norms violation, obtaining illegal profits, obtaining shadow revenues, as well as open access to confidential information of enterprises, organizations, institutions, industrial espionage, disinformation, destruction of information, positive information absence on business subjects.

Market component. According to the methodology of Ilyashenko S. M., a market component analysis of economic security is proposed based on an assessment of the compliance degree of the economic entities' internal capabilities with the development of external factors in the market environment. Analogously with SWOT analysis, factors of the environment are divided into opportunities and threats, and internal ones — into the strengths and weaknesses of the enterprises, organizations, institutions activities [35].

The main threats to this component are increased competition on the market and the competitive positions weakening of business entities and their ability to counteract competitive pressure; adaptability reduction of the enterprise, organization, institution to market changes, lagging behind market requirements, weak marketing management.

Interface component characterizes the reliability of enterprises, organizations and institutions interaction with economic contractors. An important sign of the entity reliability with its counterparties is the risky operations minimization based on the assessment of the incoming supplies' management quality and the reliability of its own counterparties, including the supplier's choice and the buyers solvency assessment. The threat to this economic security component of the enterprise is the possible unforeseen changes in the interaction conditions (up to the break of relations) with economic contractors: suppliers, trading and sales intermediaries, investors, consumers, etc. [35, p. 14].

However, generally agreeing with such a position, we believe that the interface component of enterprises, organizations and institutions economic security should be considered not only in the context of ensuring the connection with external environmental factors, but also as the reliability of the interaction between all its functional components. Such a conclusion is based on the definition of the concept of "interface" (from the English "interface" is the partition surface partition, closure) as a set of tools, methods and rules of interaction (management, control, etc.) between the elements of the system.

It should be noted that the list of economic security components is not exhaustive. Separate scholars offer greater detailing, which leads to duplication and will not facilitate the concentration of resources to provide functional components of the business entities' economic security.

In particular, it is proposed to consider a retrospective component of the enterprise, organization and institution economic security. It characterizes a retrospective efficiency assessment of the resources usage in business entities. The need to study the dynamics of resources profitability indicators of the enterprise, organization and institution is determined by the fact that, having identified the tendency of their dynamics in previous years, it is possible to define respectively what is expected of them at present and in the future [36].

We believe that the strategic development of business entities is the basis for their successful activities, ensuring their competitiveness, a sufficient level of both economic security and all functional components, which should be formed taking into account the strategic decisions taken rather than retrospective indicators.

It is expedient to include such a system of functional components in the economic safety composition of the industrial enterprise: internal production (organizational, managerial, financial, personnel and intellectual, industrial and technological, investment-innovative, environmental, and forceful) and communication (informational, legal, market, interface). The proposed list of functional components and the impact directions definition of the internal and external threats on each of them is the basis for the effective mechanism formation for managing the economic entities' security.

Further development of research is related to the structure's definition and mechanism economic security ensuring of the enterprise, the direction assessment and the influence force on each of its functional components.

2.2. Functional approach to the definition of subsystems and economic security elements

We believe that a more systematic approach to the definition of the economic security essence is being considered not only from the point of view of its substantiality and polystructural hierarchical system, but rather as a complex system, in the interrelationships and interdependencies of its components [15]. Economic security has a vertical (external and internal components) hierarchical structure and an internal-functional (horizontal) structure.

The notion of "system" is etymologically derived from the ancient Greek language and means "connection". Proceeding from the classical views on the concept essence of "system" (in particular, according to R. Descartes and B. Spinoza), the economic security system will be defined as the complex integrity and simultaneously the separation of various interconnected subsystems and elements, interacting with the environment as a whole and separated from it .

The element of the system is the simplest indivisible component of the system, while the indivisibility factor is conditional and depends on the specific tasks of the study. The subsystem acts as an integral part of the system, in which other components can be distinguished. Cumulative elements from a subsystem are often called system components. Each system is characterized by

interdependent and interconnected bonds, which represent the relation between components of the system.

In order to make reasonable decisions by the state authorities, it is necessary to monitor the economic security indicators, which would include, above all, the actual tracking, analysis and forecasting of important economic indicators.

For example, according to the Methodological Recommendations for Calculating the Level of Economic Security of Ukraine (Order of the Ministry of Economic Development and Trade of Ukraine dated October 29, 2013, No. 1277) (hereinafter referred to as the Recommendations), the components of economic security, which in our opinion, should be called subsystems of such a complex system as economic security, are identified. In this case, the integral index of economic security consists of 9 weighted average subindices (components of economic security):

- 1) industrial security;
- 2) demographic security;
- 3) energy security;
- 4) foreign economic security;
- 5) investment-innovative security;
- 6) macroeconomic security;
- 7) food security;
- 8) social security;
- 9) financial security.

The calculations are based on the assessment of more than 130 individual indicators, which are based on both statistical data and information obtained through interviewing respondents.

The range of characteristic values of each exponent (indicator) is measured from 0 to 1 (or from 0 to 100 percent) and is divided into six intervals: the minimum or absolutely dangerous economic security level and the economic security level equal to 0; a critical economic security level and the economic security level equal to 0.2 or 20% of the optimal value; a dangerous economic security level, and the economic security level equal to 0.4, or 40% of the optimal value; unsatisfactory economic security level and the economic security level equal to 0.6, or 60% of optimal value; a satisfactory economic

security level and the economic security level equal to 0.8 or 80% of the optimal value; the optimal economic security level and the economic security level equal to 1, that is equal to the optimal value.

The integral index calculation as a whole and the integral indices for individual spheres of the economy are carried out using weighting factors that are determined by expert evaluation aimed at collecting system rating information on the state of individual economy spheres, internal and external threats to these areas, and conditions for effective business conduct. The survey involves from 25 to 30 experts, which is carried out in the form of a standardized interview.

The information obtained as a result of the survey made it possible to use, in the course of further analysis, the average expert estimates that characterize the importance of each indicator for generalized objects and structures or influential interconnected factors in complex systems. One of the most important components of the economic security integral indicator is macroeconomic security, which characterizes the economy state, that achieves the balance of macroeconomic reproductive proportions.

In tabl. 2.1. according to the Recommendations, the components of macroeconomic safety and indicators are given for their normalization. In this case, the indicators given in columns 3-7 are stimulants, and in columns 8-12 are disinfectants.

Below are examples of the threshold values for indicators of the level and quality of macroeconomic security components in Ukraine, calculated by the author according to official data of the State Statistics Service of Ukraine and the National Bank of Ukraine in 2017. Thus, the level of economy "shadowing", % of GDP in 2017 was 33%, which is below the level of 2016 by 3%, but corresponds to the security level as a critical value. At the same time, in 2017 the International Association of Chartered Certified Accountants (ACCA) published a rating of countries with the largest share of the shadow economy. Among the 28 countries, Ukraine has reached the three of the "leaders". ACCA estimated Ukraine's shadow economy at 1.95 trillion hryvnias or 45.96% of Ukrainian GDP. The situation is worse only in Nigeria and Azerbaijan.

Table 2.1 Characteristics macroeconomic security components*

1	2	3	4	5	6	7	8	9	10	11	12
6.1	Difference between labor productivity indices in Ukraine and real average monthly wages, percentage points	-15,0	-10,0	-6,0	-3,0	-0,5	0,5	2,0	5,0	8,0	12,0
6.2	The level of the economy "shadowing",% GDP						13	18	22	25	30
6.3	Balance of the current Ukraine's payments balanceaccount, percents of GDP	-7	-5	-4	-3	-1,5	1,5	3	5	7	10
6.4	Unemployment rate (according to the methodology of the International Labor Organization),%						5	6	7	8	9
6.5	The long-term unemployment level (over 12 months),% of the total number of unemployed						20	30	35	40	50
6.6	Difference in the Ukraine's GDP rate and the growth rates of developing countries' economies, percentage points	-2	-1,5	-1	1	2					
6.7	Consumer Price Index (until December of the previous year)	-2	-1	-0,5	1	2	3	4	5	8	12
6.8	The ratio of the population's income to GDP, percents	40	43	45	50	53	55	58	60	63	65
6.9	Population's propensity to save, %	3	5	8	10	12	14	16	18	20	22
6.10	The ratio of wages to the amount of social assistance and other received current transfers, times	1	1,1	1,2	1,4	1,6					
6.11	The ratio of GDP per person in Ukraine to the average in the EU-27, %	10	25	50	70	90					
6.12	Population employment in the informal economy sector ,% of the total number of employed						5	10	15	20	25

*Stimulants: column 3 — critical value, 4 — dangerous value, 5 — unsatisfactory, 6 — satisfactory, 7 — optimal.

Stimulants: column 8 — the optimal value, 9 — satisfactory, 10 —unsatisfactory, 11 — dangerous, 12 — critical value.

The current account net of Ukraine's payments balance in 2017 amounts to 3.5 GDP, which is classified as unsatisfactory. The unemployment rate (according to the Methodology of the International Labor Organization) reaches 9.7%, which exceeds the critical value. The difference between the GDP growth rate and the growth rates of developing countries' economies is 2.4 percentage points, which is substantially below the critical value (-2.0). The consumer

price index (by December of the previous year) reaches 1.08, which is almost consistent with the indicator "satisfactory" (1.0). The ratio of disposable income to GDP is 36.8% of GDP, characterized as a critical state, i.e. well below the regulatory level (40% of GDP). This may indicate a very low level of wages in Ukraine.

The population's propensity to save is 3.9%, which is characterized as dangerous. Savings is a part of the income at disposal, which remains after satisfying consumer needs and is directed to consumption in the future.

The ratio of GDP per person in Ukraine in the EU-27 is, on average, 7%, which is below the critical level (10%). The study covers 27 EU member states, three countries of the European Free Trade Association (Iceland, Norway, Switzerland), four candidates for EU membership (Serbia, Montenegro, Macedonia, Turkey) in the EU and two potential candidate countries (Bosnia and Herzegovina and Albania). The European Union is currently the largest market for goods and services in the world.

According to the official data, the informal sector employment of the Ukraine's economy in 2017 was 30% (activity in the shadow economy sector) to the total number of employed, which significantly exceeds the critical value (25%).

In a broad sense, the informal economy is the same hidden, closed from observation, it includes an irregular and shadow economy as well as many others.

Consequently, in the process of generalization of theoretical approaches, specific features of economic security were established. First, the peculiarity of economic security stems from its nature, which is the material basis of both external and internal components. This also applies to the category of national security.

Indeed, economic security is its main component, but the uniqueness of economic security lies in the fact that it serves as the material basis, the measure of expediency and effectiveness of the provision of virtually every component of national security. As a result, many components of national security and economic security practically coincide in official documents and in scientific papers. Secondly, economic security refers to internally contradictory concepts, the definition of which does not exist and can not be clearly agreed [37].

Indeed, an important factor in the system of economic security is its progressive development, which is a dynamic characteristic. This contrasts to a certain extent with factors such as firmness and stability, which preserve a certain state of the system. Although, firstly, the contradictions are the source of development, and secondly, the factor of stability is used in a limited sphere – in terms of protecting the existence of all ownership forms; guaranteeing stable business conditions, and a factor of stability – it is used in the context of deterring the effect of destabilizing security factors.

Developing systems are characterized, on the one hand, by the constancy of the structure, on the other hand, by the loss of stability, by destruction of one structure and the creation of another. Moreover, the contradictions between stability and development are very important: a stable system can not develop, because it destroys any deviation from its state. To move to a qualitatively new state the system must to some extent undergo a state of instability. Thirdly, the phenomenon of economic security as a complex system with multilevel and multidimensional structure is a set of interconnected structural subsystems - vertical (economic security of the individual (base level), economic security of enterprises, organizations, institutions, farms (micro level), economic security of the regions, in particular, transboundary economic security (meso level), national economic security (macro level), international and global economic security (mega level), as well as horizontal (functional) subsystems and elements: internal production (organizational, managerial, financial, personnel-intellectual, industrial-technological, investment-innovation, ecological, power) and communication (informational, legal, market, interface).

Studies have made it possible to conclude that, from the standpoint of a systematic approach, economic security as a multicomponent system is an integral category, the substantive scope of which includes concepts of different levels of the hierarchy, as well as functional spheres of the economy, which, in interaction and interdependence, express the economic relations between the subjects of international entities, state, regions, enterprises, organizations, institutions, households and individuals and within these subsystems and elements regarding the achievement of such a level development of the economy, which satisfies the needs and guarantees the protection of the interests of all economic entities.

In the case of meeting the basic needs of all subjects of the economy, all factors will work at full force and all levels of economic security will interact and have a positive influence on the protection of the state, the state will be safe.

In the process of generalization of theoretical approaches, specific features of economic security as an institutional complex system, which serve as the methodological basis of the research and form its ecosystems (as the material basis of all its constituents, the contradictory nature of the concepts that characterize it, the multilevel, and the multidimensionality of its components), were established.

Before describing the essence of economic security, it is expedient to use a systematic approach, based not only on its substantiality and polystyrene hierarchical structure, but also as a complex system, in the interrelationships and interdependencies of its components. Economic security has a vertical hierarchical structure (external and internal components) and an internal-functional (horizontal) structure.

Due to the fact that all components of the economic security system interact and cause each other, further researches should be carried out in the direction of determining the system of needs and interests that exist in the economic system regarding the maintenance of economic security at different levels: a) hierarchical – global, national economy, region, individual business entities, individuals; b) functional – in various spheres of economic security.

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CHAPTER 3 CORPORATE CULTURE AS AN INSTRUMENT FOR THE PROVISION OF ECONOMIC SECURITY OF THE ENTERPRISE

In an uncertain, risky, changing environment, the economic security of all subjects of entrepreneurial activity and other activities becomes crucial. Economic security includes many elements of protection, including corporate culture, as an instrument for managing economic security.

Corporate culture serves as a base for economic stability of economic actors. A successful formation of corporate culture avoids a number of organizational conflicts. In turn, it affects the economic security of the commercial sector, both at the level of the individual region, and in general - ensures national security of the country. In other words, the national security of the country depends on many factors, among which an important role is played by the relations of the corporate sector, the principles of communication which depend on the internal corporate culture and the direction of goal-setting business.

Despite the fact that corporate culture as an integral part of a modern organization's management system is gaining in importance for its effective functioning, the current level of culture often not only does not contribute to the achievement of the goals set and reaches the maximum possible financial results, but is still under the influence of contradictory relations with it. . Consequently, it can be argued that governance problems in the context of corporate culture regulation as a strategic dominant, which is not only system-forming but also socially significant in ensuring the normal market functioning of enterprises under harsh conditions of competition, are relevant.

Improvement of corporate culture can become one of the keys to improving the efficiency of the enterprise, therefore, corporate culture as a powerful managerial tool should be considered, which allows all stakeholders of the company to be encouraged to jointly achieve goals, to concentrate the initiative of all members of the team and to ensure productive interaction between all subdivisions of the economic sub- thing.

Corporate culture as a resource of the organization is difficult to underestimate. Therefore, it is advisable to analyze the evolution of the corporate and cultural foundations of organization management.

The evolutionary approach to changing the concepts of management reveals the relationship between the development of management models with the national character of the economy, the stages of cultural development, and the development of general scientific components of management - informatics, economics, psychology, sociology and philosophy. Nevertheless, until now, the evolutionary development of the management theory of the organization is still very little associated with the development of the management of the spiritual sphere of life of nations, peoples, their business culture.

Although this link seems obvious in view of the fact that in recent decades the requirements for responsibility for the results of the activities of managers and their organizations have increased, compliance with socio-cultural principles was not adopted massively by all the governing world. Mostly manifested technocratic relations, which were explained by the development of humanity Cartesian world paintings. This contributed to the development of exact sciences, analytical, logical thinking, language, the ability to systematize, manage through human mental activity and the ability to make decisions by choosing alternatives.

Such contempt for the cultural foundations of management, according to the author, is unacceptable, and especially in modern conditions. Culture has a significant impact on individual and group behavior, the activity of people, is a phenomenon that distinguishes human appearance among others. In conjunction with biological evolution, culture not only helped humanity survive, but also grow and develop. Speaking about the organization as an association of people and their groups, it is impossible to consider it separately from the cultural transformations that take place in management, since culture itself is saturated with managerial thought through a system of knowledge transmitted from generation to generation.

According to the author, such a transformation in the management of the organization, which was carried out under the influence of cultural changes in society, took place in several stages, which were allocated depending on the strength and intensity of management on the corporate and cultural grounds.

Stage 1. Generation of the foundations of scientific management. The first publication in the field of scientific management was the book "On the Conservation of Materials and Equipment" by British Charles Babbage (1792-1871gg.). The beginning of management science, most scholars associate with the industrial period, or the period of industrial capitalism. This stage has caused the needs of the society in the creative managers. In the end, what is now called the management, originated at the time of the industrial revolution in the late nineteenth century. The emergence of the factory as the primary type of production, the need to ensure the work of large groups of people meant that individual owners could no longer observe the activities of all employees.

As a result, the best employees were selected, who were specially trained in order to represent the interests of the owner in the workplace. These people were the first line managers or managers. Faced with competition and a changing environment, managers have developed a system of knowledge about how to better coordinate the work of people and use the limited resources rationally. During this period, the industrialization of management took place, resulting in it becoming an independent and prestigious activity, in an independent academic discipline, branch of scientific knowledge and business culture.

Acquiring evolutionary transformations, managers change the benchmarks from the needs of a particular organization to study the management methods that operate in their environment. Some of them solved management problems already studied and in ways that were effective in past periods. Others sought more systematic approaches to management, on the basis of which the principles of modern management emerged.

The Industrial Revolution gave impetus to the development of theoretical studies and management practices. Great contributions to the formation of science management were made by British political economists W. Petty, A. Smith, D. Riccardo. Also, according to the author, the contribution of British socialist-utopian R. Owen in the emergence of corporate and cultural foundations of governance at this stage was important. He previously noticed and appreciated the role of the human factor in the production, the need to take into account which other researchers came only a hundred years. In the same period, F. Engels pointed out that it is worthwhile distinguishing between managing things and managing people. From this thesis further resisted scientists in their studies.

Thus, the preconditions and sources of the formation of management emerged an industrial way of organizing production and development of market relations, the main elements of which was demand, supply and price. How such an organization's management culture at this stage existed in an unconscious form, due to the fact that management considered, first of all, the question of the formation of the organizations themselves, rather than the adaptation of the views and interests of the people who form them. However, all kinds of development, especially in the human communication environment, can not but lead to interest in this area of managerial thought.

Stage 2. The emergence of social aspects in management. Evolving, management has mastered the subtle methods and psychological schemes of organization of interaction of people. The first scientific concept of management contained rational goals and means of achieving them, provided by an operational approach to the process of managerial work, division of labor and responsibility, selection and training of personnel interested in the final result. However, this concept was guided by the psycho-physiological bases of management: economic coercion, fear of losing work, stimulation of performance. The selection of people and the training of their management as a profession formally (documented) to organize the process of achieving the above goal, did not reflect the influence of personal qualities (whim, laziness, passions, creative abilities) and ensured success within the concept of business administration. The "stimulus-reaction" relationship, which is further studied by biohistorians, was fruitfully used as regulators of the behavior of workers. Thus, the transition from coarse and direct methods of managing the prehistoric stage to the subtle

ways of indirect influence at the level of object-object management relations has been realized.

A classic example of the initial formation and study of managerial relations of a rationalist type was the technological concept of the American engineer F. Taylor. In Ukraine in the 20-30s of the XX century, the development of this concept within the framework of the scientific organization of labor and production management is associated with the name of A.K. Gastev. Organized by them Organizing Institutes and the Central Institute of Labor (CIP) contributed to the training of personnel of the organizers of production, scientific equipment standards, the principles of a new culture of work of employees of enterprises. Over 500,000 middle and junior leaders of tens of thousands of enterprises have been influenced by them. Thus, the scientific and organizational premise of industrialization was created.

Thus, during this period, the emphasis is placed on the human factor of production and management, the motives of his work activity are studied, the relationship with the final results of the organizations' functioning is established. In other words, management in this period gets the corporate basis of its development.

Stage 3. Becoming of corporate and cultural aspects of management. The doctrine of a social person, which replaced the economic person, put forward the school of human relations in the USA in the 1930s. E. Mayo's conducted experiments focused on the management of the human factor of production. There was an opportunity to increase labor productivity, practically changing nothing in production, but only affecting the worker himself, "huddling" social and labor relations. M. Folette's research also proved the expediency of open communication with employees.

D. McGregor, who is the founder of the school of organizational humanism, in his time drew attention to research not only on subject-object relations (subordinate chief), but also on the attitude of the workers to the work itself. Confirmed assumptions that reveal the role of labor as a major factor in supporting motivation and satisfaction with work. MacGregor developed the theory of X and U in a new way explaining the labor behavior of workers with opposite labor units, formed during their socialization from the childhood within the family (group) culture.

An important research in the field of organizational humanism was conducted by A. Maslow, putting forward the concept of an employee who himself realized and attained a higher level of realization of needs, since he was able to satisfy all the previous ones by maximizing the use of all his abilities, personal independence and responsible attitude to work. Thus, there was a revolutionary filling of the concept of human resources management with the understanding

that the success of the organization is ensured by the full utilization of the potential of staff in achieving goals.

However, nevertheless, inherent in this concept, the culture of management relations, as well as the technology of indirect influence on the labor behavior of employees of the enterprise leads to the fact that as a result of increased productivity and satisfaction with the work of members of the organization reduced specific costs of human resources per unit of production of products or services, which creates the social basis of economic efficiency of business.

In the same period, theorists come to the conclusion that the effectiveness of labor depends not only on the satisfaction of the needs of individual workers. Importance becomes their joint work and group communication, expressed in the culture of labor relations. Consequently, in the future, management should rely on the development of this aspect in the management of organizations.

Stage 4. Establishment of the culture of organizations as an instrument of effective management. The period from 1950 to date is characterized by the most intense development of computer and other theories and practices of management. It relates to the development of later scientific schools and management concepts based on the use of quantitative (mathematical), system and situational approaches with the use of modern computer technologies and information systems. This period of management development coincided with the introduction of a developed society into the information stage. In place of the traditional direction in management, reflected in the American model of management, and in relation to the new (behavioral) direction embodied in the Japanese model, comes the scientific direction, which, in the opinion of many researchers, it is necessary to characterize as updating (cultural - information), built on the new concept of management.

Of particular importance for understanding the behavior of employees were systemic theories of organizational management (Ch. Barnard, F. Selznik, R. Laykert), which laid the foundation for a new take-off of managerial thought in the behavioral concept of organizational culture (80-90-ies of XX century). In Ukraine, this concept was rejected by the technocratic Soviet government. Thus, the work of the leader as the organizer of collective business cooperation was rejected, and living management relations were replaced by formal bureaucracy, narrowly aimed at forming an interested attitude to work. So, according to D. Yu. Krasovsky, in the Soviet period, the substitution of managerial relations was "labor relations" of workers, and the scientific management was reduced to developments in the field of scientific organization of labor, the creation of "optimal" structures of enterprises and associations.

However, according to the author, this is not entirely accurate. If we analyze the experience of Ukrainian leading enterprises of the 1970s and 1980s,

they mastered the progressive forms of organization at that time (collective lease, brigade contract in construction with payment for the final results of work, use of the system of brigade labor in engineering as the basis of management enterprise), we can come to the next conclusion. Ukrainian management is fully capable of acquiring its own experience of indirect, interactive management with the participation of staff. But this experience is not used in modern organizations, since the specialists who came to the management do not need to work efficiently with the working groups, they manage hard, rational, non-spiritual, considering the "soft" style unacceptable for today's survival situation.

An important contribution, as the scientist believes, in the development of corporate-cultural foundations of management in the mid-80's of the last century published by T. Peters and R. Waterman. Having studied 66 successful American firms, they have proved, within the framework of complex organizational humanism, that the effect of work arises primarily as an art of informal organization of employee behavior. It became obvious that one or another type of organizational culture of management determines the effectiveness of the company. These studies have created the theory of informal organization management, thus replacing the formalized, rationalist model of organization.

By the end of the XX century, an organizational culture that shaped the innovative behavior of personnel and organizations in the context of growing uncertainty became the instrument of effective management. Teamwork and its maintenance become the main content of management organizations. Therefore, management acquires the form of training, that is, the transfer of managers and the acquisition of knowledge by personnel, technology, the value of business, organizational, labor, innovation and other types of culture. Changes not only the behavior of people in the organization, and their style of thinking changes. In this case, the system of management values as a value-target environment of the employees of the firm becomes a condition for collective success and sustainable development of organizations.

Stage 5. Stabilization of corporate and cultural foundations of organizations management. According to P. Drucker, the main task of management of the late XX - early XXI century is to "make knowledge productive." In this regard, leading management researchers believe that the new management concept requires significant changes to management systems: simplicity, flexibility, efficiency and competitiveness. In their opinion, modern control systems should have:

- small units, staffed by a limited number of people, but having a very high level of qualifications;
- a small number of levels of the hierarchy;
- adaptive structures formed by the type of groups (or teams) of specialists;

- Maximum consumer-oriented nature and quality of products and services, as well as procedures and schedules of organizations.

Thus, we can conclude that the new management concept requires significant changes in management systems: simplicity, flexibility, efficiency and competitiveness. And in this context, the corporate culture of the organization becomes a major factor in the changes in the above systems.

Despite the fact that corporate culture as an integral part of a modern organization's management system is gaining in importance for its effective functioning, the current level of culture often not only does not contribute to the achievement of the goals set and reaches the maximum possible financial results, but is still under the influence of contradictory relations with it. Consequently, it can be argued that management problems in the context of corporate culture regulation as a strategic dominant, which is not only system-generating but also socially significant in ensuring the normal market functioning of enterprises under harsh conditions of competition, are relevant.

There are many methods for assessing corporate culture that differ in the level of engagement of the researcher in the research organization and the level of involvement of its members in the research process. These issues were dealt with by the American MacKinsey and Company Management Consultancy, which, based on a number of publications and surveys, conducted research in organizations with a high level of productivity. The disadvantage of this study was that its results were presented in the form of theses reported about the organization, and practically did not have quantitative comparisons and numerical data.

According to Yu. D. Krasovsky, an integrated approach in the study of organizations from the standpoint of corporate analysis was developed by the scientists R. Hofstede and D. Bollingze, which based on the diagnosis lay four characteristics of organizational culture. The method has found its application in the practice of analysis of organizational cultures of small and medium-sized firms. However, according to the author, its use as an assessment of a corporate culture using only these four parameters is not entirely acceptable.

There are also methods for assessing the impact of corporate culture on organizational life. In the work of D. Krasovsky also presented that

V. Sata considers such an effect through five processes:

decision-making,

CONTROL,

communications,

perception of the organizational environment,

justify your behavior.

Authors T. Peters and R. Waterman found in their research the link between culture and success in the organization, describing the management prac-

tice of successful firms and revealing a number of beliefs and values of culture that led the organization to success.

More generally, the link between the culture and the results of the organization is presented in the model of the American economist-corporatist T. Parsons, developed by him on the basis of the specification of certain functions that any social system must perform in order to succeed. According to Krasovsky, ideas of T. Parsons were developed and specified by R. Quinn and J. Roberch in their model "Competing values and organizational efficiency", and explained the influence of these or other values on organizational efficiency.

The questions of diagnostics of socio-cultural situation were considered in the works of N.R. Khairullina, where the problems of revealing trends of socio-cultural processes in the region were reflected in the conditions of globalization.

Methods of diagnostics of corporate culture have been developed quite a lot and in modern conditions. Almost every consulting firm has in its arsenal a package of questionnaires and processing technologies that apply more or less successfully to their clients. The problem is that many questionnaires require adaptation, and it costs time and money. In addition, the client often does not have the slightest idea how adequately applied questionnaires reflect its purpose.

The research showed that the existing methodological approaches to the assessment of culture, firstly, are aimed at analyzing organizational culture, while we use the notion of corporate culture; and secondly, focused on the consideration of a specific problem area in the organization's culture according to the selected subject of the study; and thirdly, tested mainly on the example of foreign companies, which may not always apply to domestic organizations. In addition, for the development of a comprehensive mechanism for managing cultural development, which is especially important in the context of corporate interaction, a methodological basis for the assessment of corporate culture, based on a systematic basis, is needed. In this regard, the issue of comprehensive diagnostics of corporate culture of modern organizations is being updated.

The peculiarity of the proposed author's algorithm for the diagnosis of corporate culture is its complexity, which implies an assessment of its level, specificity, degree of manifestation in a specifically selected organization for research, as well as the identification of trends and factors of cultural development in the totality of economic entities.

According to the results of the diagnosis, the structuring of the causes of cultural contradictions is possible, the development of tools for regulating corporate culture and their integration into the social mechanism of management of the modern organization in accordance with the chosen development strategies.

Diagnostic analysis is proposed to be conducted in two directions: assessment of the level of development of enterprise corporate culture on the basis of expert-analytical approach, which allows identifying the organization's culture, determining its profile and core values; assessment of the organizational dynamics of corporate culture through economic analysis.

Currently, it should be noted the tendency to complicate social organizations as an object of management, the dynamism of social processes, which imposes great demands on managerial relations within the management system. In connection with this, there is a need to consider not just managing both the process and its corporate basis. The peculiarity of corporate governance as an independent branch of social life is that it is a sphere of spiritual life of people, largely depends on the state of social and individual consciousness. Questions of the corporate approach to management were V. M. Zlipkov and J. P. Averin, who represented such a management as the impact on society and individual links in order to streamline them.

V.I. Franchuk considered the type of intellectual activity of people associated with the identification and resolution of problems of a corporate organization under corporate governance, thus ensuring its long existence as a social integrity and achieving its goals.

Issues of corporate development are also reflected in the works of Yu. M. Koneva and O. M. Barbakov, which highlighted the basic principles and methods of corporate governance.

Due to the relevance of the corporate approach to management in modern conditions, the feature of the proposed algorithm for the diagnosis of corporate culture is the fact that data from surveys of employees on the perception of their formed cultural relations in the enterprise are used. The obtained results allow to structure the causes of cultural contradictions, to develop tools for regulating corporate culture and to integrate them into the social mechanism of management of a modern organization in accordance with selected development strategies.

Diagnostic analysis is complex and involves the implementation of a series of consistent actions on the direct study of the corporate culture of specific enterprises.

An assessment of the level of development of corporate culture involves the use of an expert-analytical approach to the analysis of corporate culture. This block consists of the following elements:

1.1. Cultural identification. The practical significance of identifying the type of corporate culture and features, in the author's opinion, is the ability to predict the behavior of the organization, the reaction of employees to the decisions and actions of management, external events. The value of typologies is al-

so that they simplify thinking and provide useful categories that help to identify the difficulties encountered in studying organizational realities.

Knowledge of the features, strengths and weaknesses of the formed corporate culture, stereotypes of the behavior of employees, accepted values allows you to develop managerial actions with a view to its possible change and modification.

The second block of the proposed algorithm is aimed at assessing the organizational dynamics of the corporate culture. This implies, first of all, the identification of trends in the development of corporate culture through the economic and sociological analysis of the organizations being studied. The sociological survey of employees of enterprises on the status of elements of corporate culture allows to assess the motivational structures of the individual, identification of the employee with the organization, the level of acceptance of ideals and the willingness to always act in accordance with these values. The benefits of this research method are that the assessments are not abstract, but are based on the real feelings and perspectives of employees about the corporate culture inherent in their organizations. It should be noted that the structure of the questions of such a questionnaire may be different, depending on the purpose pursued by the analyst. However, one should not deviate from the traditional composition of elements of corporate culture, such as the system of values, rituals, traditions, style of management, the hierarchy and structure, personnel policy.

In order to understand the value of culture for enterprises, it is necessary to determine whether there is a correlation between its level and various indicators of the organization's activities. Therefore, the next step in diagnosis is to establish a relationship between the state of corporate culture and the results of the activity enterprises using correlation-regression analysis. The equations of pair linear regression allow us to determine in which direction and on what size the result of the change (net profit, quality of the product and services, market share) changes with the change of the factor characteristic (corporate culture of the enterprise) by 1 point.

To establish this dependence, the corporate culture is proposed to be presented as a set of elements, detailed in accordance with the diagnostic parameters used earlier:

clarity of the goals of the organization and orientation towards their achievement;

style of management;

the existing system of values;

devotion to common goals;

effective communication;

ability to resolve conflicts;

personnel orientation;

consumer orientation;
training orientation and staff qualification;
working conditions and labor discipline;
change focus; remuneration system; technical level of production.

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CHAPTER 4 MONITORING OF CONSEQUENCES OF THE IMPACT OF WORLD ECONOMIC CRISIS TO THE ECONOMY OF UKRAINE

The course of global economic crises increases the probability of negative consequences' manifestation in the development of individual countries of the world, which are world economic processes' active participants. In order to identify the nature of the individual indicators changes' impact on the GDP dynamics and for their further consideration in anti-cyclical regulation, we, with the help of an econometric basis, determined their interdependence.

So, for the analysis of the impact of global economic crises on Ukraine's GDP, a correlation-regression analysis was carried out according to which the close relationship of GDP changes was determined by the indicators of gross accumulation of capital and the growth of money supply [1].

In addition, the estimation and testing of the econometric model in the application package Eviews 7.1 was performed. Before enrolling in the model, all macroeconomic indicators were tested for the presence of a single root using the expanded Dickey Fuller criterion. In the case of their stationarity, the model includes the levels of these time series, and in case of the first-order integration –their first differences.

In the assessed model, the dependent variable was the growth rate of the gross domestic product of studied countries, and independent – the main economic indicators, namely: the budget surplus, tax revenues, state expenditures, GDP deflator, gross accumulation of capital, gross accumulation, general external debt, public debt, inflation consumer prices, money supply growth, balance of current account balance, export, import, share of industry, agriculture, trade and services in the structure of the country's economy, share you the types of technologies used in industrial exports, the ratio of bank capital to assets and the volume of their domestic lending, stock indices, stock market capitalization, lending and deposit rates, volumes of direct and portfolio investments and domestic lending to the private sector, the structure of trade in goods and services in the national economy, share energy imports from total consumption, urban population, total gold reserves, unemployment rate, GDP per capita, labor force.

In addition, a fictitious variable describing the presence or absence of a crisis at one or another period of time was included, and it allows to take into

account the influence of crisis phenomena on the growth rate of GDP. This variable takes value 1 during periods of crisis, 0 – in another case.

The specification of the regression model for Ukraine is as follows:

$$d(gdp_ukr_norm) = 2.00680969832*d(gfcf_ukr_norm) - 0.393625268098*d(mon_ukr_norm(-2)) + 0.789360967353*d(ca_ukr_norm) + 1.16086664021*d(int_credits_ukr_norm(-2)) - 0.0498944651959, \quad (4.1)$$

where $d(gdp_ukr_norm)$ – an increase in the growth rate of gross domestic product of Ukraine,

$d(gfcf_ukr_norm)$ – growth of gross fixed capital accumulation in Ukraine,

$d(mon_ukr_norm(-2))$ – an increase in the growth rate of money supply in Ukraine,

$d(ca_ukr_norm)$ – growth of the current account balance of payments balance of Ukraine,

$d(int_credits_ukr_norm(-2))$ – an increase in domestic lending by the banking system of Ukraine.

All studied variables are non-stationary and integrated first order, so only the increment of these indicators was included in the model.

The estimated model is acceptable for practical use, since its remnants have a normal distribution (Fig. 4.1).

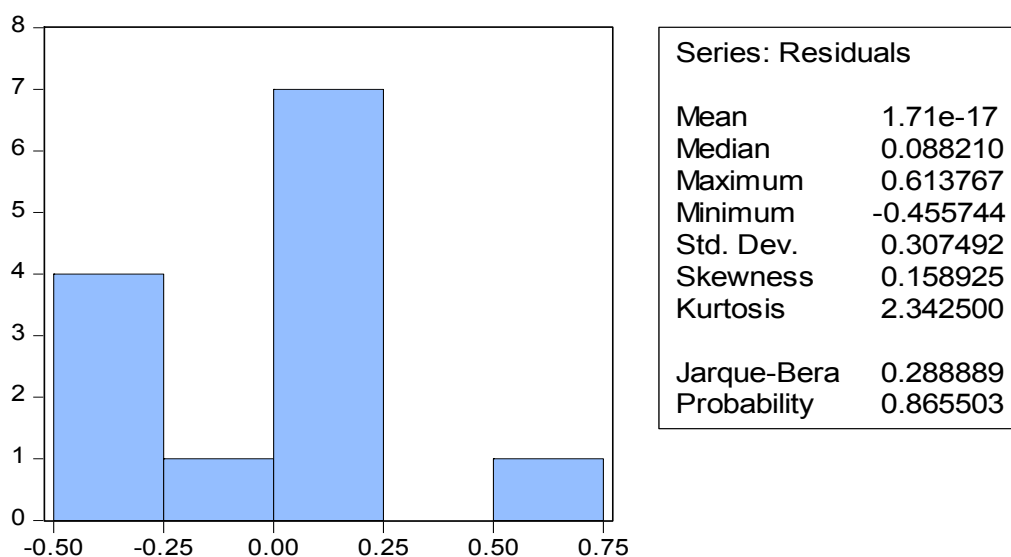


Fig. 4.1 The results of checking the normality of the model's remnants for Ukraine *

* Calculated by the author

There is no heteroscedasticity and autocorrelation; it has the correct specification in the context of the RESET criterion with stable parameters relative to the size of a sample.

Commenting on the main results of evaluating the regression model, it should be noted that all independent variables in the constructed models are significant, and the regression models themselves are adequate.

On the basis of the estimated model for its variables, elasticity coefficients were calculated which allow to determine the degree of influence of each independent variable on the dependent, namely: the increase of domestic lending by the banking system of Ukraine (-4.339117), the increase of the balance of current account balance of payments - 3, 868425, an increase in gross fixed capital accumulation in Ukraine is 1,054547, an increase in the growth rate of money supply – (-0,817103).

Analyzing the results obtained, it should be noted that the greatest impact on the GDP growth rate in Ukraine among the studied variables has an increase in domestic lending by the banking system and an increase in the balance of current account balance of payments in Ukraine, the lowest is the growth rate of money supply that has a reciprocal effect.

To study the impact of macroeconomic indicators on the growth rate of the gross domestic product within the countries where there have been crises during the last 24 years, we have built a model with panel data.

Panel data represent a combination of variation and time series and include observation of performance indicators of a particular set of objects within a specified time. Let us watch for N ($i = \overline{1, N}$) objects within T ($t = \overline{1, T}$) periods of time. Then in general the model with panel data is written as follows:

$$y_{it} = \beta_{1it}x_{1it} + \dots + \beta_{kit}x_{kit} + \varepsilon_{it}, \quad (4.2)$$

where x_{jit} - k - a measurable vector of explanatory variables that does not include a constant

β_{jit} - partial effects x_{jit} in the period t for i -unit of observation ($j = \overline{1, k}$).

Assuming consistency of parameters β_{jit} the model will look in the following way:

$$y_{it} = \beta_1 x_{1it} + \dots + \beta_k x_{kit} + \varepsilon_{it}, \quad (4.3)$$

or with a constant

$$y_{it} = \alpha_i + \beta_1 x_{1it} + \dots + \beta_k x_{kit} + \varepsilon_{it}. \quad (4.4)$$

That is, the effects of the independent variables' change are identical for all units of observation over the entire period of time. At the same time, the average levels for observation units are different.

Parameters α_i reflect the effects of individual effects for i -unit, that is constant throughout the time period; ε_{it} - perturbations that are independent, equally distributed random variables with mathematical expectations of zero and dispersion σ_ε^2 .

Panel models are divided into models with fixed and random effects.

A fixed-effect model is written as follows:

$$y_{it} = \alpha_i + \beta_1 x_{1it} + \dots + \beta_k x_{kit} + \varepsilon_{it}, \quad (4.5)$$

where x_{1it}, \dots, x_{kit} - independent variables that do not include a constant;

α_i - constants that vary according to the object of observation i ;

ε_{it} - independent, equally distributed random variables with mathematical expectations of zero and dispersion σ_ε^2 ;

and all x_{it} do not dependent on perturbations ε_{it} .

In the case when α_i random variables with mathematical expectations μ and dispersion σ_α^2 (assuming that α_i do not depend on x_{it}), The model is called a model with random effects.

In models with random effects, the error consists of two components: component α_i , which is independent of time, and the residual component ε_{it} . Consequently, this model can be written as follows:

$$y_{it} = \mu + \alpha_i + \beta_1 x_{1it} + \dots + \beta_k x_{kit} + \varepsilon_{it}, \quad (4.6)$$

where μ - free term or constant.

The considered models are models with one-dimensional component of the error. There are also models with two-dimensional error component or two-directional (two-factor) models that also include time effects λ_t :

$$y_{it} = \mu + \alpha_i + \lambda_t + \beta_1 x_{1it} + \dots + \beta_k x_{kit} + \varepsilon_{it}. \quad (4.7)$$

The choice of a model with fixed or random effects depends mainly on the nature of the findings that can be obtained as a result of model evaluation. If the investigator needs to investigate the effects observed in a particular set and the differences between objects of observation then it is expedient to choose a model with fixed effects. To determine the characteristics of the general population, it is necessary to choose a model with random effects.

So, in our case, it is expedient to choose a model with fixed effects, because we are interested in studying the impact of macroeconomic factors on the growth rate of gross domestic product in countries in which there was a crisis phenomenon. Among the countries in which there have been crises during 1993-2017, the following countries were selected: Argentina, Brazil, Korea, Indonesia, Thailand, Malaysia, Russia, USA, Ukraine and Mexico. The input data in the model were the annual statistics of the World Bank and Oxford Economics for 1993-2017 (a total of 193 observations).

At the initial stage of the study of the influence of input indicators on the growth rate of the gross domestic product of the countries under consideration, all explanatory variables were included in the model. Then, in the case of their significance, they remained in the final model, the non-significant variables were later discarded. Finally, in the panel regression models, the following variables were used:

gdp – the growth rate of the gross domestic product,

cpi – consumer price index,

credit_rate – credit/loan rate,

gfcf – gross fixed capital formation,

export – export in relation to GDP,

gov_exp – government expenditures in relation to GDP,

labour_force – workforce/ labour force,

crisis – fictitious variable indicating the existence of crisis phenomena (1 - in case of observation of crisis phenomena in a given year, 0 – in another case).

Investigating the dependence of the GDP growth rate of these countries on other macroeconomic indicators through the evaluation of a model with panel data with fixed effects, the following results were eventually obtained (Table 4.1.).

Table 4.1 Results of evaluation of models with panel data**

Independent variables	Dependent variable <i>gdp</i>		
	Fixed-effect model (cross-sectional and time-based)	Fixed-effect model (cross-sectional)	Fixed-effect model (cross-sectional and time-based)
<i>cpi_norm(-1)</i>	-0.308804* (-5.929569)	-0.298040* (-6.027793)	-0.312837* (-5.685654)
<i>credit_rate_norm(-1)</i>	-0.148948* (-7.563116)	-0.130362* (-2.885040)	-0.157851* (-3.077385)
<i>gfcf_norm</i>	1.200475* (12.41149)	1.358643* (16.99241)	1.184056* (10.98857)
<i>gfcf_norm(-1)</i>	0.886849* (9.464851)	1.020930* (12.88626)	0.887431* (9.255197)
<i>export_norm(-1)</i>	0.594039* (9.581119)	0.478637* (3.372517)	0.621602* (3.698570)
<i>gov_exp_norm</i>	-0.693230* (-4.546734)	-0.702216* (-6.102137)	-0.680975* (-4.369565)
<i>crisis</i>			-0.031180 (-0.209466)
<i>labour_force_norm</i>			0.415703 (0.914742)
Constant	0.058087* (11.72764)	0.066838* (11.37474)	0.060149 (1.429820)
Determination coefficient	0.806007	0.761716	0.807050
F-statistics	19.30773	37.72083	18.12504

* the value of the regression coefficient at 1% error (in brackets the values of t-statistic are given);

** calculated by the author

According to the data of the table. 1, in the first model (first column of the table), which was estimated taking into account cross-sectional and temporal effects, all coefficients are significant with a reliability level of 99%. At the same time, the model as a whole is also significant. The determination

coefficient is 0.806007, which indicates a significant tightness of the linear relationship between dependent and independent variables in the model.

The second model was evaluated taking into account only cross-sectional effects. At the same time, the value of the coefficients in it is insignificantly different from the first one. At the same time, the determination coefficient is lower than in the previous model. However, with the help of the test, the likelihood ratio was determined by the necessity of using the very first model with fixed cross-sectional and time effects. In order to verify the robustness of the results of the first model, two explanatory variables (the third column of table 1) (labour_force and crisis) were added to it, which, in our opinion, could have a significant effect on the resultant indicator. The analysis of this additional model indicated the insignificance of the added variables and showed the robustness of the results of the first model.

On the basis of the estimated first model, the theoretical values of the dependent variable were calculated.

$$GDP = -0.308804 * CPI(-1) - 0.148948 * CREDIT_RATE(-1) + 1.200475 * GFCG + 0.886849 * GFCG(-1) + 0.594039 * EXPORT(-1) - 0.693230 * GOV_EXP + 0.058087 + [CX=F, PER=F], \quad (4.8)$$

where GDP – the growth rate of the gross domestic product,

$CPI(-1)$ – consumer price index,

$CREDIT_RATE(-1)$ – credit/loan rate,

$GFCG(-1)$ – gross fixed capital formation growth,

$EXPORT(-1)$ – export in relation to GDP,

GOV_EXP – government expenditures in relation to GDP,

$[CX=F, PER=F]$ – cross sectional time effects.

Also, on the basis of the constructed model elasticity coefficients were calculated, which allow to determine how the dependent variable in the model will change in response to the change of independent variables (Table 4.2). As can be seen, the largest impact on the GDP growth rate of the countries under study is accounted for by the gross accumulation of fixed capital and government expenditures, and the lowest is the consumer price index. Thus, the growth of the gross fixed capital accumulation by 1% leads to an increase in the GDP growth rate by an average of 7.57% in the current period and 5.59% in the next.

Table 4.2 Elasticity coefficients for panel model variables *

Variable	Value
<i>cpi_norm(-1)</i>	-0.560843
<i>credit_rate_norm(-1)</i>	-0.308168
<i>gfcg_norm</i>	7.573585
<i>gfcg_norm(-1)</i>	5.594974
<i>export_norm(-1)</i>	1.930627
<i>gov_exp_norm</i>	-0.693230

* – calculated by the author.

At the same time, the growth of government expenditures by 1% leads to an average 0.69% decrease in the GDP growth rate. Growth of the interest rate on loans by 1% causes the GDP growth rate to fall by 0.31%, while the growth of the consumer price index by 1% - the decline in the GDP growth rate by 0.56% in the next period.

When developing anti-cyclical regulation of the development of the economy, macroeconomic indicators dynamics are of great importance. Lately, widespread neural networks are becoming more prognosticated, which, in contrast to regression, allow for the asymmetry of information to be taken into account, the existence of nonlinear relationships, uncertainty in the development of economic processes, unpredictable rapid change in subjective factors. Neural networks are used to solve complex non-formalized tasks for which analytical decision algorithms are not defined, and input data is incomplete and contradictory. The main directions of application of neural networks include: recognition of target signs of the object of research, prediction of changes in the quantitative feature of the object, dynamic prediction of numerical values of the object in time, automatic grouping of objects.

While modeling the forecasts of economic development, neural networks allow, by means of group accounting of a large number of independent variables, to determine the most influential ones, which are most likely to determine the changes in GDP. Thus, unlike regression models, formalizing and identifying the preconditions of crises that are limited by the presumption of maintaining the development of the main tendencies of the past in the future, neural networks take into account the asymmetry of information, the growing

uncertainty and the influence of subjective factors in times of crisis, unpredictable tendencies, reveal no linear interrelations tricks.

To identify the preconditions for crises in the domestic economy, we carried out a correlation-regression analysis in the previous section, compare its results with the results obtained in applying neural networks to both internal and external factors. The most flexible and effective way to work with economic data is to synthesize feed-forward back propagation (FFBP), they are structures that arbitrarily precisely approximate any continuous function of several variables. The architecture of FFBP includes two or three levels: inbound, hidden, outgoing. The input and output levels perform linear transformations and aggregation of data, and the hidden level defines the basic properties of the neural network, which perform non linear, and the logical "switching" - "if so". Mathematically, they can be expressed by the log-sigmoid function that has the following form:

$$\psi (s) = \frac{1}{1 + e^{-ks}}, \quad (4.9)$$

where $\psi (s), \psi (s) \in R$ – the value of the neuron activation function;

$s, s \in R$ – weighed sum of input values (input of artificial neurons);

$k, k > 0$ – a parameter that determines the "curvature" of the function, the speed of its transition from values close to zero, to values close to unity.

In practice, the most commonly used autoregressive model with a neuron component of the reverse error distribution with one output is AR-NN(p, q), which looks the following way:

$$y_t = \beta_0' w_t + \sum_{j=1}^q \beta_j G(\gamma_j' w_t) + \varepsilon_t, \quad (4.10)$$

where y_t – dependent variable in the current period;

w_t – vector of regressors (lag values of a dependent variable) of order $(1 \times p)$;

β_0 – vector of linear parameters of autoregression of order $(1 \times p)$

q – the number of hidden layers of neurons;

β_j – vector of weight coefficients of the source layer of the neural network order $(1 \times p)$

γ_j – vector of the hidden coefficient of the order layer $(1 \times p)$

$G()$ – activation function of hidden neurons;

ε_t – vector of independent identically distributed residues.

The object of forecasting, we chose GDP and its growth, which are most indicative for assessing the economic situation in the country. We calculated the forecast using TRAJAN Neural Network Simulator Release 4.0 C software and medium-term forecasting (regression, curvilinear alignment) methods, assessing the dynamics of the two groups of internal and external indicators. Data were taken from 1996 to 2016.

When the influence of internal factors was detected, we examined the following indicators: GDP deflator, gross accumulation, government debt, inflation, money supply growth, budget surplus, tax revenues, state expenditures, current account balance, share of imports and exports in GDP, industry share, agriculture, trade in goods and services in GDP, share of bank capital, real interest rate, volume of domestic loans, capitalization of the stock market, volume of portfolio and direct investments. The program carried out their normalization and as a result of self-learning by the neural network with reverse (the reverse error distribution), the most significant factors were selected in the GDP forecast: gross accumulation of capital, public debt, inflation, money supply growth, tax revenues, state expenditures, current balance the share of GDP, the share of imports in GDP, the share of industry, agriculture, trade in services in GDP, the share of bank capital, the volume of domestic loans, the capitalization of the stock market, the volume of portfolio and so on pits of investments.

During the analysis, 10 models with the slightest absolute error were selected - the program tested the model and the result of their ranking by mistake. Of these, the best-looking linear model without a hidden (internal) layer, is depicted in Fig. 4.2.

With the forecast of GDP growth, a multiperspertronic model with a hidden inner range was selected that included such indicators from a group of internal factors such as: gross accumulation, the share of tax revenues, imports and trade in services, capitalization of the stock market (Fig. 4.3).

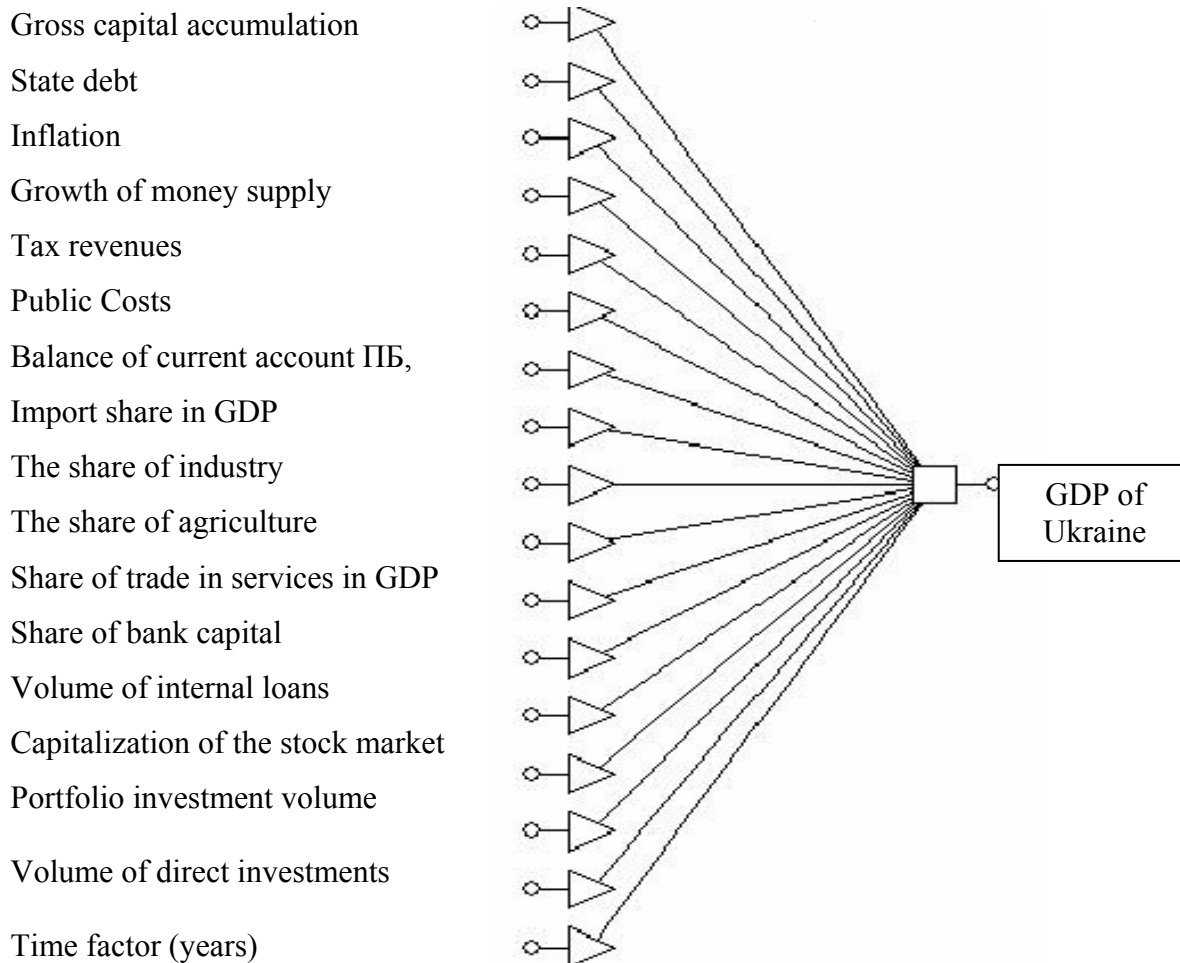
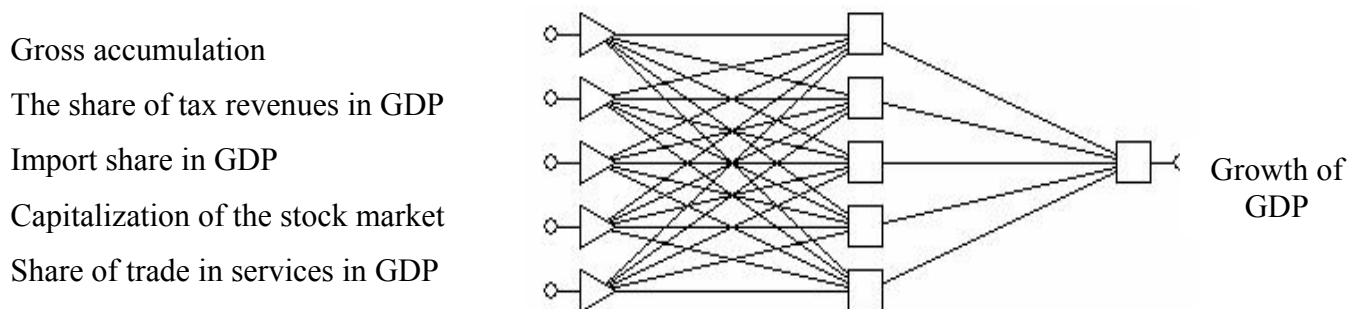


Fig. 4.2. Structure of a model with a one-output neural component with respect to GDP forecast for a group of internal indicators *

* Calculated by the authors [2]



a model with a one-output neural component with respect to the forecast of GDP growth by a group of internal indicators *

* Calculated by the authors [2]

When we detected the influence on the forecast of indicators from a group of external factors, we examined the following indicators: world GDP, volume of direct investments, volume of commodity exports, volume of commodity imports, gross national income on purchasing power, gross national income, unemployment rate, volume of portfolio investments, inflation, export volume of technology. Data were taken from 1996 to 2016.

As a result of the projected modeling of GDP and its growth with the help of a neural network with reverse (reversal error) after the valuation of the values of indicators, the following most significant factors were selected as: world GDP, volume of commodity exports, gross national income on purchasing power, gross national income, unemployment rate, volume of portfolio investments, inflation, volume of export of technologies. But the patterns of the patterns are different in rice. 4 shows a model for the percolation of GDP, and in Fig.4.5 for the forecast of GDP growth.

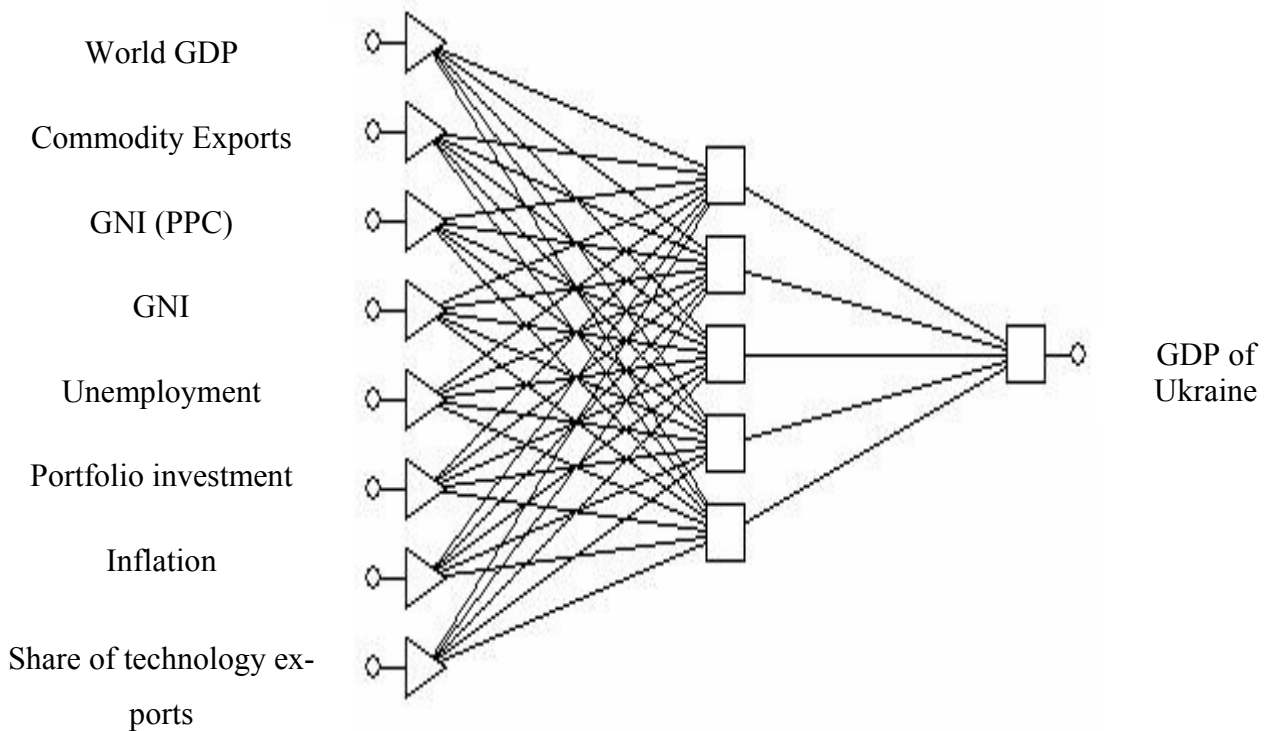


Fig. 4.4. Structure of a model with a neural component with a single output in relation to the forecast of GDP by external factors.

* Calculated by the authors [2]

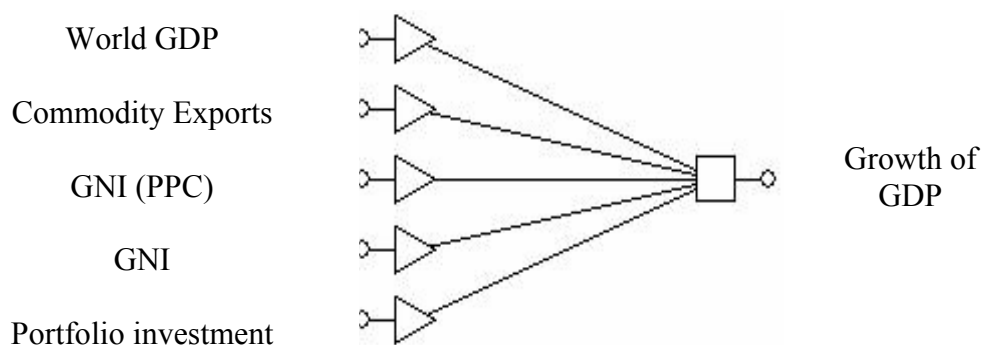


Fig. 4.5. Structure of a model with a neural component with one source for the forecast of GDP growth by external factors.

* Calculated by the authors [2]

In accordance with Fig. 4.4 it is seen that the hidden (internal) level includes five components, and in Fig. 4.5 model contains five indicators and does not contain an inner layer. To predict changes in GDP and its growth under the influence of external factors, for each indicator selected by the model, we calculated the forecast for curves derived from the modified exponential, namely, the modified exponent, the Gompertz curve, the logistic curve. As a result of the calculations, regressive dependencies were selected, the predicted values of which have the highest values of correlation coefficient and determination. They became the input values for the neural model.

The received forecast data processed by the neural network gave an opportunity to predict changes in GDP and its growth in groups of internal and external indicators by the component. The results are summarized in Table 3. As can be seen from Table 4.3, the GDP forecast indicates its growth, and the forecast of GDP growth on the deterioration of the economic situation in the economy and the absence of growth in the last period.

An increase in the volume of GDP will take place at the expense of the devaluation of the national currency and the increase of prices. And the indicator of GDP growth indicates a deep recession in the Ukrainian economy, which is related to economic and political problems. It can be concluded that changes in the internal group indices are more significant for the forecast of GDP and its growth than external indicators.

Table 4.3 Results of GDP changes forecast and its growth using a neural network

Years	Indexes		Absolute deviation
	Internal	Exterior	
GDP			
2014	1619,67	1524,84	94,832
2015	1754,70	1611,94	142,758
2016	1891,56	1691,70	199,854
GDP growth			
2014	-8,1	-6,3	1,8
2015	-4,2	-4,5	0,4
2016	-0,2	-1,2	1,0
2017	1,2	1,8	0,6

* Calculated by the authors [2]

Since the current stage of Ukraine's economic development is characterized by an increase in uncertainty, unpredictable economic changes, and trends that make it difficult to take into account the linearity of interconnections between the main macroeconomic factors, there is a need for more flexible means of system analysis, such as neural networks. Neural networks allow using a simple mathematical apparatus to reproduce complex nonlinear processes that have intensified in the conditions of globalization of the world economy.

In the context of growing uncertainty about economic development and unpredictable changes, asymmetry of information, it is very difficult to establish with the help of a mathematical apparatus the interconnections between the main macroeconomic indicators. Therefore, the use of hybrid models that combine regression or auto regression components and artificial neural networks is very effective, since they are capable of reproducing complex nonlinear processes with the help of a relatively simple econometric apparatus. In particular, autoregressive neural networks (AR-NN) allow to implement the behavior of linear oscillations around its average, whose level may change nonlinearly over time. A more complex case is regression hybrid models of smooth transition (ST (A) R) and multi-mode hybrid models of

smooth transition in which non-linear behavior is not only the average value (intersection), but also the remaining coefficients of the regression equation.

The given example of the developed and estimated on the real information of the neural model of forecasting taking into account the influence of internal and external changes on the domestic economy, confirms the possibility of their application for system analysis, forecast and quantitative assessment of the impact on the main macroeconomic indicators in terms of uncertainty, asymmetry of information and possible changes in trends economic development.

When developing the anti-cyclical regulation of economic development in Ukraine and the world, the models of revealing key factors of influence and forecast of changes in GDP and its rates of growth should be applied.

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CHAPTER 5. FEATURES OF THE FUNCTIONING OF ECONOMIC SYSTEMS OF REGIONS OF UKRAINE IN THE CONDITIONS OF GLOBAL CHANGES

5.1. Competitive advantages of the regions of Ukraine in the global paradigm of development

At each stage of social development, the task of improving the regional organization of economic activity in the country significantly changes, reflecting the peculiarities of its socio-economic development. At the present stage of formation of the global paradigm of the development of society, new approaches to the theory and methodology of regional development require the formation of local and regional socioeconomic systems, determining the level of influence of global factors on the socio-economic development of regions. It should be noted that the common feature of modern transformational processes in the country's economy is, first of all, the growth of relative autonomy and the strengthening of the role of regions in the composition of national and global economic systems.

This is due to the strengthening of the processes of global regional asymmetry in the development of social systems, the deepening of the specialization of economic activity of regions of different rank, based on the competitive advantages of natural resource, production, labor, transport, their potential, territorial organization of production and other factors of countries and regions that have a positive effect on reducing costs at different stages of various production processes. In this way, economically profitable industrial specialization of the regions is formed, conditions for the development of interregional and interstate economic relations are created. In turn, the expansion of foreign economic activity between countries and regions is due to objective reasons, among which the main is the growth of the economic effect of each subject of economic relations - the producer region and consumer region. In this way, the conditions of favorable concentration in each country of the world are created only for those industries that have the most favorable natural, economic, social preconditions - competitive natural resource and socio-economic potential, geo-economic situation, market and transport and communication preferences, etc.

In general, sharing the current views of scholars dealing with economic regionalism in the context of strengthening globalization processes, it should be noted that many aspects of the study of global regional asymmetry and the analysis of the competitive advantages of regions require substantial research both in terms of identifying their causes, the nature of the main processes and consequences for further development of national economies.

Concerning the analysis of the modern stage of regional socio-economic development of Ukraine, which would reflect its current specificity, it would be advisable to proceed from the positions of the subjects of the national and regional level, as well as from the positions of economic actors for the most significant statistical indicators.

The task of state authorities is to perform the functions assigned to them in the system of public administration. To make operational and strategic decisions on the specific use of these resources at the state level, it is necessary to apply indicators that characterize the efficiency of the use of territorial resources at both the national and regional levels. For each economic entity, indicators should be used which give an assessment of territories from different positions - for example, from the point of view of the possibility of transport construction, reservation of territories for the future, construction of transport highways, development of resettlement systems, provision of favorable living conditions, placement of environmentally hazardous enterprises, as well as from the position of preserving the territories where the historical and cultural heritage is located. Therefore, for the adoption of scientifically sound management decisions regarding the prospects for the development of one or another type of economic activity in the region, a set of indicators is necessary to assess the effect of territorial development, that is, the use of territory and its potential as a resource.

There is somewhat different interest in the regional use of territorial resources by the subjects of executive power, that is, regional authorities and local self-government, which should be reflected by other statistical indicators of accounting their use. First of all, for the effective socio-economic development of the region data on the functional zoning of the territory is required, because it can determine the strategy of spatial development of the country. For example, if according to the regional development strategy it is envisaged that the region

is specializing in agrarian production, then it is important to know the amount of agricultural land, the quality of the land fund, types of soils, etc. This requires the use of a specific system of indicators.

For regional state administrations and local governments, in order to improve the investment climate in the region and attract investors, it is necessary to know the functionalities of the territories, their specific features that would meet the specific needs of investors, their requirements. Such tasks are faced by the regional authorities and during the formation of a network of recreational enterprises, the placement of social infrastructure objects, etc

Thus, for the effective management of the socio-economic development of the regions, various information is needed about the possibilities of territorial concentration of different types of activity and forms of their territorial organization. There is no aggregated complete information on the evaluation of territorial resources, therefore, management decisions are often irrational. To assess the prospects of development and territorial organization of business objects, as well as networks of settlements, social, energy and transport infrastructure, it is necessary to have a set of indicators that fully characterize the features of the territory.

The assessment of a regional resource for socio-economic development should also relate to settlements, their population, administrative and socio-economic status, as well as territories outside settlements, characteristics of its relief, functional capabilities, infrastructure facilities, etc.

With regard to the indicators of assessing the competitive advantages of the region, among them, the following should be highlighted:

1. Estimation of the resource of a region or settlement should begin with the characteristics of its geo-economic situation. After all, the location of the region in relation to the administrative-political, economic and cultural centers has a decisive influence on the prospects of socio-economic development of the adjoining territories. A completely different situation is due to the attractiveness of investments in peripheral regions, where not only manufacturing but also social infrastructure is less developed, the list of services is limited, the possibilities for choosing a type of labor activity are almost absent, and the connection with industrial centers is of a periodic nature. Also, the geopolitical situation should be evaluated both for adjacent settlements, and for the large centers of

the country, and also taking into account the global interstate importance. This is especially important in determining the degree of participation of the region in world markets for goods and services.

To assess the geo-economic situation, a ball system can be applied, assigning points to the region depending on its location regarding the center of transport and infrastructure provision, etc. Central regions are assigned a high rank (the highest score). Places for other regions will be assigned based on their location relative to the central region. In Ukraine, the central region is Kiev, and the cities of the oblast centers and large cities act as subregional centers of the first order. Subregional centers of the second order are regional centers and cities of regional and district subordination. The conducted ranking of the territory of the country in terms of geoproduction is an important tool for making sound management decisions on socio-economic development of the regions.

2. Within the framework of the assessment of the potential of the territory, the potential of its administrative status is important. It is well known that a list of settlement functions is associated with administrative status. The more functions in the city, the more developed its infrastructure, the higher the access of the population to various social and market services, the greater the choice of activities, opportunities for educational and cultural development, etc.

The distribution of status of administrative powers in Ukraine is (in order of decreasing significance):

- the capital;
- regional centers of the regional rank;
- cities of oblast and district subordination;
- district centers and village councils.

Additional indicators can be historical, socio-cultural, recreational or industrial functions of settlements.

3. An important indicator for assessing the competitive advantages of the region should be the transport infrastructure and the availability of logistics centers. The location of the region near the highway significantly increases the potential of the region, and therefore has a positive impact on its socio-economic development and has significant potential for investment attractiveness. The assessment of the location of settlements in relation to the transport network should also be done using the ranking method. Those cities and regions where

the density and structure of the highways are high are of high rank. It should take into account not only the regional significance of transport highways, but also the national and global combination of types of highways - land, sea, air, electronic, etc. With the decrease of types of transport passing through the region, the importance of highways, decreases the transport potential of the region, and hence its rank position. An additional indicator for regional ranking may be the transport accessibility of the population.

4. An important indicator of assessing the competitive advantages of the region is the level of concentration of production potential here, which is the basis for the development of the real economy. First of all, it concerns the basic means of industry, agriculture and construction. Its valuation is carried out not only in terms of monetary terms, but also in terms of deterioration, innovation, etc.

5. Indicators for assessing the benefits of socio-economic development of regions may also be investments in fixed assets, output per bushel, etc. These data are quite accessible and can be calculated for all types of regions. Ranking regions according to these indicators is important for assessing the competitive potential of the regions and making informed decisions.

6. A special place in determining the competitive advantages of the socio-economic development of the region is the assessment of its natural resource potential. This is due to the fact that local resources, above all, are the basis for producing goods, and therefore the enrichment of local budgets. Evaluation of this potential should be carried out on a component basis, focusing on those components whose use gives the greatest added value. The assessment should include both economic and technological aspects. Ranking the regions according to these indicators gives logical reasons for making well-founded decisions.

7. The social potential of the regions deserves special attention, as it relates to the main productive force - the population. The assessment of this potential includes a set of indicators, which, if necessary, can be more or less detailed. First of all, it is necessary to estimate the demographic potential of the region, which is necessary for determining labor and consumer potential, that is, assessing the future workforce and the development of the consumer market in the region.

The main indicators of production placement in the regions of Ukraine can be grouped as follows:

1. Under the current circumstances, there is a situation in which there may be only one enterprise in the settlement that is characteristic of sparsely populated areas. This kind of distribution of production, although it creates a certain economic basis for the development of the settlement, but in the market unstable conditions, when the bankruptcy of the enterprise is possible, one should expect severe economic and social consequences for the inhabitants of the settlement. Therefore, the mechanisms of social and economic development management should include the possibility of diversifying the production structure by type of activity in settlements.

2. When evaluating the location of production in settlements it is important to analyze the place of registration of enterprises, since there are cases of registration of enterprises at the location of the main office. This situation has a negative impact on the formation of local budgets and constrains the development of branches of the social sphere of regions.

3. A separate problem of contemporary socio-economic development of the regions is to provide the needs of the population of the regions with social services. Their limited list or absence creates conditions for population migration or dissatisfied demand. Social services include a wide range of activities aimed, first of all, at creating adequate social living conditions for the population. The leading social services are housing and communal services. An analysis of the provision of housing to the population in the regions shows the presence of significant contrast. As the housing market in Ukraine is not developed, and wages do not allow renting an apartment in any settlement where there is a workplace, this holds back the mobility of the population. The low mobility of workers in the absence of work in the place of residence leads to an increase in poverty of the population. The pendulum migration in this case does not solve the problem, since transport capabilities are limited.

4. It is also important to analyze the accessibility of educational, medical and other social services to the population in the settlements. The availability of analytical data, the definition of trends in the development of social sphere in the regions and settlements is a well-reasoned basis for making managerial decisions on the need to improve the socio-economic development of the regions.

It should be noted that for the modern stage of global development of the economic system, the most important resource have become the latest informa-

tion technologies, which are an important means of economic development of companies and countries. They allow the uniting of enterprises located in different countries of the world. This enhances the efficiency of managing resources, technologies, and the scale of production in accordance with the needs of the market. This creates new opportunities for the territorial division of labor by decentralizing production in line with changing market conditions, more fully meeting the needs of consumers in different regions of the world, and thus getting the greatest effect from economic activity. Thus, multinational companies are formed, in which not only the parent companies, but also subsidiaries and grand companies operate, which contributes to the more complete achievement of the markets of different countries.

The contradictory nature of economic activity, which is formed by the dynamic of the competitive advantages of regions, changes in consumer priorities, the relevance of meeting needs, the dynamism of political and social situations in the world, necessitates finding new opportunities for solving the most acute contradictions of further economic development of countries and regions. In the last historical period, the overcoming of the difficulties of regional and national development is associated with the formation of interstate (regional) formations (1, p.76).

The participation of Ukraine and its regions in the functioning of the world economic system in the last period is aimed at solving economic and social issues of the present and future periods. From the standpoint of economic regionalism, priority is given to the question of substantiation of the industrial specialization of the regions, which would provide them with competitive advantages in the world economic system, first of all at the expense of science-intensive products, goods of the industrial and agrarian sectors of the economy, services in scientific, industrial, transport, recreational and other activities, which have unique advantages in the world economic system.

The international territorial division of labor determines the integration processes and the growing interdependence of both the states of the world and individual regions. In modern conditions, no country in the world can fully develop if it is not part of the system of world economic or regional ties. It is precisely the interstate and interregional economic ties that contribute to solving important economic, social and other problems of countries and their regions.

5.2. Economic systems of Ukraine's regions in the context of global change

The growth of the role of globalization in various spheres of economic activity is the main trend of the modern period. This leads to the transformation of the role of state (administrative) borders and boundaries in economic activity, the formation of a single global economic space - financial, industrial, scientific and technical, etc.

The main factors of globalization are the liberalization of international trade in goods and services, its positive role for regional and national economies, cash flows and the formation of the global financial market, market infrastructure (telecommunications, information tools and systems, the Internet), etc.

Globalization forms different world zones of active economic influence, structuring the global regional-spatial economic system, distributing the world's resource potential - human, investment, innovation in accordance with the needs of the world's leading economic leaders. At the same time powerful world regional economic associations with relatively closed operating conditions and cooperative ties are created, which organize and control the nature of the activities of all subjects of these systems through different rules and agreements. This affects national and regional economies, the social structure of societies, and their priorities.

The avant-garde of the formation of world regional systems is the most developed countries with their economic models, which are oriented on their own benefits, including at the expense of other less developed subjects of world economic activity, their resource, intellectual, human, natural and other advantages. In this connection, the integral potentials of regional (national) economic systems are transformed, polarization of the center and periphery increases with the depletion of the latter's potential and the accumulation (strengthening) of the center's potential.

Economic globalization is the foundation of the formation of a unified political military, innovation, technological, resource system, intergovernmental pooling of resources and concentration of efforts for the further strengthening of the competitive advantages of the states-world leaders. The realization of this goal facilitates the creation of mechanisms that ensure the strengthening and di-

versification of world economic relations in various spheres of social activity. This certainly affects the economic systems of the regions through the processes of production specialization, technological integration in various spheres of activity. One of the most active factors in this case is the market of goods, services, investments, which overcomes administrative and economic boundaries between regions and countries.

As a result of these processes, the concentration of innovative and high-tech industries in the most developed regions with the least harmful emissions (discharges), which creates additional competitive advantages for them, thus increasing the gap between the backward and developed regions (countries) of the world. Globalization in this regard has additional opportunities for the economic growth of individual regions, thus creating regional differentiation and asymmetry in various spheres of social life of individual national economies and societies.

Transnationalization of production and capital forms the global economic environment that affects the regional economies of the world. It stimulates the need to adapt individual regional economies to the general conditions of globalization. At the same time, regional economies, thanks to the structure of world affairs, their volumes, geography, are actively involved in the transnationalization of economic processes. This is due to the intensification of self-development of regions on the basis of their internal capacities, the growth of the efficiency of economic activity at the expense of the advantages of international division and cooperation of labor with other regions of the world. Regions thus become more and more active subjects of economic and socio-political relations of different countries of the world. It is important to take into account the interests and possible threats to the national economic systems - the destruction of the structure of the national economy, the loss of its strategic potential, the complexity of development. An important role in this case belongs to the direct economic entities, which must take into account long-term national and regional goals. This is especially important in the context of increasing decentralization of management, when the role of regions is increasing, including the export-import flows, the placement of branches and branches of transnational corporations.

The current neo-liberal model of an open economy enables economic entities to enter a global competitive environment with a clear regional distinction due to competitive specific regional benefits.

It is the regions, thanks to resources, who become active subjects of domestic and world development, rather than specific enterprises that are carriers of the foreign strategy of the state.

Involving regions in global trade, which develops under the influence of deepening internationalization of production and the formation of a global economic space, contributes to solving the problems of regions and business entities.

The component, functional, territorial and organizational structures of the natural resource potential of the regions are reflected in the ratio of activities in accordance with the composition and types of resources, the possibilities of their effective exploitation and reproduction, production specialization of economic systems of the regions.

Globalization in the economic sphere is characterized by interdependence and integration of national and regional economies on the basis of growth of volumes and diversification of world economic relations. Globalization is growing as a result of the development of a market that forms a single economic space. Globalization affects the economy of the region through the specialization of production and its integration into the global system, which allows to maximize profits and minimize costs. This is due to the effect of the law of the social and territorial divisions of labor, which forms the economic regions and their specialization.

Globalization gives a chance to the regions in their development through investments. This forms the growth points and areas of development, since the neighborhood with the "locomotive regions" at the expense of interregional cooperation positively affects the growth of neighboring regions.

The world economic system operates on the basis of national economies of individual countries and regions through the implementation of a wide range of foreign economic relations, which form the world market of goods, services, investments, etc. Such a market acts as a supranational regulator for the formation of the global geoeconomic space and plays a decisive role in the development of the economy of specific countries and regions. Consequently, individ-

ual countries operate in the global economic space as a single economic system. This creates a new stage in the methodology of geospatial relations, when the development of the country (region) is bound to the global dimension, when the precondition for the development of a particular region, the transformation of its economic system is the global economic processes that affect the civilization development as a whole.

Ukraine occupies an important place in the system of global and regional measures. For more than two decades, it has been actively pursuing the reform of the economic system, taking into account the global model of relations, forming a strategy for national and regional development, taking into account its own interests and priorities. Therefore, the development of the national economy and society as a whole, the definition of its prospects and the ways of their realization is impossible without taking into account modern transnationalization of the economy, its global regional-spatial changes. From the point of view of the global economic space, the peculiarities of its regional structure and organization, it is necessary to consider the transformation of the national economic system and assess its changes in the present real environment in which it operates.

The processes of economic globalization concern both the production of goods and services, and their implementation. The only process at the stage of production of certain types of goods often becomes feasible only if co-operated with economic entities located outside the country. Equally important role has foreign economic relations in the sale of the finished product or its parts. Thus, the economic system includes a variety of interacting subsystems, forming a single geo-economic space. This necessarily affects the peculiarities of the modern development of the main parts of the national economic system and its regional elements - financial, production, social, on defining landmarks and development strategies.

Since the dynamics of the world economic system is characterized by periods of growth and decline, it also affects the functioning of its elements - national and regional economic systems, the growth or decline of production of goods and services, the volume of their consumption, etc.

The foreign economic activity of Ukraine and its regions in the last period is aimed at solving economic and social issues of present and future genera-

tions. From the standpoint of regionalism, priority is given to the question of substantiation of the industrial specialization of the regions, which would provide them with competitive advantages in the world economic system, first of all, at the expense of science-intensive products, goods of the industrial and agrarian sectors of the economy, the sphere of services in scientific, industrial, transport, recreational and other activities, which have unique advantages in the global economic system.

Participation of Ukraine and its regions in the international division of labor will contribute not only to the more rational use of their competitive advantages, but also to the solution of social problems through the production of material goods and services and their exchange with other countries.

The territorial division of labor determines the integration processes and the growing interdependence of the states and regions. In modern conditions, no country in the world can fully develop if it is not part of the system of world economic or regional ties. It is precisely the interstate and interregional economic ties that contribute to solving important economic, social and other problems of countries and their regions. It is known that a country that does not develop foreign trade, has no economic and other ties with countries of the world is forced to significantly increase the cost of production of their own goods and services. Thus, no country in the world, whose levels of economic development is low, can not develop beyond economic ties with other countries of the world. External economic relations contribute to the growth of national income, accelerated development of scientific and technological progress, and raising the standard of living of the population. In addition, external economic relations affect the overall climate of trust between countries, to strengthen their partnerships and mutual understanding.

Summing up, it should be noted that the international division of labor includes the exchange between countries and regions as ready-made products, as well as raw materials, financial resources, labor force, information, services, etc. Together, they form a complex system of cooperation between countries and regions. Along with the objective need for Ukraine's integration into the world economy and the development of its foreign economic relations, there are real opportunities for such processes. These include, first of all, the economic, labor and natural-resource potential of our country, which gives grounds for ac-

tive participation in the international division of labor. Ukraine also has historical, technical and economic, organizational and economic bases for participating in the international division of labor. In addition, our country has a favorable economic, geographic and strategic location, while in the center of Europe, at the intersection of rail and road from Europe to Asia, and having access to the seas.

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CHAPTER 6 NATIONAL SECURITY IN THE CONTEXT OF REGIONAL TRANSFORMATION CHANGES

The current period of world development is characterized by further disproportionality and instability. This is not only due to the escalation of disproportionate contradictions between the level of countries' development, the global financial and economic crisis, which has a systemic nature, but also due to an increase in military confrontations, protest moods and the massive displacement of the population from the territories of military conflicts. Accordingly, the sensitivity of the states and the population to dangers is increasing and requires a safe existence.

The socio-economic development of Ukraine today takes place under conditions of comprehensive transformational changes and direct aggression and fully reflects the acuteness of social problems. These problems largely determine the level of national and economic security of the state and society. In such conditions, the problem of security as a complex characteristic, which defines the directions of further development, sets the parameters of the viability of socio-economic structures in the course of global and local transformations.

Since development as the leading property of complex systems can be both resistant to threats and unstable, its results are manifested mainly in irreversible qualitative changes, which are usually accompanied by quantitative changes. Sustainable development of the socio-economic system is characterized by the dynamism and, at the same time, the relative immutability of its properties. And, conversely, unstable development is characterized by qualitative changes in the system, under which its properties can deteriorate, up to the loss of the system integrity.

In both cases, national security is directly linked to the assessment of the degree of socio-economic systems sustainability. Due to the increasing relevance of global threats to humanity, economic, environmental social and military nature of the stability of socio-economic systems can be considered as the ability of all its subsystems to maintain balance in uncertainty. Being the subject of state policy, socio-economic systems and the safety of their functioning largely depends on the spatial aspects of the development of territories.

The current Ukrainian socio-economic system transformation, has a structural and institutional character, it is characterized by the relative autonomy growth of some Ukrainian regions in decision-making on territorial development, the growth of the urbanization rate and increased mobility of the population, which have led to a violation of the processes of human capital reproduction and the formation unity and development of social infrastructure elements on all its levels. This is further complicated by spatial disproportions on a regional scale.

It is natural that economically stronger territorial units are more likely to develop, creating the necessary prerequisites and potential for the development of the weak, while simultaneously serving as engines of growth and determining the intensity of using the social sphere.

The accumulated experience of domestic economic reforms allows us to conclude that the goals and objectives of social infrastructure development at the regional level can only be realized with the help of combination (balance) of regional economic-ecological and social policy. This activates a spatial update that can be achieved by enhancing the unique benefits of individual territories.

The study of the conditions for the spatial transformation of the economy is of great importance for understanding the peculiarities of the formation and improvement of social infrastructure in the region. The lack of a systemic concept of development, a clear state policy in the field of regulating these processes, including spatial and economic transformations, negatively affects, *firstly*, the aggregate socio-economic situation in the region and, *secondly*, the possibility of using a potential of transformational procedures to improve the living conditions of the population and increase access to social services. Along with this there is a controversy of theoretical and methodological approaches to the internal composition of elements and social infrastructure, lack of scientific and methodological basis for assessing the level of development of social infrastructure of the region and its territories.

Synthesis of various domestic and foreign approaches to the consideration of the modificational processes of the industrial-economic system allows us to formulate a generalized idea about the essence of the region's economy spatial transformation by allocating and structuring the preconditions for economic spatial transformation of society and the economy of the region.

At the same time, the main preconditions for the transformations' need in the economic system of the regions can be attributed to: the transformation of the political and legislative system in the state; socio-psychological transformation of society; development of monetary and credit relations; technological modernization of production; decline and limited resource base of the territory.

At the same time, the target benchmarks are: raising the standard of living of the population, forming a single economic space and innovative way of the territory development. The basic principles on which the spatial approach to the regional economy transformation is based are like those that are already widely used in the scientific literature: the concentration of economic activity; mobility of labor and capital; selective state support of territories; marginal economic growth, and those caused by the current state of development: the polarization of economic development; functional zoning of the territory and the need to synchronize the spatial transformation of the economy and the development of social infrastructure. Thus, in order to achieve the target orientation of the spatial-economic and socio-ecological transformation of the region, it is possible to use, along with generally accepted, specific principles, one should distinguish among them the principles of polarized economic development, functional zoning of the territory, synchronization of the processes of economic restructuring and the development of *social infrastructure*, which allow not only to efficiently redistribute limited investment, human and material resources, but also to balance their their structural and territorial changes in the region.

The main factors of the spatial transformation of the economy can be considered: the formation of growth points, development poles; activation of agglomeration processes; the emergence of an imbalance between resettlement and the location of production; growth of migration flows; structural restructuring of the economy; integration of financial resources of the state, business and population; integration of financial resources of the state, business and population. The set of all components allows us to determine the consequences of the spatial economic transformation of the region, among which territorial asymmetry; socio-economic differentiation; spatial polarization are important.

From the point of view of L. Y. Bearded, together with the formation of a single economic space and the innovative development of the territory, the main

reference point for the modern transformations of the regional socio-economic system is the full increase in the quality of life of citizens, which ensures the reproduction of human capital and serves as the basis for a competitive regional economy [1 , p. 11].

It should be noted that in conditions of reorganization of the spatial system of Ukrainians' life the processes of differentiation, polarization and asymmetry of territorial development are of special importance. Thus, the term "*differentiation*" in relation to the socio-economic infrastructure complex should be considered as the level of difference in the provision of objects of social component regional infrastructure of different settlements, which allows to allocate the territory (within the region) with unequal economic potential and the composition of infrastructure elements components.

"*Polarization*," in the view of Ch. H. Ionov, characterizes the concentration and remoteness of the infrastructure elements at the level of the region, the social sphere from the established pole of economic growth [2, p. 34]. By supporting this concept, at the same time, it is necessary to determine the potential trajectory of the transformation of infrastructure provision and the balance of the territory in accordance with its economic dynamics.

One can agree with the researchers N. A. Ivanova [3], Y. Y. Suslo [4] and L. Y. Borodatova [5] who see the "asymmetry" of the spatial and territorial development of social infrastructure at the regional level, in the manifestation of uneven development and the placement of objects in zones of economic activity of the territory due to the concentration of efforts and resources at the growth poles.

In general, "social" as a component of providing the infrastructure of the region is associated with ensuring the level and quality of life of the population and is conceptually based on the provision of services to the population in the spheres of health, education, culture and arts, sports etc.

Between quality of life and social infrastructure there is a direct connection because infrastructure development is not a goal, it is intended to improve the quality of life. Therefore, quantitative indicators that reflect the quality of the population life in the region or indicators of sustainable development should reflect the results of the infrastructure functioning, and these results will be indicators that characterize the degree of satisfaction of the

population needs. At the same time, the significance of these indicators depends on the conditions created for the development and satisfaction of needs reflecting the development of social infrastructure in the residential areas of the population.

Introduction to the economic turnover of individual elements of the infrastructural complexes of territories has a diverse result, characterized by the following effects of action on the socio-economic system of the region - economic and social. Both the one and the other result has both an instantaneous and a delayed character.

The economic effect of the instantaneous nature of the region infrastructure is the combination of economic effects of the relevant infrastructure components of the complex.

The calculation of economic and social effects, the instantaneous nature of the construction of individual elements of the infrastructure complex is calculated on the beginning of operation and in accordance with the methods available for each area of calculation. These techniques are very diverse and take into account a range of factors that can affect the growth of the gross regional product. Several authors are considering techniques that include an assessment of the state of each subsystem of infrastructure, separately, other researchers apply techniques based on an integrated (multifactor) assessment of only the economic efficiency of the development of infrastructure components.

However, the presented methodological approaches to assessing the state of the infrastructure complex do not take into account or take into account not fully the effect of the deferred nature of the infrastructure components impact, which are determined by the projected contribution.

At the same time, the effect of the deferred nature of the impact of the infrastructure complex can bring significant positive elements to the development of the socio-economic system of the region. Since the feature of infrastructure construction is just that postponed both economic and social effects can have a greater impact on the socio-economic development of the region..

In the process of studying domestic and foreign approaches to the typification of infrastructure at different levels and stages of economic

development, it was determined that social infrastructure at the meso level is a provider of life support systems for the population, in functional interaction with the production, service and market subsystems for meeting the heterogeneous needs of citizens. In the process of studying the approaches to the division of social infrastructure into groups of objects, it was found that the proposed criteria for division (type of activity, output, management level), in our opinion, are incomplete in terms of spatial development and need to be completed. Thus, according to the functional purpose, two types of social infrastructure can be distinguished: supporting and developing. The first involves the presence of a set of objects of social infrastructure that provide the basic physiological and cultural needs of the population at the minimum necessary level in accordance with the production and economic specialization of the territory. The developing type implies a complex of elements of social infrastructure, which creates conditions for the full development of personality and multiplication of human capital in accordance with the economic potential of the territory. At the same time, the set of components of social infrastructure in different types of territories should be special, take into account the specific sectoral orientation and reflect the needs and demands of both the population living in the territory and the business structures operating in the area.

Given that social infrastructure creates special conditions of life in a certain locality, its differentiation should be manifested in the composition, scale and spatial concentration of objects in a separate territory. The essence of the system model, the purpose of which is to justify spatial differences in the structure of social infrastructure, is to analyze the actual infrastructure of the population, on the basis of which the variant of development of the social sphere is determined, which involves the identification of a set of specific elements in the territory in accordance with the matrix of spatial morphology of social infrastructure. It is based on the adapted approach of J. Friedman to the allocation of types of economic areas - the nucleus, the growth zone, the zone of new development, the zone of stagnation and the proposed types of social infrastructure.

In order to assess the equilibrium of the composition and level of development in a certain area of social infrastructure objects, a matrix can be used which enables to establish for each type of economic district a set of

elements of a supporting and developing type of social infrastructure (minimum, optimal, maximum).

The peculiarity of the presented system model is that it comprehensively allows us to determine the directions of synchronization of socio-economic transformations in the development of already existing or the formation of the necessary on the territory of social infrastructure to create the most comfortable living conditions in accordance with the type of economic district.

In this sense, social infrastructure is not just a service of the population, which is designed to meet a number of urgent traditional needs of the population, but also a certain functional and sectoral complex that is responsible for the quality of life of working citizens and affects the formation of promising social forms of life of actors at the poles of economic growth and providing the minimum necessary conditions for the life of the population beyond its borders.

The diversity and ambiguity of existing approaches to assessing the level of infrastructure development of the social sphere are due to the pluralism of opinions about the object of evaluation, its composition and parametric content, as well as the absence of generally accepted methodological approaches, which gives the opportunity to form a methodological approach to determining the level of development of social infrastructure and balance its elements, which includes two stages of integration actions (Fig. 6.1).

The first is the expert-analytical stage, which is based on the recognition of the type of territory, taking into account the spatial-economic aspect and the establishment by experts of private indicators (K_{fakt}), reflecting the provision of the territory of infrastructure objects of each type. For each private indicator, its normative value (K_{norm}) is fixed and the measure of importance for the estimation of a (w) according to the type of economic area. The second – the settlement and analytical stage – involves the calculation of the level of development of social infrastructure of two types separately and in aggregate, taking into account the correction factor for polarization in each territory. To determine the level of development of social infrastructure, it is proposed to use the Euclidean distance method, which allows finding the greatest approximation of the actual value of the selected private indicator to its normative value.

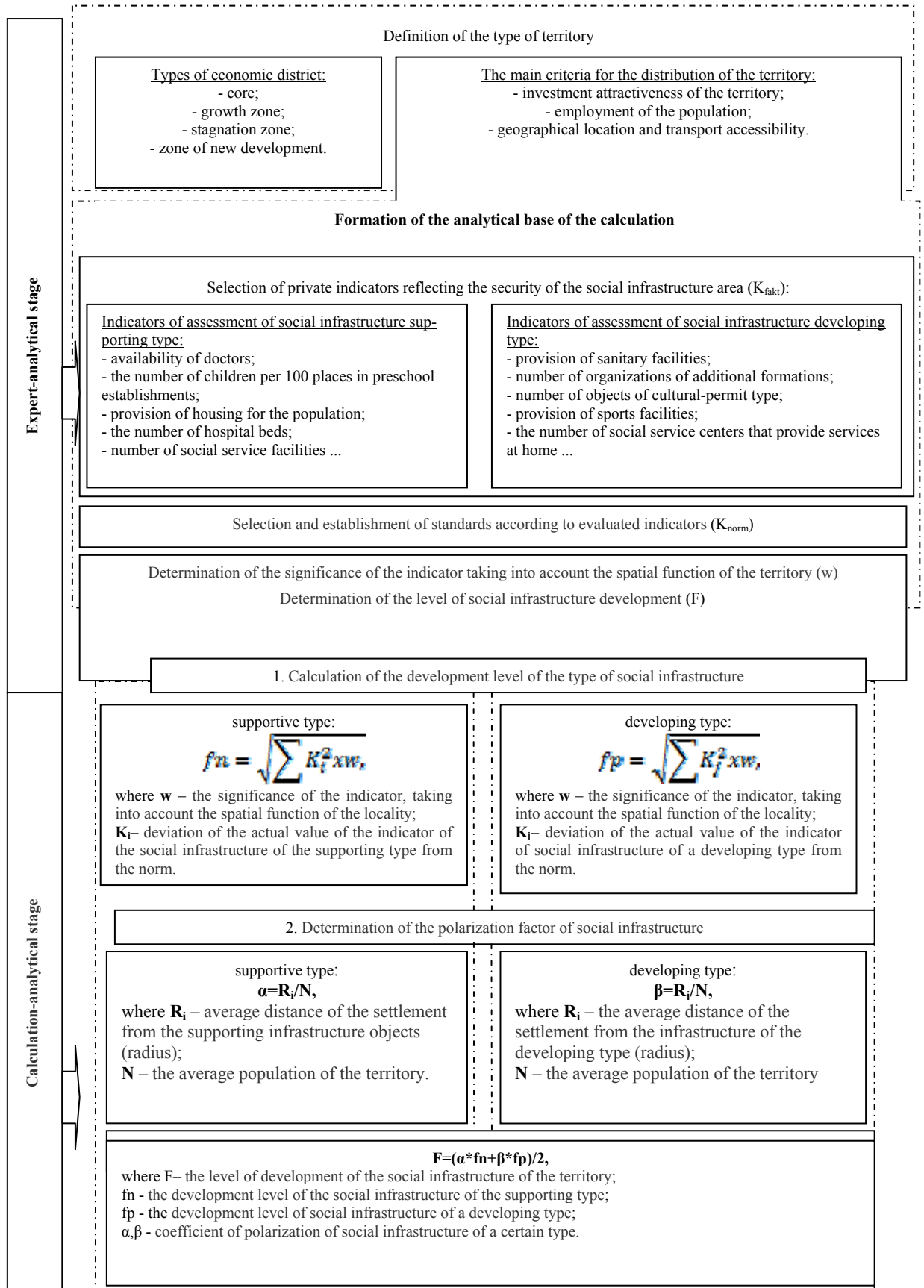


Fig. 6.1. Methodological Approach to the Assessment of the Social Infrastructure Development

The proposed approach allows to fix, in relative terms, the availability of different types of social infrastructure objects in various economic regions, which enable justifying the balance of their constituents and, based on the ranking of territorial entities, identifying the priorities of development, as well as to determining the trajectory of the spatial transformation of the economy and social infrastructure of each territorial unit.

The methodical approach to the assessment of the social infrastructure development in the form of a generalized indicator through the application of the aggregation of relative quantities, is characterized by a focus on the assessment of the material and technical base. The proposed approach takes into account the potential and internal reserves of the corresponding types of economic districts and the level of infrastructure polarization in them, ie concentration, remoteness and the availability of life support facilities for the population relative to the growth poles and periphery.

The assessment of the level of social infrastructure development of the Donetsk region (for 01.01.2014) showed that the territory of "core" and "growth zone" is not sufficiently staffed with social infrastructure objects and require the formation of an expanded elements set of the developing type and supporting type. In its turn, the task of the development of territories "stagnation zone" and "zone of new development" is the formation of such infrastructure facilities that would allow to maintain vital functions at an acceptable level for the territory.

The transformation of the spatial-territorial system of the population vital functions requires a certain resource support, which includes regulatory, financial, organizational and informational elements; this will allow to coordinate and unite the efforts of the authorities, business and citizens to form a viable economic system of the region that meets the real needs of society. At the same time, an important condition is the allocation in the regional system of executive authorities, a specialized structure for the management of spatial and territorial development of social infrastructure in the form of an interdepartmental commission, the main purpose of which should be to solve the problems of the polarized spatial development of social infrastructure through inter-municipal equalization of consumption of the main socially important services.

The proposed algorithm provides a sequence of actions that allows:

- to identify priorities and directions of development of the social infrastructure of the region in terms of territorial-spatial entities, taking into account their strategic

- objectives and the impact of structural diversification of the region's economy;

- to form a balanced objects composition of supporting and developing social infrastructure in different types of territories according to their economic potential;

- to ensure synchronization of socio-economic development by coordinating the processes of territorial structure transformation of the regional economic activity.

The impetus of the territorial transformation of the socio-economic system should be to improve the properties of the regional space by improving the population environment. Increasing the level and quality of the population life, serving as an integral criterion for assessing the consequences of the differentiation of social infrastructure in the region, are also ensured by the growth of economic activity and mobility of people.

Thus, research and generalization of theories of regional development allowed to clarify the principles, target benchmarks and factors of the spatial and economic transformation of the region, which determine structural and territorial transformations in social infrastructure. It is established that in the conditions of reorganization of the spatial system of vital functions of the population, processes of differentiation, polarization and asymmetry of territorial development are becoming very important. The proposed approach to the division of the social infrastructure into the one that supports and develops the basis of the system model for justifying the spatial differentiation of the social region infrastructure, based on the matrix of its spatial morphology, has made it possible to determine the necessary set of social infrastructure elements for each type of economic district. Approbation of the developed scientific methodical approach to the assessment of the development level of social infrastructure has allowed to determine the degree of security of the region infrastructure objects of the social sphere and identify areas for improvement and balance of its composition. The application of the recommended organizational and management algorithm justifying the territorial development of social infrastructure is aimed at ensuring the balance

and synchronization of socio-economic transformations in the economic system of the region. The spatial and economic transformation of the region is a stage of improvement of economic relations of different levels, aimed at forming the modern spatial and economic framework of the country, improving the quality of the population life, and ensuring the balanced and safe development of the national economic system.

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CHAPTER 7. STATE REGULATION OF THE SOCIAL COHERENCE OF THE ECONOMY IN THE CONTEXT OF NATIONAL NEEDS AND GLOBAL PROCESSES

7.1. Mechanisms for ensuring economic and social security in the system of social relations: expert assessments

Economic security is one of the leading components of the system of national security, which determines the state of protection of the economic interests of the individual, society and the state from the system of threats to national security flowing into its state. Economic security is the basis of state independence, the basis for the growth of the level and quality of life, the condition for implementation of sustainable development strategies and the opportunity to achieve competitiveness of the country. Economic security creates benefits for the social development of man, society and the state. This is due to the priority of economic support for the achievement of social goals and the leverage of state regulation of these processes. In a large number of countries, the results of economic growth are aimed at further economic development, and the solution of social problems is preserved and restrained. In Ukraine, significant fluctuations are observed in this sense. Social expenditures from the budget are not balanced with economic opportunities.

They may either be excessive due to political leverage, or used for further economic priorities without social objectives. According to the Constitution of Ukraine, the state is defined as legal and social with the subsequent disclosure of the value of a person, his life and health, the priority of protecting his rights and freedoms, etc. It obliges to subordinate state administration to achieve the balance of economic and social processes. But the lack of focus on the simultaneous achievement of economic and social trends, the pursuit of a safe state in the social and economic spheres between them is not correlated, uncoordinated, unregulated, contradicting the achievements of economic and social goals.

The urgency of the issue of state regulation of the social orientation of the economy increases in the current conditions is in economic crisis. Foreign experience of the leading countries of the world indicates the expediency of increasing the role of the state, specifying its functions in the implementation of social policy and expanding the range of economic socialization.

It is the introduction of a socially oriented economy that determines the further optimistic scenario of the country's development. In this regard, the problem of identifying priority areas and improving the mechanisms of state regulation of the processes of social orientation of the economy is acutely raised.

The social orientation of the economy is an integrated systematization of the social goals of the state and economic means and mechanisms for their achievement. However, the mechanisms of effective state influence on socio-economic processes and methods and means of ensuring the social orientation of the economy remain insufficient, and these processes are poorly investigated. This causes an aggravation of a significant number of socio-economic problems in Ukraine, bringing them to the level of threats to national security. The current state of social orientation of the Ukrainian economy is low today, which indicates the existence of threats to national security in the economic and social spheres and requires a balanced, effective economic policy and state regulation of socio-economic processes.

A significant number of Ukrainian scientists are working on the issues of harmonization of the solution of economic and social problems, the formation of the social orientation of the economy. Ukrainian scientists and specialists also work fruitfully on theoretical bases and practical recommendations for identifying and introducing into the system of social orientation of the economy. It is necessary to develop for Ukraine a modern model of a socially oriented economy, which will ensure its capacity for action, to respond adequately to external and internal threats, promote improvement of socio-economic processes and respond to the national interests of the state. Among the scientists who are investigating these processes are the most well-known experts: O. Amosha, O. Bilorus, O. Vlasyuk, Z. Varnalii, V. Gayyets, V. Grishkin, N. Deeva, V. Eremenko, Yu. Zaitsev, G. Zadorozhny, E. Libanova, V. Mandibura, V. Novikov, Yu. Pasichnyk, Y. Harizashvili, L. Shamileva.

Without state regulation, the social orientation of the economy is impossible, manifestations of economic freedom are accompanied by social danger. Ensuring economic development and achieving social goals without state intervention is extremely ineffective.

The intensification of research on global and national security issues has resulted in increased research needs in a direction that involves a combination

of two subsystems of government - economic and social security. An example of such research is an expert survey on social security issues conducted by scientists from the Institute of Industrial Economics of the National Academy of Sciences of Ukraine (Kyiv) and the Lviv Regional Institute of Public Administration (Lviv) in May-August 2017. The study was attended by 105 experts. Among them - 3 academicians of the National Academy of Sciences of Ukraine, 4 correspondent members of the National Academy of Sciences of Ukraine. The scientific and educational status of the research experts is high, since 54.3% are doctors of sciences, 30.5% are candidates of science, 15.2% of experts with higher education without a degree. Representatives of the legislative branch were among the experts - 9 people's deputies of the VIII convocation, 6.7% of experts were representatives of local bodies of executive power and bodies of local self-government.

This survey gave an opportunity to answer questions about the role of economic security in shaping the conditions and opportunities for solving social and national security problems. Through research, identifying priorities when making managerial decisions about giving decent responses to national and global challenges. The emergence of risks, dangers and threats to national security can be traced in all its spheres, but economic and social remain the most vulnerable and less resolved. This is confirmed by the experts' answers to questions about the state of economic security and its impact on the state of social security. It is important that the question "Which of the spheres of national security currently has the most negative effect on the state of social security?", Economic security has taken the first position (77.1% of experts indicated it) (Table 7.1)

The second place in terms of the degree of negative impact of the dangers on social security was caused by the domestic political sphere (59%). The armed conflict in the East of Ukraine lasts for the fourth year and depletes the country's economic resources; more than half of Ukraine's experts have determined its adverse impact on the whole system of national security, and especially on the social sphere. In the fourth place, the threats to the information sphere were negatively affected (34.3%).

Table 7.1. Estimation of the impact of national security spheres on social security,% *

Which of the areas of national security, in your opinion, currently has the most negative effect on the state of social security?	%	Rate
Economic	77,1	1
Inner political	59,0	2
Military sphere and sphere of security of the state border of Ukraine	52,4	3
Informational	34,3	4
External political	21,9	5
State security	19,0	6
Ecological	12,4	7
Scientific-technological	5,7	8

* here and below in% of all answers to the questions.

Possibilities of achieving social orientation of the economy depend on the quality of public administration, the priority of achieving national interests in the economic and social spheres, the systematic and coordinated economic, social and regional policies. But the current management system only declares among the priority areas of ensuring the social orientation of the economy, and the very content, functions, methods of management are not aimed at achieving these goals.

In determining the causes of the threat to the social security of Ukraine, there is a close link between the quality of public administration and the economic situation. The effectiveness of management of the country's economy is determined by the attitude of the authorities to the social needs of the population, as well as the balance of interests between the authorities and society. It is the indifference of the authorities and the imbalance of interests that 63.8% of experts point out as the reason for the emergence of internal threats to national security. The second place was due to the economic situation - low level of economic development of the country (61%), and as a result - the growth of unemployment and poverty in the country (43.8%).

In free answers, experts added to this list: lack of state support for social development, deepening of moral and spiritual degradation of society, narrowed outlook of the population.

The priorities of the national security system in the economic and social spheres are built up by overcoming the most dangerous internal threats. The distribution and weight of the most dangerous internal threats according to expert opinion was determined as follows:

increase in the risks and dangers associated with the armed conflict in the East of Ukraine (73.3%);

high poverty rate of the country's population (63.8%);

inefficiency of the public administration system (59%)

the growth of social inequality in society (51.4%);

unrealization of state strategies regarding social orientation of the economy (29.5%).

Experts supplemented the following threats with free answers: high levels of corruption, as well as the spread of infectious diseases (HIV-infections and active tuberculosis).

The harmonious combination of economic and social security ensures the achievement of a high standard and quality of life of the population on the basis of balanced economic and social policies. Therefore, it is no coincidence that the first among the components of the goal of social security has a decent living standard and poverty reduction (54.3%). At the second stage, the protection of the social interests of the individual, the society, the state from internal and external threats (48.6%), and the ability of the state and society to respond in a timely and effective manner to social challenges, dangers, risks and threats (46.7%). On the third - determined increase in the values of labor and worker (30.5%).

The economic component has become the most important and priority in defining the principles of ensuring social security. This is the observance of the balance of social justice and economic efficiency (61.9%); prevention of the emergence and spread of economic and social risks and dangers (49%); social responsibility (42%); awareness of the benefits of self-development, self-defense, self-preservation (34.3%). Other principles are less important, but their simultaneous influence and interaction give a positive synergistic effect. These principles ensure the safety of social development (23.8%); the preference for negotiation and peace processes in resolving conflicts (18.1%); informational openness and transparency (17.1%); development of a culture of safety

(10,5%); integration with international security systems (9.6%); insurance of social and economic risks (9.5%).

In free responses, experts suggest the following principles, such as the morality and professionalism of power and the morality of society.

The assessment of the state of economic and social security in the country is due not only to the internal economic and social situation, internal hazards, threats and risks, but also external threats. The importance of external hazards experts identified as follows:

encroachment on the territorial integrity of the country (70.5%);

interference of foreign states in the internal affairs of Ukraine (54.3%);

growth of country's energy dependency (28.8%);

global financial crises and their negative impact on the economic situation in the country (27.9%);

the spread of international economic and criminal crime, and terrorism (19.2%).

In free answers, experts further identified the following external hazards: the systemic crisis of the capitalist system, its parasitic character and life at the expense of weaker countries; dependence on the IMF, weak and contradictory support of Ukraine on the part of the EU; restriction of integration opportunities; increasing the impact of TNCs and the low level of competitiveness of domestic companies; hybrid methods of war against Ukraine from Russia.

7.2. Obstacles and directions of socio-economic security of society and the state

Any society functions and develops successfully in the presence of favorable conditions and opportunities for it. Experts rightly consider that social security of a society can not be formed without a high and balanced socio-economic development of the country and its regions (66.7%); ensuring development of human potential (55,2%); proliferation of decent work, increase in the value of working life (49.5%); increase of social responsibility in the society (44.8%); implementation of the principle of social justice in the country (33.3%); public control over the state (25.7%).

All the conditions and possibilities determined by the experts are important for the formation and implementation of economic security, ensuring the balance of economic and social policies, orientation of the social orientation of the economy: human potential development, decent work, high quality of work life, social responsibility, social justice, public control.

The social orientation of the economy is a lever of European integration. In this regard, economic benefits must be unequivocally obtained through the implementation of social requirements for the individual and society, the observance of social standards, rights and guarantees, and the formation of a system of social relations that contribute to accelerating this integration. The answers to the questionnaire "What prevents the formation of social security of society?" Were comprehensive and took into account the whole symbiosis of the obstacles connected with the shortcomings of economic and social policy (Table 7.2).

Table 7.2. Estimation of obstacles to the formation of social security of the society, %

What, in your opinion, impedes the formation of social security of society?	%	Rate
Low level of economic development	55,2	1
Degradation of social values, social distrust and alienation	54,3	2
Insecurity of social rights and guarantees of citizens	46,7	3
Ineffective social policy	44,8	4
The general low level of public safety culture	23,8	5
Undeveloped mechanisms of public-private and social partnership	21,9	6
Ineffective cooperation between civil society and government	19,0	7
Low level of legal consciousness and legality	13,3	8
Absence of social standards for an individual and his or her social behavior	11,4	9
Individualization of social relations, reduction of social integration	6,7	10

The assessment of experts presented in Table 8.2 is evidence of the interdependence of economic and social development, the system of economic and social relations. But the removal of certain barriers to social security will open the way to economic growth, economic benefits through the introduction of low-cost but effective measures to improve social relations. Growth of public trust, improvement of the system of protection of social rights and guarantees of

citizens, increase of the level of security culture and development of mechanisms of public-private and social partnership will promote the European integration path of Ukraine's development.

Economic security has different forms of manifestation. On an individual level, it can be determined by the availability of income for a decent standard of living, the availability of decent work, the availability of decent pensions, as well as the protection of economic rights and interests of the person, confidence in the future, the ability to invest in education of children and their own development, in material capacity have a good home, clothes, food, and ability to protect economic interests. To a certain extent, the economic and social security of man and society have common criteria for their achievement. The level of poverty, the level and quality of life, the balance of economic efficiency and social justice, the level of employment, the quantity and quality of labor potential, the level of development of human potential, the value of labor and worker, the level of property differentiation of the population, the quality of economic and social governance, the outflow of intellectual capital, scientists, professionals, skilled workers, people with higher education outside the country, economic and legal literacy of the population, economic and general culture - it is both signs, while disadvantages, indicators of economic and social security. They are complemented by the same common features of the quality and efficiency of public administration for which the state is responsible in both the social and economic spheres.

The consistent, purposeful activity of the state regarding the functioning and development of the economic and social spheres determines the formation of a system of state regulation of the processes of social orientation of the economy. The state's influence on social and economic development in order to achieve social goals in preventing the emergence and manifestation of economic dangers is due to the effective regulation of the social orientation of the economy. The absence of such a policy requires an assessment of the state and problems in this area and the real action to address them. According to the results of an expert survey, the distribution of the most significant obstacles to strengthening social security of the state was determined at the same time suitable for assessing economic governance. It:

high corruption and insufficient professional level of heads of state bodies of the national security system - 60%;

imperfect state policy, insufficient social orientation - 56.2%;
the predominance of personal, corporate, and regional interests over national ones; the reduction of the level of patriotism of the management elite - 47,6%;
distrust of citizens to state authorities - 41.9%;
shadowing of the national economy, distribution to the social sphere - 41.0%.

Overcoming these and other obstacles can be a powerful lever for strengthening both social and economic security. This is a low level of spiritual and moral consciousness of public officials (35.2%), inefficiency of state policy in the labor sphere, loss of labor and employee value (28.6%), lack of political will, lack of readiness of political leaders to bear social responsibility to society (26.7%), violation of the legislation of Ukraine, rights and freedoms of man and citizen (26.7%), non-prestige of socially responsible behavior in society (21.9%) by the bodies of state power and local self-government. Other obstacles are less significant, but without overcoming them management will not be effective. This is terrorism and military aggression of other states against Ukraine (16.2%), the structural and functional imbalance of the political system, the inability of its various units to respond promptly to threats to national security (14.3%), the underdevelopment of civil society and the lack of public control over activity of public authorities (13.3%), lack of efficiency of existing state structures and mechanisms of integration into international security and global stability in favor of national interests (11.4%), absent The public consensus on state building issues (10.5%), imperfect state information policy (9.5%).

The content and weight of the obstacles to strengthening the social security of the state relate to the obstacles to the establishment of the economic security of the state, because they determine the imperfection of the state administration system, which adversely affects all areas of national security.

In the system of public relations, the high level of corruption is confirmed by the place of Ukraine in international assessments and comparisons, where it occupies the most unprivalent places in the first five countries for a long time. In 2017, Ukraine was ranked 1 in the ranking of 41 countries in Europe, the Middle East, India and Africa (EMEA)¹ in terms of corruption. The prevalence

¹ ¹Access mode: [http://news.liga.net/ua/news/politics/14730211-reyting_korupts_e_y_ukra_na_na_pershomu_m_sts_sered_41_kra_ni.htm]

of this phenomenon in state bodies responsible for the state of national security is very high by experts. About the spread of such corruption is witnessed by 60% of experts. This, in turn, can negatively affect the satisfaction of the needs of the country, society and individuals in the realization of their national interests in the economic, social, internal political, informational and other areas of national security. At the present time, when the Verkhovna Rada of the Ukraine adopted a new version of the draft Law of Ukraine "On the Basics of National Security", there are pessimistic expectations of the loss in its distribution provisions in the areas of national security, which is due to the content of the first draft versions of the bill. More than half of the respondents (56.2%) confirm the imperfection of the state policy in its insufficient social orientation, which is an argument in favor of the social orientation of the economy.

The analysis of other obstacles builds on the importance and importance of a number of priority areas that should be found in the National Security Strategy, in all conceptual strategic and program documents of Ukraine until 2020 and 2030. They should take into account the strengthening of the patriotism of the management elite, overcoming the shadowing of the national economy, increase of trust in institutions of state power, increase of the level of spirituality and morality of representatives of state power, etc.

Implementation of the priority directions of state regulation of the social orientation of the economy requires a consistent, systematic and integrated implementation of the economy. Security is the foundation for the construction of the whole structure, it involves preventing the emergence and overcoming of threats and dangers in the economic and social spheres of national security. The fulfillment of these requirements becomes the basis for creating the conditions and opportunities for social and economic development with the priority of achieving social goals, which include high level and quality of life of the population, human and social development, the presence of a significant share of human capital and the middle class. But without effective state regulation, it is impossible to achieve a certain goal. In all processes of strengthening and strengthening of national security in general and its spheres in particular, the role and significance of the quality of public administration are highlighted. Therefore, the targeted assessment by experts of state regulation in the context of solving national security problems with an emphasis on social security has

confirmed the fidelity of the priorities of its improvement and provided new priority directions. This is a demand for the responsibility of the state leadership for the deterioration of the state of national and social security (54.8%), the need to include the sphere of social security in the National Security Strategy (43.3%), the regulation of processes of deepening social and property differentiation, and the growth of social inequality (43, 3%), the inclusion in the provision on the activities of the government of tasks, powers, responsibilities and responsibilities for ensuring social security (30.8%), the definition of priorities, directions and measures to ensure (28.8%), willingness of civil servants to perceive civil society institutions as partners (27.9%), the need to include social security provisions in the National Development Strategies of Ukraine up to 2020 and 2030 (21.2 %)

In free answers, experts have identified such a lack of public administration as a low level of spiritual and moral consciousness of public officials.

7.3. Global goals of sustainable development of 2030 and introduction of social responsibility - the key to Ukraine's integration into the European space

Ukraine has started to adapt and implement the Global Sustainable Development Goals 2030 to national conditions. In September 2015, in the framework of the 70th session of the UN General Assembly in New York, a United Nations Summit on Sustainable Development and the adoption of a post-2015 development agenda were adopted at which the new development benchmarks were approved². The contents of the outcome document of the Summit "Transforming our World: An Agenda for Sustainable Development 2030" contains 17 Sustainable Development Goals and 169 Tasks that were approved. Ukraine, like other UN member states, has joined the global process of sustainable development. In the expert survey it was planned to determine the relationship between the processes of achieving sustainable development and social security. To the question: "How do you think which of the identified Global Sustainable Development Goals in 2030 is most conducive to strengthening social security in Ukraine?" The overwhelming majority of experts pre-

² Sustainable Development Goals: Ukraine: National Report. Ministry of Economic Development and Trade of Ukraine. Sustainable development GOALS. - K., 2017. - 174 pp.

ferred Objectives 1. Overcoming poverty (91.3%), Objectives 8. Promoting sustainable economic growth, total productive employment and decent work (80.8%), Objectives 3. Health and lifestyle support (79.8%), Objectives 4. Quality education (76.9%), Goals 16. Peace and justice (68.3%), Goals 10. Reduction of inequality (57.7%). Almost half of the experts preferred Objectives 9. Promoting industrialization and innovation, creating a sustainable infrastructure (51.9%), Objectives 12. Transition to rational consumption and production patterns (50.0%), and Goals 17. Global Partnership for Achieving Goals Sustainable Development (41.3%). The importance of the interconnection of other goals of sustainable development and social security ranges from 9.6 to 34.6%, indicating its presence and the need to strengthen social security to achieve both national and Global goals of sustainable development.

Social security is the security of social development, which is the preservation of human life and health, that is, the unlimited possibilities of its development, namely the protection of rights, guarantees and freedoms, that is, the presence of optimistic prospects for existence and development. But the achievement of this state implies the responsibility of the subjects of social relations for the formation and implementation of social security strategies of people, society, and the state. Due to a targeted social-responsibility questionnaire in 2013³ and identical issues in an expert opinion poll on social security issues in 2017, it is possible to compare the results and change in public opinion over the four-year period (Table 7.3).

The situation in Ukraine in the system of social relations has changed considerably. Threats to national security grew in all its spheres, and, accordingly, the system of social relations deteriorated. A comparative assessment of two expert surveys in 2013 and 2017 shows that the number of experts who agree that the threats to Ukraine's national security due to underdevelopment of social responsibility have increased by 87.3% in 2013 and 91,4% in 2017.

³ Diagnostics of the state and prospects of development of social responsibility in Ukraine (expert assessments): monograph / O.F. Novikova, ME Deych, O.V. Pankova et al .; National Academy of Sciences of Ukraine, Institute of Industrial Economics. - Donetsk, 2014. - 320 p.

Table 7.3. Assessment of the relationship of underdevelopment of social responsibility with threats to the national security of Ukraine, %

Do you agree that the threats to the national security of Ukraine are to a large extent due to the underdevelopment of social responsibility in the system of social relations in Ukraine?	2013	2017
Agree	51,9	47,6
Most likely agree	35,4	43,8
It's hard to tell	7,0	6,7
Most likely disagree	3,2	1,9
Disagree	2,5	0,0

There was a growth of a negative social phenomenon - irresponsibility. The reasons for the emergence of threats to national security that are associated with underdevelopment of social responsibility also changed (Table 7.4).

Table 7.4. Characteristics of threats to national security, which are related to underdeveloped social responsibility in 2013, 2017, %

What threats to national security are first and foremost connected with the underdevelopment of social responsibility?	2013	2017
Low level and quality of life, high level of poverty, incompleteness of the middle class	60,1	74,3
De-socialization of relations in the labor sphere, reduction of the value of labor, low quality of working life, underdevelopment of labor competences	58,9	63,4
Changes in social norms of behavior of members of society and its institutions, distribution of the ideology of consumption	52,5	42,6
Loss of economic development	27,7	37,6
Unavailability of innovative development models	18,4	37,6
Undeveloped civil society and democratic institutions to ensure human rights and freedoms	50,6	37,6
Reducing social cohesion, patriotism, low level of national unity	56,3	36,6
Low level of competitiveness of the national economy	34,2	35,6
Aggravation of the demographic crisis, the extinction of the nation	13,3	31,7
The spread of foreign interference in the internal affairs of Ukraine	13,9	25,7
Other	5,7	2,0
Difficult to tell	4,4	1,0

The economic and social situation in Ukraine for 2013-2017 has changed as a result of the implementation of threats to national security in virtually all areas of national security, but the most negative impact is due to the economic, domestic, military and information spheres. Due to the superiority of irresponsibility in the system of social relations and insufficient levers of social responsibility, the number of economic and social losses has increased. But the Revolution of Dignity inspired the formation and implementation of positive processes in the development of society.

The most significant negative consequences of the implementation of threats to national security related to the underdevelopment of social responsibility remained in 2013, and in 2017 - low level and quality of life, high poverty (respectively 60.1% and 74.3%). An increase of 14.2% was due to poverty growth experts. According to official statistics, such an increase did not occur. Labor relations deteriorated as a result of a decrease in social responsibility 63.4% of experts believe that it is 55% higher than in 2013. The state of economic and innovation development is worsened by 37.6% of experts, but the lack of implementation of innovative development models according to expert opinion increased in 2017 compared to 2013 by 19.2%, and the loss of economic development was pointed out by almost 10% more respondents. The growth of economic risks and the deterioration of the economic situation, according to expert estimates, is associated with a decrease in the level of social responsibility in the system of social relations.

The most significant increase in threats to national security is felt in the analyzed period, due to the aggravation of the demographic crisis and the sharp death rate on the verge of the extinction of the nation. In 2013, 13.3% of experts felt it, and in 2017 it was 31.7%. First of all, this condition is due to the consequences of an armed conflict. The growth of threats to national security due to the spread of foreign interference in Ukraine's internal affairs was noted by 13.9% of experts in 2013, and by 25.7% in 2017, which is due to the fact that the growth of these interventions almost doubled.

Against the background of negative processes, positive ones can be traced as well. The number of experts who determined the underdevelopment of civil society and democratic institutions to ensure human rights and freedoms was 50.6% in 2013, and in 2017 their number decreased by 13% and amounted to

37.6%. The leverage of such changes was, first of all, the Revolution of Dignity. It caused positive changes in the growth of social cohesion, patriotism of national unity (an increase of 18.7%). Thus, the weakly engaged and leveraging instrument remains a social responsibility to reduce the importance of threats to national security.

7.4. Determination of the impact of regional security on the country's economic and social situation

Among the areas of national security, the regional sphere is not distinguished. This is a disadvantage of the Ukrainian legislation on national security. It is at the regional level that there are internal negative factors that aggregate form the threats to national security. But it is poorly considered, monitored, analyzed and monitored, so special attention in the expert survey was paid to threats of regional origin.

To the question: "What factors of a regional character determine the appearance of internal and external threats to national security?" Almost all experts (89.4%) answered that the presence of armed conflict in the territories of Donetsk and Lugansk regions. Here, the negative impact of the manifestation of this regional factor has appeared in all areas of national security. T

he second place for the significance of threats of a regional character was the threat posed by the transformation of post-conflict territories affected by fighting into new depressed territories (69.2%). This will increase the negative impact of these factors on the country's economic and social situation.

Other regional factors that negatively affect national security are related to economic security, public administration and public relations. Economic risks have intensified due to the deterioration of the investment climate and the outflow of investments by international and donor organizations for the implementation of regional policy measures. So believe more than half of the experts (54.8%).

Decentralization of management is a complex process of reforming the system of relations between the center and the regions. The experience of many countries that have gone through decentralization has shown its long-term and conflicting nature. The interests of public relations subjects are interrupted at

the state and regional levels. And in Ukraine, these processes occur in unfavorable conditions of armed conflict, when both economic, human and material resources are diverted from the satisfaction of the needs of territorial development.

It is no coincidence that 53.8% of respondents determined that the conflict of state and regional interests in the process of decentralization of management with the simultaneous imbalance of powers, responsibilities, resources and community responsibility for territorial development (42.3%) caused obstacles to the implementation of the planned reforms, and also create conditions for the emergence of threats to national security.

Additional obstacles to decentralization management reforms are excessive differentiation of the regions of Ukraine (27.9%) and undeveloped relations of constructive cooperation between the public and local councils on the development of territories (31.7%).

The discrepancy between the reform of the territorial management system and the principles of the European concept of "smart communities" in the opinion of 18.3% of experts may contribute to the threat to national security. But for the processes of European integration of Ukraine, this is a significant obstacle, which requires urgent and targeted measures and actions to overcome it..

7.5. Economic and social security of Ukraine in the context of globalization processes

The processes of globalization are spreading and gaining strength in a large number of national economies. Ukraine also experiences the impact of globalization, which is both negative and positive both in the economic and social spheres as well as in the system of social relations. To the question: "What negative consequences of the impact of globalization are most pronounced in Ukraine?" The experts put the first place out of the human and intellectual capital of Ukraine and youth (78.1%). The loss of high-quality human potential and youth is a threat to both social and economic security as well as a negative criterion for assessing the social orientation of the economy. People travel to places where they have certain economic and social benefits, have greater opportunities for quality of life and development.

The spread of processes of globalization and the mismatch of national economies to meet the needs of human and intellectual capital, as well as young people, causes the growth of migration processes. This is happening in Ukraine. The weakness of national economies is manifested in the inability to remain independent in both economic and social development from the processes of globalization and also not subject to global economic crises.

This is understood by experts and 54.3% of them state in the circle of the negative consequences of globalization a partial loss of state control over socio-economic processes occurring on the territory of the country, and 40% - the strengthening of the crisis of the national economy due to global economic crises. Other negative consequences of globalization taking place in Ukraine are reduced to the system of social relations and its influence on national identity.

This negative effect is manifested in the following:

orientation to the global culture, ignoring mentality, national identity - 36.2%;

attraction of society's standards of consumption in the absence of a regional consumption structure - 33,3%;

giving preference to individual social relations in spite of solidarity and collectivism - 20.0%;

the spread of international crime, terrorism - 8.6%.

Experts consider the additional negative consequences of the impact of globalization on the socio-economic situation in Ukraine as follows:

the growth of insecurity of domestic commodity producers with their simultaneous involvement in world chains of added value at low levels;

increasing the relative (in comparison with other countries) poverty;

information war against Ukrainians through social networks.

At the same time, in free answers, experts specify that the negative effects far exceed the positive ones, which extend only to a separate group of society with appropriate material and status capabilities.

But only a pessimistic view of the processes of globalization is not an excuse. There are also positive civilizational changes as the beneficial effects of the impact of globalization on national economies. The experts identified the positive effects of globalization, which are manifested in Ukraine, given in table. 7.5.

Table 7.5. Evaluation of the positive effects of globalization in Ukraine, %

What positive effects of globalization are most pronounced in Ukraine?	%	Rank
Expansion of communication with the citizens of other countries	56,2	1
The growth of the number of citizens who are fluent in a foreign language	48,6	2
Participation and cooperation of Ukraine in international associations and security institutions	43,8	3
Expansion of the possibility of gaining a positive experience of professional communication at joint ventures	40,0	4
Increasing awareness in all areas of national security regarding international achievements and opportunities for scientific and professional communication.	37,1	5
The experience of confronting external interference in internal politics of Ukraine is being acquired, the practice of defending national interests in all areas of national security is developed.	27,6	6
Increasing the possibility of recreation of citizens outside the country	17,1	7

People of the planet are eager for communication. It is business as well as political, economic, financial, industrial, and cultural. Peace and partnership have been proclaimed for Sustainable Development Goal 17, both globally and nationally. More than half of the experts (56.2%) have a positive attitude towards expanding the communications of the population with citizens of other countries. Due to this, the number of citizens who fluent in foreign languages is growing (48.6%).

The international experience of countries' cooperation on security issues has a long history. And Ukraine will involve it with participation in international associations and security institutions. This is what 43.8% of experts say.

40% of experts believe that professional communication in the joint ventures is positive, and 37.1% of respondents determine the benefits of globalization in spreading awareness of international achievements, as well as opportunities for scientific and professional communication.

Globalization processes contribute to gaining experience of defending national interests (27.6%) and increasing the opportunities for people to rest outside the country (17.1%).

Experts added this list of positive aspects of globalization to free answers. Experts believe that there are additional opportunities to introduce world and European mechanisms of economic and social development, as well as an opportunity to get acquainted with the experience of protecting human rights and freedoms in foreign countries, the effective interaction of the community and the state. Thus, state regulation of the social orientation of the Ukrainian economy is ineffective. The socio-economic status of Ukraine is defined as unstable. Market transformations have not yielded expected results in either the economic or social spheres due to the refusal of the levers of state regulation of the processes of reforming the economy, and its current state is complicated by armed conflict, the systemic crisis and the negative effects of globalization. The complication of the situation is also due to the ineffectiveness of management actions for the prevention and elimination of threats in the social and economic spheres. The economic interests of the state, which envisage receiving the country's economic advantages, economic independence and competitiveness, remain unfulfilled, and social goals are not achieved. The theoretical generalizations and results of the expert survey identified and weighed the directions of the social orientation of the economy and specified the priorities for improving state administration in this area. They are: keeping the balance of economic efficiency and social justice; prevention of the emergence and spread of economic and social threats, risks and dangers. At the same time, there is a need to ensure the implementation of social and economic rights, guarantees and freedoms; poverty reduction; ensuring a decent standard of living for citizens; counteract the development of armed conflict; accelerating its settlement and termination; raising the level of economic development of the country; prevention of the negative impact on the economic situation in Ukraine of global and financial crises; consistency of economic and social policy, ensuring the combination of economic and social security; the development of decent work; increase in the value of labor and worker, quality of working life; ensuring decentralization of economic and social management, achieving a balanced socio-economic development of the country and its regions; creating opportunities for achieving the goals of sustainable development of Ukraine in 2030, etc.

State regulation of the social orientation of the economy can be successful in improving the quality of governance, modernizing public relations, using the

achievements of the European community and the benefits of Ukrainian identity. Mechanisms for implementing this are:

- ensuring an effective decentralization of public administration with a distinction between responsibilities, powers, functions, responsibilities and responsibilities between the center and the regions;

- ensuring the balance of economic and social policies;

- realization of state guidelines regarding the social orientation of the economy;

- achievement of balance and interests between power and society;

- the development of democratic foundations of governance, the formation of civil society, the spread of public control over the state's activities;

- raising the level of social responsibility in the system of social relations and public administration;

- overcoming corruption;

- increase of citizens' confidence in state authorities;

- decrease the level of shadow economy of the national economy;

- the inclusion in the provision on the activities of the authorities to ensure the social orientation of the economy;

- development of public-private and social partnership in the system of economic and social management;

- use of information levers to form a positive image of Ukraine and its citizens in the international community.

The identified ways and priorities of achieving the social orientation of the Ukrainian economy are not exhaustive, but they are basic for increasing the level of economic and social security, the development of Ukraine as a business, active and useful member of the international community. Their implementation will contribute to the successful integration of the state into the European economic and social environment.

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CHAPTER 8. NATIONAL SECURITY STRATEGIES FOR FOREIGN COUNTRIES

8.1. The National Security Strategy of the United States in the face of new challenges

The modern system of international security is in the process of deep transformation, being under the influence of globalization processes. As a result, fundamentally new features of the world order are formed, and international processes are manifested in the form of contradictory tendencies, and new challenges and threats to international security are constantly emerging. The United States of America, as one of the countries that can dramatically influence and change the situation in the world, adopted a new National Security Strategy in December 2017. According to international experts, the new National Security Strategy related to US President Donald Trump differs from the previous specific features. D.Trump identified the main goal of the strategy - a national upgrade for the restoration of American global leadership. But, like all previous national security strategies, the principle of resistance to the armed forces remains unchanged, and the preservation of a military presence outside the United States under the auspices of defending American interests. According to D. Trump, the country will apply force only as the last chance; in the wake of the war, a full-scale mobilization of Americans will be held in support of the government's actions. At the same time, he believes that allies should be convinced of the need to build up a contribution to their own security, as well as support for business projects focused on the development of the domestic US economy.

It is declared that the United States will not impose its own way of life on anyone, let it be a vivid example, followed by countries on their own. Because of the immutability of the consensus of the American political elite with regard to the world leadership of the United States, which are enshrined in the national interests of the country and are unchanged in the National Security Strategy 2017.

It defines the main goals, tasks and directions of activity in the field of foreign and domestic policy. As the main guarantee of preserving the influence of the United States in the world, as before, powerful and combatant armed

forces are considered, including a combination of politico-diplomatic, military, economic, ideological and other instruments of influence on the international environment.

The new Strategy for National Security for the New Era states that the main responsibility of the US government is to serve its people, citizens, their needs, to ensure their safety, to preserve their rights and protect their values. At the same time, it sets the optimistic strategic direction for the United States, which will strengthen the strengths of America in the world and strengthen the strengths of the state.

The strategy is based on presidential measures aimed at restoring confidence in the United States. Strategic confidence allows the United States to protect its vital national interests. The strategy defines four vital national interests: defense of the country, protection of the American people and the American way of life; promoting America's prosperity; preservation of peace through force, strengthening of American influence.

The strategy solves the key issues and identifies the trends that determine a certain negative US position in the world, in particular:

revisionist powers, such as China and Russia, using technology, propaganda and coercion to form a world that is contrary to our interests and values;

regional dictators that spread terror, threaten their neighbors and use weapons of mass destruction;

jihadist terrorists who incite hatred and violence against innocents under the name of godly ideology and transnational criminal organizations that spread drugs and violence in society.

The strategy formulates and develops the concept of the President of principle realism:

realistically, because it recognizes the central role of power in international politics, argues that strong and sovereign states are the best hope for a peaceful world and clearly define our national interests;

in principle, because it is based on the advancement of American principles that propagate the peace and prosperity of human civilization.

Analyze the content of the Strategy from the standpoint of four identified vital national interests, which determines the prospects for both the country and the world.

The main responsibility of President D. Trump is responsibility for the national interest of the American people, the Motherland and the American way of life. For the sake of protecting the homeland and restoring sovereignty, border control will be strengthened and the immigration system reformed. Efforts will be directed at preventing and responding to threats before they reach borders or harm the people. The United States will redouble its efforts to protect critical infrastructure and digital networks, as new technologies and new adversaries create risk areas. In order to protect America from rocket attacks, a multi-layered anti-missile defense system is being developed.

Developing an American perspective through a strong economy that protects the American people, supports the American way of life and power. The restoration of the American economy in favor of American workers and companies necessary for the restoration of national power, the holding of free, fair economic relations. Protection of the innovation base of national security, from those who steal intellectual property and unfairly exploit the innovations of free societies. In order to succeed in geopolitical competition, America must conduct research, technology and innovation. Energy domination will be used to ensure the openness of international markets and promote economic and national security.

Keeping peace through strength - Restored, strengthened and rejuvenated military power in America will provide peace and hold back hostility. Increase the use of all instruments of public administration in a new era of strategic competition (diplomatic, informational, military and economic) to protect their own interests. Recovery will be made in cyber and space systems. There are hopes for joint efforts of allies and partners in solving common threats. A balance of power will be secured in favor of America in key regions of the world: in the Indo-Pacific, Europe and the Middle East.

Influence of American aviation potential as a force of good to promote the influence of the United States and the interests and benefits to humanity. Strengthening influence abroad to protect the American people and promote its prosperity. Attract diplomatic efforts and development efforts to achieve better results at all levels - bilateral, multilateral, in the field of information in order to protect the interests of the United States, search for new economic opportunities for Americans and challenge competitors. Increasing the search for partnerships to promote a free market

economy, political stability of the world. Protecting values, including the rule of law and the rights of the individual, which contribute to the development of strong, stable, prosperous and sovereign states. The foreign policy impact of America is planned to be used as a positive force in order to establish conditions for peace, prosperity and the development of successful societies.

Ukraine in the new strategy of the USA is mentioned in the part of the aggressive policy of the Russian Federation. But the document contains two important signals for our country: despite the fact that Russia is not directly named as an aggressor, it has entered the list of state-revisionists. This indicates that the United States will make appropriate decisions to counter Russia's destructive policies on the international scene. This is an opportunity for Ukraine to become a US partner for such a clash. Another important signal is that America will support states conducting democratic and market reforms, which also enables Ukraine to become a reliable US partner in the international arena. However, the government of our country should understand that the United States is considering the conversion of recipient countries as self-sufficient, that is, we need to quickly create conditions for attracting investment, rather than counting on permanent intergovernmental assistance.

The experience of solving the problems of national security in all its constituents, accumulated by the United States of America, promotes the efforts of other states to develop and implement their own national security concepts and strategies, aimed at the reliable protection of national and economic interests. In particular, new challenges and threats have contributed to the emergence of new strategies for post-Soviet countries - Lithuania and Georgia, which have similar conditions and threats with Ukraine. We pay attention to the experience of the closest neighbor from the European Union - Poland.

8.2. Basics of National Security of Georgia: conceptual and legal support

Georgia's National Security Concept, adopted by the Georgian Parliament on December 23, 2011, is the main document that explains fundamental national values and national interests, the vision of a nation's safe development, threats, risks and challenges, and sets out the main directions of national security policy [1].

Based on the National Security Concept, the Georgian government is taking measures to ensure the protection of fundamental national values and the realization of national interests, timely response to the risks, threats and problems facing the country.

The document presents a strategic vision of the development of the Georgian nation, threats, risks and dangers, as well as directions of national security policy. The main national values of Georgia in the Concept are defined: independence, freedom, democracy and the rule of law, security, prosperity, peace.

Georgia guarantees the rights and freedoms of all citizens and groups living in Georgia, respects their right to free choice, guarantees the right to freedom of speech, opinion, conscience, religion and beliefs, and creates a favorable environment that enables every citizen to realize his potential. Georgia recognizes that economic freedom is a prerequisite for the realization of all other rights and freedoms. Georgia's aspiration for prosperity recognizes as the basic human right to guarantee life in a free environment. In order to achieve maximum prosperity of its citizens, Georgia aspires to sustainable development of the state by creating a free economic environment, responsible macroeconomic policy, low taxes and targeted social policy.

The National Security Concept defines national interests: ensuring sovereignty and territorial integrity; development of state institutions and strengthening of democracy; development of an effective system of national security; strengthening national unity and civic consent; European for Euro-Atlantic integration; ensuring sustainable long-term economic growth; ensuring energy security; ensuring regional stability; strengthening the transit role of Georgia; provision of ecological safety of Georgia and the region; ensuring civil integration and preserving national and cultural uniqueness; strengthening cyber security; demographic security; relations with the diaspora.

Creating an environment for stable and high long-term economic growth is one of the main priorities of Georgia's national security policy. With regard to the economic bloc, the Government of Georgia provides free economic development, expansion of international economic relations of the country, improvement of the investment environment for attracting foreign capital, ensures conservative fiscal policy and sound monetary policy.

The social bloc of national interests is strengthening national unity and

civic consent, strengthening democratic institutions, supporting and developing cultural diversity and national uniqueness, promoting healthy lifestyles. The Strategy emphasizes that demographic security is directly linked to stable and high long-term economic growth.

Major military aggression by the Russian Federation against Georgia in August 2008, the occupation of the country's territories identified the main threats and risks.

Among the challenges, threats and risks for the national security of Georgia, the document defines:

1. Occupation of the territories of Georgia by the Russian Federation and terrorist acts organized by the Russian Federation from the occupied territories.

2. The risk of the resumption of military aggression by Russia.

3. Violation of the rights of internally displaced persons and refugees from the occupied territories.

4. Conflicts in the Caucasus.

5. International terrorism and transnational organized crime.

6. Economic and social problems.

7. Energy problems.

8. Cyber Threats.

9. Ecological problems.

10. Demographic problems.

11. Challenges of Civil Integration.

12. Destruction or damage to monuments of cultural heritage.

The military aggression on the part of Russia has considerably worsened the security situation in the Caucasus region as a whole, but the low level of long-term economic growth is no less a challenge for Georgia's national security. Further improvement of economic growth is important for the security of the country as a whole. The Concept states that insufficient economic growth can lead to a significant reduction in state revenues, a sharp increase in unemployment, which in turn may generate social tensions that threaten the country's development, its stability and national security.

The priority directions of Georgia's national security policy, as defined by the Concept, are:

1. Completion of the occupation of Georgian territories; settlement of re-

lations with the Russian Federation. The completion of the occupation of the Georgian territories, the reintegration of people living in these territories and the restoration of sovereignty of Georgia throughout the country are the most important priorities of the national security policy of the country. The Government of Georgia is determined to take timely measures for the de-occupation of Georgian territories by peaceful means on the basis of the principles of international law. Georgia remains a supporter of non-use of force, in accordance with the commitments made by the Russian-Georgian ceasefire agreement of August 12, 2008.

Regarding relations with Russia, the Concept states that Georgia is ready for good-neighborly relations with the Russian Federation on the principle of equality, which is impossible without respecting the sovereignty and territorial integrity of Georgia and the beginning of de-occupation. Georgia is ready to begin a dialogue with the Russian Federation on these fundamental issues.

2. The development of state institutions and the consolidation of democracy. Citizens of Georgia are determined to develop a free, democratic society and to strengthen the rule of law, a society in which all citizens are equal before the law, which is transparent and responsible and guarantees the rights and freedoms of all citizens, including the right to freedom of speech, thought, conscience, religion and beliefs, freedom of association. Such a political system is a prerequisite for the further development of the nation.

3. Implementation of the policy of interaction. Georgia is trying to create the formats, mechanisms and incentives that can promote interaction between the occupied territories and other Georgian regions, thus restoring the relations between the citizens of Georgia who live on different sides of the occupation line.

4. Development of Georgia's defense and security system. In order to protect its national security, Georgia is implementing reforms to enhance the effectiveness of its security system. The cornerstone of these reforms is the process of strengthening national security, which includes institutional coordination of policies between public authorities, enhanced cooperation between military and civilian institutions, and the development of specific strategies for all agencies involved in the security sector.

One of the most important areas of Georgia's security policy is to strengthen the country's defense capability, taking into account the transformed secu-

rity environment. The Government of Georgia is adapting its armed forces to new challenges, working conditions and challenges it faces. Georgia pays particular attention to measures aimed at increasing the readiness and ability of its military forces to respond to external aggression.

5. Integration into the North Atlantic Treaty Organization and the European Union. One of the main priorities of Georgia's foreign and security policy is membership in NATO and the European Union. Accession to NATO is an important foreign policy task of Georgia. Georgia views NATO as the foundation of the Euro-Atlantic security architecture as well as the main mechanism for ensuring security and stability in the Euro-Atlantic area. Georgia's membership in NATO will provide strong guarantees for the security and stability of the nation and will play an important role in consolidating stability throughout the region.

6. Cooperation in the South Caucasus. Georgia emphasizes the importance of cooperation in its area and takes political and economic steps to promote the transformation of the South Caucasus into an economically attractive, peaceful and safe region.

7. Strengthening external relations. Strengthening foreign policy ties is a priority for Georgia, as well as expanding foreign trade, attracting investment and strengthening social and cultural ties. To achieve this, Georgia cooperates with the international community in bilateral and multilateral formats. The Concept envisages the deepening of strategic partnership with the USA, Ukraine, Turkey and other countries of different regions of the world.

An important priority of Georgia's foreign and national security policy is cooperation with the international community within multilateral forums. Georgia believes that the UN should play a leading role in the creation of a global world and in advancing the resolution of existing conflicts, and the OSCE is a very important organization for ensuring European security and plays a leading role in strengthening peace, stability, democracy and human rights in Europe.

Cooperation within the framework of the Council of Europe is considered by Georgia as the best opportunity to establish European political and legal values and norms. Georgia adheres to the standards of the Council of Europe as an important factor in the development of a democratic state based on Western values and norms.

8. Fighting international terrorism and transnational organized crime. Georgia's anti-terrorist policy is to secure the security of its citizens, the state and other institutions. Georgia has joined the UN Convention and Protocols against Terrorism and actively cooperates in the fight against terrorism at bilateral and multilateral levels.

To achieve its goals, the Georgian government is actively cooperating with the United Nations Terrorism Committee

9. Economic security. Georgia's economic policy is based on the principle of economic freedom. The purpose of Georgia's economic security policy is to create comprehensive conditions for stimulating the country's development, enhancing its citizens' well-being, improving the competitiveness of the economy as a whole, and so on.

The priority directions of the state policy of securing Georgia's economic security are to increase the macroeconomic stability by further improving and simplifying tax administration; reducing the budget deficit to ensure financial stability; implementation of conservative budget and monetary policy; achieve and maintain a minimum level of inflation; reduction of public expenditures; minimize public debt and so on.

One of the most important goals of Georgia's foreign and security policy is to stimulate fruitful economic cooperation, including the expansion of free trade regimes with the EU, the US and the regions of the country. Strengthening of border economic relations will help to reduce regional tensions and resolve regional conflicts. In this regard, Georgia will continue its economic cooperation with Armenia, Azerbaijan, Iran, Kazakhstan, Kyrgyzstan, Turkey, Turkmenistan, Ukraine and other states of the Black Sea region, the Middle East and Central Asia.

The focus of Georgia's economic policy is to create and maintain a supportive external investment environment, increase the competitiveness of the economy as a whole and labor potential, and increase employment of citizens by creating and maintaining a competitive labor market, stimulating the development of skilled labor through the implementation of a targeted education policy.

10. Energy security policy. In order to ensure Georgia's sustainable energy security, it is envisaged to create a favorable investment climate, with the

aim of strengthening international cooperation, as well as for the further development of the national validity of the energy infrastructure.

Considerable attention is paid to the diversification of energy resources and suppliers, as well as participation in international and regional energy projects. In this regard, Georgia supports the attraction and implementation of new projects within the Southern Energy Corridor, including those projects that will supply oil and natural gas from the Caspian region and the regions of Central Asia through Georgia to Europe.

11. Educational policy. Improving the education system is an important priority for the Government of Georgia. Integrated reform of the education system is aimed at qualitative improvement of general, vocational and higher education; promotion of civil society on the basis of knowledge growth; creation of conditions conducive to the development of science. It is planned to increase participation in the further development of the education system.

The reform of the Georgian education system will enable Georgian citizens to develop their abilities and to be competitive in the Georgian and world labor markets. Programs in the field of information technologies and foreign languages, especially English, are important components of the reform of the education system. The development of vocational education is an important reform priority. The dynamic development of the Georgian economy requires further improvement of the system of professional and higher education. Support for high-quality higher education is a prerequisite for increasing the scientific potential of Georgia and economic prosperity. It is also important to deepen international cooperation in the field of research and new technologies.

12. Social security. The goals of Georgia's social security policy are to tackle poverty, improve health systems, raise living standards and develop the middle class. To ensure social security, Georgia's citizens are expected to develop an environment conducive to job creation and further improvement of those aspects of social security that provide social assistance to people living below the poverty line.

The Government of Georgia's health policy focuses on: improving health-care provision; improvement of the system of medical education and certification; Improving the effectiveness of the prevention and control of epidemics and pandemics; prevention and treatment of socially dangerous diseases (tuber-

culosis, AIDS, drug addiction, etc.); prevention of especially dangerous infectious diseases; development of effective laboratory observing systems; promoting a healthy lifestyle; increasing the availability of health services by further improving insurance systems and providing health services to people living below the poverty line.

13. Cybernetic security. Georgia set itself the goal of creating a cyber security system that could minimize the consequences of any cyber attack and could quickly and effectively restore affected networks in the event of an attack. Georgia pays particular attention to the provision of classified information and protection of state information systems. Georgia is establishing the necessary legal framework and infrastructure for improving information technology and information security. Cooperation with partner countries and the exchange of experience are important for the cyber security of Georgia.

14. Ecological safety. Georgia's environmental safety policy protects people and the environment through the sustainable use of natural resources and the prevention of environmental damage caused by natural and man-made crises. Particular attention is paid to such catastrophes as floods, landslides, avalanches and earthquakes, as well as industrial accidents, etc. The purpose of Georgia's environmental policy is to develop and implement effective measures to prevent pollution of air, water and land, protection of forest resources, the resources of the Black Sea and the management of radioactive and other hazardous materials in Georgia. The Government of Georgia is aware that the country's environmental security requires close regional and international cooperation.

15. Protection of the cultural heritage of Georgia. Georgia, in close cooperation with UNESCO and other international organizations, is committed to protecting and developing the unique cultural heritage of the country, which is an important part of the world cultural heritage. It implements the policy of protecting the cultural heritage, which aims to promote contemporary and traditional Georgian art and the protection of architectural monuments.

16. Demographic policy. To improve the demographic situation, Georgia focuses on increasing fertility, reducing infant mortality, implementing a healthy lifestyle and increasing longevity. Georgia also seeks to create favorable conditions for the return to Georgia of citizens of Georgia and other compatriots living abroad.

17. Public policy of integration. The Government of Georgia supports the process of integrating ethnic minorities and promoting their participation in Georgian society. It is important to increase the knowledge of the Georgian language among ethnic minorities, allowing them full freedom to preserve their identity and culture. This policy is based on the Government's National Concept and the relevant Action Plan on Tolerance and Civil Integration. The state is taking measures to educate ethnic minorities in Georgian, which helps them to fully realize their civil rights and freedoms.

18. Policy to strengthen relations with the diaspora. Preserving the Georgian identity of compatriots living abroad is a priority for the Georgian government. Georgia supports and promotes the creation and operation of foreign Georgian Sunday schools, Georgian language courses, Georgian state schools and folk and artistic groups, as well as other efforts aimed at preserving and developing the country's cultural heritage. Georgia also supports deepening ties between members of the Georgian diaspora living in different countries and implementing joint projects.

In order to strengthen the legal framework for the national security of Georgia, they were enshrined in the Georgian Law on the Order of Planning and Coordination of National Security Policy, which was adopted on March 4, 2015. Article 3 of the Law defines the areas of national security: state defense, external security, internal security, socio-economic security, environmental and energy security, information security, law and order.

Economic and social spheres were provided together. The scope of socio-economic security (Article 9 of the Law) included the following areas: protection of human rights and freedoms guaranteed by the Georgian Constitution in the process of planning and implementing a national security policy; identifying, evaluating and forecasting socio-economic threats, risks and challenges; neutralization of economic and financial activities that endangers the state interests of Georgia; ensuring compliance with regulatory norms related to objects of strategic importance, goals and objectives of national security; assessment of security aspects of economic projects of strategic importance and the development of appropriate security mechanisms; ensuring compliance of foreign economic relations with the goals and tasks of national security; ensuring demographic security; ensuring compliance of the policy of health protection

and social protection with the goals and objectives of national security; food security; providing protection against pandemics, epidemics, epizootics and other biological threats.

Thus, in the policy of national security, which includes economic and social security, Georgia is guided by the concept of national security, which contains an interpretation of national values and interests, forms a vision of a country's safe development, defines the threats, risks and challenges facing the state, establishes the main the direction of national security policy, as well as the Law of Georgia "On the order of planning and coordination of national security policy", which defines the areas of national security policy, planning and the coordination of this policy, the authorities of the departments coordinating its planning.

8.3 Main provisions of the National Security Strategy of the Republic of Lithuania

Adapting international experience to the conditions of Ukraine is appropriate with the states in the event of a significant number of common features and characteristics of a historical nature and future prospects for development and integration. From these positions it makes sense to assess the content and implementation of the legal provisions on national security of the countries that were part of the USSR and successfully integrated into the EU. This is exactly the Lithuanian republic. The Lithuanian Law on National Security was adopted on December 19, 1996, with successive amendments and additions in 2017.

All legislation on national security consists of this law and the National Security Strategy. The content of the current legislation of the Republic of Lithuania at present demonstrates the classical sequence of its implementation, when the provisions of the law become binding for the formation of the relevant strategy, and it defines the content of the directions and measures of the Long-term state program of strengthening security, and when drafting the annual state budget, the Government should provide funds to implement this program and coordinate its implementation. A separate article (Article 6) provides for the Government's reports on the development of national security.

There is a division of Lithuanian national security legislation into the fol-

lowing policies (spheres): internal, economic, social, cultural, ethnic, as well as social security policies, education and science, healthcare, environmental protection policy.

Each Strategy of National Security of the Republic of Lithuania focuses on threats and trends that are relevant at the time of its adoption. This is exactly the Strategy of National Security of the Republic of Lithuania adopted by the Seimas on January 17, 2017. The strategy contains provisions that determine the development of the security system in the state.

The strategy identifies the primary interests of national security, the main risk factors, hazards and threats, priorities, long-term and medium-term tasks of development of the national security system. The Strategy stipulates that the main threat to the security of the Republic of Lithuania is the aggressive actions of the Russian Federation, which cause international tension and threaten the world peace, violating the security architecture, universal rules and principles of international law and peaceful coexistence of countries, aggression against neighboring countries, annexation of the Crimea.

The Strategy defines the priority national interests of the Republic of Lithuania: sovereignty, territorial integrity, democratic constitutional order; civil society, respect for the rights and freedoms of man and citizen and their lives; peace and prosperity in the state.

The main directions of achieving the national security of the Republic of Lithuania are: the viability and unity of NATO and the EU, security, solidarity, democracy and the welfare of all states of the Euro-Atlantic community; security, stability, the spread of democratic and European values; Sustainability of the state: economic, energy, ecological, informational, cyber security, social security.

Threats, Dangers and Risk Factors to be Emphasized by National Security Institutions are provided in Chapter 4 of the Strategy. They are defined depending on the spheres of the national security system. The following areas of government policy are identified to overcome economic and social threats: implementation of macroeconomic policies aimed at fiscal and monetary stability, sustained economic growth, diversification of exports, and the prevention of financial and economic crises; cooperation with other states to prevent money laundering, tax evasion, especially through offshore companies, transparent fi-

nancing of institutions, enterprises and organizations important for the state; preventing the entry of investors who do not meet the interests of national security; ensuring the protection of strategic sectors of the economy, enterprises and institutions; ensuring continuous supply of energy from safe and reliable sources, reducing the dependence of national energy systems from dominant energy suppliers; comprehensive integration of national energy systems in the EU energy market, synchronization of the electricity supply system with continental Europe's electricity grids; reducing the energy dependence on imports by encouraging the use of local and renewable energy sources, implementing energy efficiency measures, and using atomic energy; the transition to sustainable regional development, aimed at reducing economic and social inequality, increasing territorial cohesion in the regions, efficient use of EU funds; improvement of the system of social support and social services, reduction of social isolation; encouraging reverse migration, ensuring the connection between the state and Lithuanians living abroad and seeking to develop their Lithuanian identity, to support political, economic, social and cultural ties with the Republic of Lithuania.

The content of the national security strategy for the economic and social bloc is in line with the provisions of the Law of Ukraine "On the Basics of National Security" of the Republic of Lithuania. The main objects of national security really are - rights and freedoms of man and citizen, as well as personal security; Values that are significant to the nation, its rights and conditions for free development; the independence of the State; constitutional order; the integrity of the territory of the State; environment and cultural heritage; health of the population.

Economic security is primarily ensured and realized through the economic policy of Lithuania. According to the provisions of the law on national security, it should be based on the principles of openness, justice, coherence and usefulness for society in the market of open competition, ensuring economic freedoms, economic initiative, which should serve the general welfare of the nation.

Economic activity can be limited only by the law introducing the restrictions necessary for the protection of national security. One investor is forbidden to dominate in one or more economic sectors strategically important for na-

tional security. The sectors of the Lithuanian economy that have strategic importance for national security are: energy; transport; information technology and telecommunications, other high technology; financial system.

Social security is the result of the effectiveness of the state social policy, it should encourage the creation of a socially independent, united and stable civil society.

The state should pursue a welfare policy for all citizens and other persons falling within its authority, reduce the risks of possible social crises, and take measures to prevent violations of the principles of social harmony through excessive income differentiation and the degeneration of the population. The state must especially care about the state of the family, as the main and responsible institution of society.

The national security legislation of Lithuania also contains a set of officially accepted views on cultural policies, policies in the fields of education, science and health, environmental protection, ethnic policy, which determines the development of the human potential of the country and demonstrates the protection of the problems of the spiritual and value-added growth of the nation.

8.4. Formation and development of the system of ensuring national and economic security of the Republic of Poland

The need for the analysis and evaluation of strategic documents on the national security of the Republic of Poland is due to the intensive development of the legal regulation of national security in this country, aspiration for its integrity, and compliance with the requirements of Western democracies. At the same time, it is important that the Republic of Poland intends to support the aspiration to involve Eastern European partner countries that are members of the Eastern Partnership in pan-European processes of strengthening security. Practical implementation of such a policy is stipulated by the Agreement on the establishment of a joint Polish-Lithuanian-Ukrainian Brigade, which will be located in Poland in the city of Lublin [2]. For Ukraine, the experience of Poland in the field of national security is useful, as the process of making significant changes to the national security legislation of Ukraine is already underway. Therefore, approaches, assessments and strategic perspectives of national secu-

rity should be adapted to the conditions of Ukraine, then they should be used for integration into the European security environment.

During the last decade, Poland has adopted and implemented the implementation of three national security strategies for 2007, 2013 and 2014. The National Security Strategy of the Republic of Poland, adopted in 2017 [3], comprehensively defined national security by specifying the external, internal, military context. External security was implemented through membership in NATO and the EU. Internal security defined constitutional freedom of the community, conditions for the development of civil society and the economy of the country. The Strategy-2007 first stressed the energy dependence of the Republic of Poland on the Russian Federation.

Significant event for Poland was the adoption in April 2013 of the long-term document "Strategies for the development of the national security system of the Republic of Poland until 2022" [4]. This integral strategy developed a qualitative basis for the national security system, which determined the real and probable threats to the country. Its development was driven by the need to balance Poland's foreign and domestic policy with the strategic concept of NATO [5] and the European Security Strategy [6].

The strategy for the development of the national security system of the Republic of Poland until 2022 is a new generation of normative and legal act intended to solve the tasks of the modern security environment and meet the requirements of the modern system of development management of the country. As a result, for the first time, the national security strategy was developed in conjunction with the planning of socio-economic development of the country and based on a methodology that would allow its goals to be realized. In addition, the complementarity of the National Security Strategy of the Republic of Poland in 2022 with other development strategies made it possible to include other areas of national security, such as economic (including energy), civil, social, food and environmental security, in the main thematic areas. Strategy 2022 was created as a result of the joint efforts of many experts involved in its work, representing both ministries and central authorities, the Ministry of National Defense. Work on the document lasted more than 3 years.

The main objective of the Strategy 2022 is to enhance the effectiveness and coherence of the national security system, understood as a synergy between

the efforts of various state security agencies and state security agencies to identify and eliminate the sources, manifestations and consequences of national security threats. Efficiency is achieved by increasing the effectiveness of the basic elements of the national security system. Realization of the first goal involves: creation of a stable international security environment on a regional and global scale, the second goal is to strengthen the defense capabilities of the state and the third task - to develop resistance to threats to national security. The consistency will be ensured through the achievement of the fourth goal: strengthening the integration of the state policy with security policy and the fifth goal - creating conditions for the development of an integrated national security system.

Achievement of the main goal will ensure a better implementation of national interests. It will also contribute to the achievement of the quantitative and qualitative potential of the state, which will preserve its influence on international reality and internal processes and stimulate positive evolutionary trends inside and outside the country.

Ensuring the security of the state and its citizens, referred to in Strategy 2022, is a vital national interest of the Republic of Poland. National security means the ability of the state and its neighborhood to provide conditions for its existence and development, territorial integrity, political independence, internal stability and quality of life. This capacity is formed on the basis of opportunities, challenges, risk reduction and the elimination of external and internal threats, which ensure the continuity, identity, functioning and freedom of development of the state and the nation.

The strategy for the development of the national security system of the Republic of Poland until 2022 envisages the implementation of the following strategies:

1. Strategy of innovation and efficiency of the economy.
2. Human Capital Development Strategy.
3. Strategy of transport development.
4. Energy Security and Environment Strategy.
5. Strategy of an effective state.
6. Strategy of development of social capital.
7. State Strategy for Regional Development.
8. Strategy for Sustainable Development of Agriculture and Fisheries.

The Strategy focuses on the social basis of national security and emphasizes the social perception of national security. Based on the principles of openness and transparency, the Polish authorities understand that the growing interest of the public in political decision-making requires a continuous improvement of public communication and the effective transfer of the objectives of the Polish security policy. The Strategy states the importance of gaining a general understanding of the goals of public policy and achieving a relatively high level of acceptance, and it is also important to build social capital based on a high level of civic engagement and community confidence and overall identity.

Strategy 2022 made a SWOT analysis of Poland's national security: the weaknesses and strengths were identified, as well as the opportunities and obstacles to ensuring national security. The developed strategy, along with external and military security, attaches great importance to the socio-economic development of the country and the well-being of citizens, while preserving cultural heritage.

The strategy for the development of the national security system of the Republic of Poland until 2022 was of a long-term nature in its content, but there have been significant changes in the security environment in Eastern Europe, which created new risks and dangers. This led to the development and adoption on October 21, 2014 a new National Security Strategy.

Now in the Republic of Poland there are two strategic documents regulating the issues of national security of the state and at the stage of elaboration of the draft Law of Poland "On National Security".

The 2014 strategy covers the issues of national security as a whole and points to the best way to use all available defense, economic and environmental security issues. The key issue is their proper integration into the national security system.

Poland is a democratic state with a market economy that adheres to international law and strengthens its national security potential in order to ensure a stable development of the country and improve living conditions for its citizens, actively participate in international cooperation and develop friendly relations and cooperation with the countries of the near and far abroad. . Membership in Euro-Atlantic and European cooperation structures strengthens the security of the Republic of Poland. NATO is the most important form of political-

military cooperation between Poland and its allies, the European Union supports the social and economic development of Poland, the United States remains the most important non-European partner.

The Republic of Poland ensures the security of the state and its citizens, creating conditions for the achievement of national interests and achievement of strategic goals. National interests are defined in Art. 5 of the Constitution of the Republic of Poland, is based on the legislation on national security. These include:

- the availability of effective national security to ensure preparedness and ability to prevent, eliminate and eliminate threats, risks and dangers;

- Strong international position of Poland and membership in reliable international security systems;

- individual and collective protection of citizens from threats to life and health and from the danger of loss of tangible and intangible goods;

- ensuring the freedom of citizens to exercise their rights and freedoms without harming the safety of others, the security of the state and the preservation of national identity and cultural heritage;

- ensuring sustainable and balanced development of the socio-economic potential of the state, taking into account the specifics of the protection of the natural environment and the living conditions and health of the population as the basis for their existence.

Social potential, including human capital, is an important factor in the growth of the national economy, the efficiency of the state, the activity of civil society and the overall improvement of the quality of life of citizens. It is envisaged by the Strategy as the strategic potential of national security and an important resource necessary to ensure the country's security along with its economic potential, which contributes to enhancing the competitiveness of the Polish economy.

Poland's national security strategy is three-tier and involves a global, state and regional level.

The modern security environment in Poland is characterized by erosion of the boundaries between its internal and external dimensions, military and non-military. Globalization leads to unpredictable phenomena whose scope is no longer limited to geographical barriers, political systems and economies, and

there are still problems and threats of a military type. The security of Poland depends on its ability to effectively pursue national interests and achieve strategic goals in today's environment. This includes, in particular, the use of opportunities and the satisfaction of internal and external goals resulting from interdependent political, military, economic, demographic and environmental processes and events.

The economic activity of the National Security Strategy is to protect the objects and material resources of the national security potential from threats in peacetime, during times of crisis and war, and to support the operation of the operational subsystems of the national security system.

The Strategy emphasizes strengthening of financial security, increasing energy security, providing strategic reserves, strengthening food security, and protecting the environment.

The purpose of the national subsystems of social security is to ensure its effective functioning in the event of a threat to the war, as well as effective activities to fulfill the tasks of social support for the subsystem: the protection of the national heritage; development and deepening of cooperation between representatives of state institutions and the media engaged in the protection of national security; counteracting demographic threats; effective social provision of citizens in need of state support, as well as promotion of economic independence of the population; Increasing the innovation potential of research and development potential in the field of state security and defense by enhancing scientific and production cooperation (including international) research environment.

Poland's economic security depends first and foremost on imports of energy. The directions of overcoming the threats in this area include diversification of sources of energy and ways of their supply, use of alternative energy sources, implementation of measures for energy saving. In order to enhance economic security, the Strategy 2014 anticipates the growth of the competitiveness of the national economy, the strengthening of the industrial base as a decisive factor in ensuring the country's well-being and strengthening the position of Poland in the EU on the international scene. Achieving economic security is planned through the introduction of innovations, technological development, e-business, the development of organizational, financial and legal conditions conducive to entrepreneurship.

Thus, Poland's experience in drafting national security legislation with a distinction between economic and social security, with new views on foreign security and building international relations with the US and EU countries, should be taken into account and appropriate provisions adapted to the conditions of Ukraine.

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CHAPTER 9 OF THE PROBLEMS OF ECOLOGY AND ECONOMIC SECURITY OF UKRAINE

The problem of investing in sustainable low carbon development is global. However, in Ukraine it is particularly apparent, namely, in the contradiction between the actual state of investing, the willingness of investors to invest, the investment attractiveness of the low carbon economy and the investment needs of the industry. These features are most evident against the background of comparison of characteristics and indicators of the investment process of sustainable low carbon development in Ukraine.

The need for investments in energy efficiency measures up to 2050 is estimated at UAH 73 billion. However, this investment sector is limited only by energy efficiency measures. It creates the need for investment in the large-scale implementation of renewable energy (RES), without which low-carbon development in the broad and perspective sense is impossible, these costs, based on Germany's experience, will grow by an order of magnitude.

Regarding the actual state of investing in low carbon development in Ukraine, it should first be noted that there is no complete and systematic information on specialized investments in this sector. So far, the statistics have data on the investment of related sectors that contribute to low carbon development. This is primarily about financing environmental protection measures, investing in renewable energy, financing energy efficiency measures, etc.

In recent years, the amount of financing of environmental protection measures in Ukraine has increased by almost 26 times.

Special financial support is essential for the successful implementation of the low carbon development strategy. In the vast majority of countries, budget funding is not able to provide the necessary funds for this. Therefore, it is necessary to involve extrabudgetary and non-governmental sources of funding widely. These primarily include environmental funds, which in Europe already have a significant place in financing environmental activities. The founders of such funds are state bodies, private companies and firms, public organizations, private individuals, etc.

Ukraine also created state and local environmental funds. Their main goal is the formation of a centralized source of financing of environmental projects and programs independent of the state budget.

The Law of Ukraine "On Energy Efficiency" provides for the creation of the State Energy Saving Fund, identifies the main sources of filling this fund and the main purposes of using funds. In particular, the fund is provided for: 10% of fees for the use of natural resources; 10% rent for transportation and extraction of natural gas and oil; sanctions for violating energy efficiency legislation; the target surcharge to the tariff for electric and thermal energy and natural gas; proceeds from the sale of parts of the established amount of emissions; revenues from the payment of NAER services; voluntary contributions of enterprises, institutions, organizations and citizens. The main directions of using the funds of this fund are state programs of support for energy conversion measures, including energy saving, energy modernization and energy innovations.

Despite the increase in revenues to environmental funds and the increase in financing of environmental measures, the ecological state of the environment in Ukraine is practically not improving. This is due to the low level of investment in energy conversion, the weakness of the system of low carbon development motivation. In this regard, the legislative and regulatory framework for the formation and use of environmental funds needs substantial improvement, and first of all in the direction of approaching the European system. The main disadvantage of the system of environmental funds of Ukraine, as in many other countries, is the lack of interconnection of the revenues and expenditures of funds with the ecological base of income generation and financing of expenditures.

The best situation in Ukraine with external low carbon investments is not the best, especially with the use of special mechanisms of foreign investment. Ukraine signed the Kyoto Protocol in 1999 and ratified it in 2004. Ukraine undertook not to exceed the level of greenhouse gas emissions in the year 2008-2012, which was actually ensured.

Within the framework of the international trade mechanism, Ukraine's sales of carbon credits are possible only under the so-called scheme of green (or targeted) investments. This scheme implies that the funds received should be invested in real projects aimed at energy conversion. In this niche of the world market Ukraine accounts for over 13%. The total amount received by Ukraine under the mechanism of international trade in quotas is around 470 million euros, and the average price varied within 13 euros per tonne of emissions.

According to the Kyoto Protocol, Ukraine has a carbon emission quota of 922 million tonnes per year, in fact emissions account for 55%, the rest - 45% of the savings that can be sold. It is about 420 million tons, estimated at \$ 8.4 billion. However, even in the best years Ukraine sold less than 200 million tons of carbon emissions. This is half the volume that can actually be sold. The total supply of unsold carbon units is more than 2 billion units, that is 4 times more than actually sold. According to A.Kitury, the chances to sell this accumulated inventory of emissions are very small [1].

Ukraine is part of the so-called umbrella group (Japan, USA, Canada, Australia, Norway, New Zealand, Iceland, Russia and Ukraine). These countries insist that the criterion for emission reductions under the new agreement remains in 1990. If the criterion is taken in 2005, the realization share of the quota of Ukraine will be halved and the sale can be no more than 200 million tons to 4 billion dollars. Thus, losses of Ukraine will amount to 4.4 billion dollars. Thus, the efficiency of using the potential of reduced carbon emissions for sale is only 20%.

Within the framework of the multilateral negotiation process, Ukraine is in favor of the full transfer of savings units for the forthcoming period. The Doha amendment to the Kyoto Protocol, which governs the second period of its obligations, contains a clause which does not allow commitments in 2013-2020 to be lower than the average level in 2008-2010. Therefore, in practice, in the second Kyoto Ukraine's commitment period has been reduced from 76% to 50% of 1990 levels. However, given the large volume of unused quotas from the first Kyoto period, Ukraine can not even comply with such obligations.

Therefore, the international carbon market for Ukraine has three main problems:

The first is the lack of confidence in Ukraine regarding the targeted use of funds received from the sale of emissions quotas. That's why it sold only 20% of the accumulated savings of saved carbon emissions.

The second is the preservation of 1990 as a criterion for the quota of greenhouse gas emissions.

The third is the transfer of non-sold in 2005-2012 emission quotas for future periods, incl. inclusion in the future agreement.

Solving these problems is not easy. Indeed, in the world market recently, the volume of supply quotas is five times higher than demand. Adequately dropped the price of carbon emissions. In addition, quota trading has become increasingly limited to national and regional frameworks. Therefore, Ukraine is interested in joining the European trade system. At the same time, Ukraine must proceed from the fact that the carbon market should be flexible, able to connect both with the EU market and with the markets of other countries. Today, the volume of the domestic carbon market can amount to 100-200 million tons annually. The funds received from the sale of emission allowances may amount to 600 million USD per year. Therefore, in Ukraine there was a need to create a national carbon market. From this Ukraine will receive significant benefits. According to international practice, such a market does not have a negative impact on business. The market stimulates emission reductions and provides financial resources for this. The reduction of emissions is actually equivalent to increasing energy efficiency. Due to this, European and American companies - market participants - have already increased their competitiveness and energy efficiency. Obviously, this remains a chance for Ukraine as well.

But, despite the creation of a national market for emission permits, Ukrainian companies will still face additional costs associated with high greenhouse gas emissions. Indeed, in international trade, carbon protection is growing more and more. Countries that have limited their own greenhouse gas emissions seek to protect national markets from cheap goods from countries that do not impose such restrictions. For this purpose, they apply anti-dumping duties on energy-intensive goods. In the price of European products, the carbon component is laid, and, of course, the Ukrainian metal, the price of which does not have such an ingredient, benefits. But under such sanctions are domestic air carriers, metallurgists, chemists, and others like that. Therefore, it is better to spend these funds on the modernization of their own production than to subsidize European or American economies.

Ukraine has excess quotas, only as long as the Kyoto Protocol is in place. If it is stopped, the trade in quotas under the target investment scheme will stop. This surplus will not be sold to anyone. Under the continuation of the Kyoto Protocol, it is still unknown whether Ukraine will be able to defend the right to postpone unused quotas for future periods. Indeed, the EU, the United States, Japan and other developed countries are categorically opposed to such developments.

Investments in energy conversion in various forms in Ukraine are also involved: the Global Environment Facility; The World Bank and the International Finance Corporation (IFC); International Environment Fund NEFCO; European Bank for Reconstruction and Development (EBRD); European Investment Bank and other international institutions and multinational companies, incl. banks. These international financial institutions use different mechanisms: direct financing of projects, co-financing of projects with Ukrainian authorities and Ukrainian companies; lending and co-financing of projects, incl. on concessional terms and also in cooperation with the Ukrainian authorities and Ukrainian companies [2].

As of 2014, in Ukraine there were about 8 thousand projects for the sustainable low carbon development of various ecological characters and scales: from insulation of houses (several thousand hryvnias) to preserving the diversity of the Azov-Black Sea coast (tens of millions of hryvnias). This package of projects was almost completely formed and implemented during 2005-2013, that is, during the period of Ukraine's cooperation with the Kyoto Protocol. The analysis of these projects in the sectoral and regional aspects suggests that the structure of these projects is very similar to the structure of projects under the Kyoto mechanisms. This is confirmed by the indirect motivational influence of the Kyoto mechanisms on the activation of corporate and cartel transnational investment in sustainable low carbon development in Ukraine.

Ukraine's participation in the Kyoto mechanisms of transnational investment in sustainable low-carbon development has opened the door for the intensification of corporate (TNC) and cartel (mixed) investment. Such activity manifests itself in various ways. In particular, many TNCs, banks and other international institutions have joined the process of investing in Ukraine under the agreed JI projects and MTPL projects. At the same time, the regulatory environment for environmental investment was extended to other investment projects implemented outside the Kyoto Protocol, which encourages TNCs, banks and other institutions to join these projects. Due to this, realization in Ukraine of investment projects under the Kyoto mechanisms contributed to the formation of a new eco-oriented investment culture. Due to this the sphere of investment interests and the circle of participants - investment companies considerably expands.

Thus, despite the start-up period of low carbon investment, its level in Ukraine, as compared to other countries, remains very low. For example, the

level of investment in renewable energy in Ukraine, in relation to GDP, is much lower than in the countries of Central and Eastern Europe, which have a significantly higher share of renewable energy sources in the energy balance than Ukraine. According to the findings of the German Advisory Group [3] and the International Consultancy Company KPMG [4], such a state of investing in renewable energy in Ukraine is due to a number of reasons: 1) low investment attractiveness of the industry and unfavorable investment climate; 2) ineffective state policy of incentives to invest in renewable energy.

Research shows that expert assessments by investors of the investment attractiveness of sustainable low-carbon development of countries are largely determined by the actual state of investment. That is, such estimates reflect not so much the potential of investing in energy conversion, but actual investments. But these estimates differ significantly, especially in Ukraine, where the level of actual investment in energy conversion is very low, and the potential of the energy conversion itself is very high due to the excessive energy intensity, energy dependence and carbon intensity of the Ukrainian economy.

According to investors, among the factors restraining investment in energy conversion, the overwhelming majority highlights the availability and cost of capital (50%), economic instability (47%) and regulatory barriers (47%). These are the main factors that, according to investors, restrain the investment of modernization and development of the energy sector in Ukraine. In addition, investors also point out such issues as corruption in the authorities and the judiciary, the selectivity of the application of legislation to the problem of price regulation and the cost of electricity.

Similar reasons are expressed by investors and with respect to restraining investment in the development of renewable energy. Almost half of the survey participants noted the complexity of financing renewable energy projects (45% of respondents). Among other factors, the most important ones are those that are in some way dependent on state regulation of the market, namely: connection problems to the unified network (42%) and cost compared to traditional energy sources (33%) [5].

In addition, experts point to such issues as investing in renewable energy as competition, lack of reliable data on the potential of solar and wind energy; high cost of infrastructure investment; unresolved issues regarding the land

market and the allocation of land plots for sites for renewable energy facilities; insufficient qualifications of technical workers [6].

Investors consider energy recovery from biomass and waste (72%) as the most attractive areas of renewable energy in Ukraine, obviously given the development of the raw material base for this sub-sector, solar energy (59%) and wind energy (56%). To a large extent, such high estimation by investors of the investment attractiveness of bioenergy is due to almost the lowest among other sectors of the cost price of electricity and the availability of tariff support from the state. To a large extent, such a choice is due to the adequate cost of electricity from bioenergy.

At the same time, Ukraine has a great potential for the investment capacity of low carbon development. This is evidenced by the high projected low carbon intensity of the investment attractiveness of the Ukrainian economy. Experimental calculations by the author's methodology for assessing the investment attractiveness of low carbon development revealed a large gap between the actual and projected rating of Ukraine among the 134 studying countries. However, the assumptions made regarding the large possibilities of transforming the negative values of the actual assessment into positive values of the forecast estimate can be successfully implemented under the conversion of the system of motivation from high carbon to low carbon development.

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CHAPTER 10. THE CURRENT STATE OF INVESTMENT AND INNOVATION SECURITY OF UKRAINE

10.1. Investment and innovation security as a main condition for sustainable economic development under the influence of internal and external threats

The main factor of the country's economic security is investment directed towards fixed assets and human capital, giving them the possibility of their reproduction, maintaining the competitiveness of the economy, guaranteeing sustainable economic growth with maintaining a safe level of diverse parameters characterizing the economic system of the country.

Thus, the most important component of economic security is investment security, which is ensured in compliance with the marginal rate of investment. The organization of the investment process in the country should serve as the basis for ensuring the country's economic security as a whole.

The essence of investment security in modern science is interpreted from different points of view. Priority attention, however, deserves the definition, reflected in the Order of the Ministry of Economy of Ukraine from 2007, where, the investment security is determined as "the optimal ratio of the level of national and foreign investments, which is capable of providing a long-term positive economic dynamics with an adequate level of the scientific and technical sphere financing, creation of innovative infrastructure and adequate innovative mechanisms" [1; 2].

A similar definition was given earlier (in 2004) in the works of O. Baranovsky, who was one of the first attempting to formulate a system for quantitative and qualitative assessment of the country's investment security [3].

A thorough analysis of the scientific research of domestic economists dealing with the issues of maintaining the country's investment security [4 - 10], has allowed to distinguish approaches, which have been formed in modern science in relation to the definition of the "investment security" category. Thus, some authors believe that investment security is the level of investment in the economy that can provide its extended reproduction, restructuring and retooling. Others understand it like the possibility (or a set of favorable

conditions) to accumulate resources or investments, which at their proper level increases the capital efficiency of the economic sectors' functioning.

But the commonality is the uncontroversial impact of the investment component of economic security through the investment sphere on the state of the economy, in which it becomes sustainable in the face of internal and external threats.

In practice there are direct and inverse relationships between investments and economic threats. The emergence of economic threats in the economic sphere, on the one hand, holds back the flow of investments, and on the other, contributes to the intensification of new investments that can neutralize this type of economic threat. In this sense, we can talk about structural shifts in capital investment and the change in the share of public and private investment in the corresponding industry. The assessment and forecasting of the investment vector structure of the national economy becomes relevant.

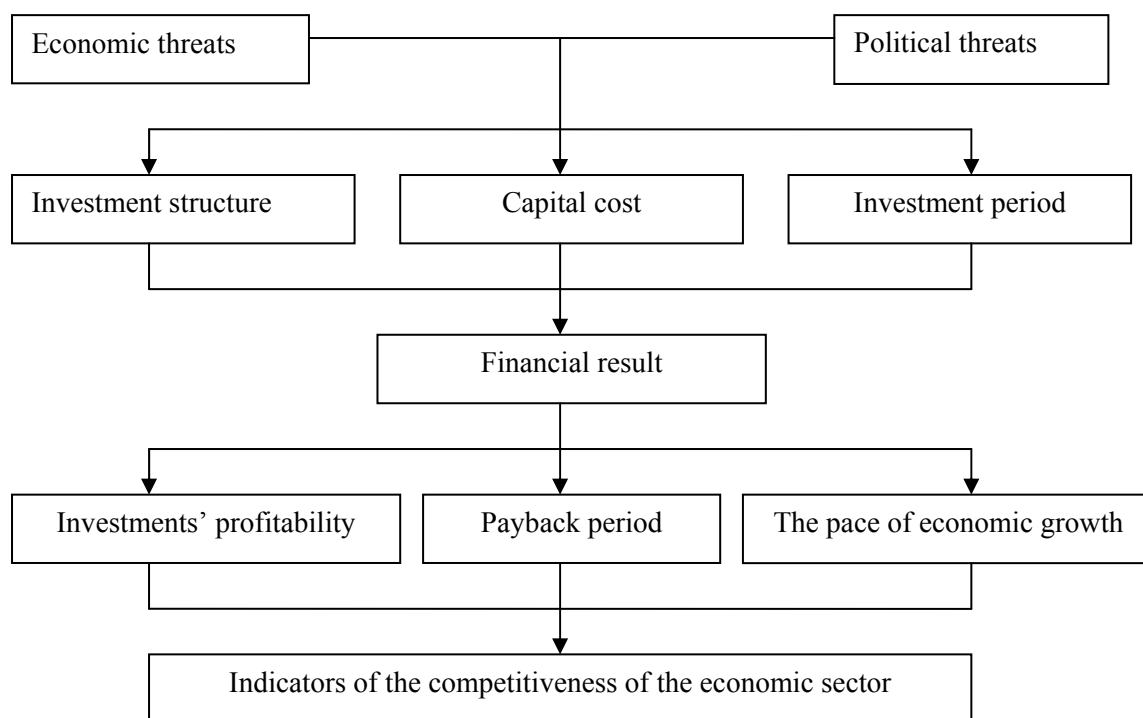
The main condition for stable economic growth of the country and the preservation of economic security is the dynamic growth of investment potential. Volumes, structure and efficiency of capital investments determine the results of business entities' activities, prospects for their development, as well as the level of competitiveness of the economy as a whole.

Ensuring the security of the investment process must be achieved through an effective set of measures by the state which is aimed at reducing investment risks. The composition of such measures should consider the guarantees of the patents' rights, licenses, contracts; improvement of the investment climate; favorable conditions to attracting foreign investments; creation of a stable legislative framework; ensuring the stability of the national monetary unit; unification of foreign exchange rate regimes for foreign capital and goods [11]. Under the economic security of the investment sector, one should understand the orderly movement of investments directed to certain sectors of the economy, by means of a mechanism for monitoring and further neutralizing the manifestation of their possible negative influence.

In the general statement, the concept of "investment security" can be transformed into the concept of "favorable investment climate". And the investment climate depends on the investment potential and investment risks

(threats), and also characterizes the connections in the national investment subsystem, which determine the scale of investment and the investment result.

In the current market conditions of management, when the neutralization of investment threats by the economic system and their further transformation into a potential takes place (Fig. 3), which is expressed by the activity and openness of the economic system, the need to determine the coefficient of investment potential of the economic system should be considered.



Source: compiled by the author

Fig. 10.1. Scheme of formation of the economic sector investment potential

The calculation of the investment potential of the economic system can be made using the formula proposed by A. Krasnoshchek and D. Dinec [12] as the mean geometric value of the pair correlation coefficients between the elements of the scheme 3.

In Figure 10.1, the author identified two types of threats to the economic system, as the source of most environmental, crime and other threats is the imperfection of economic and political institutions or economic and political processes in the international system (globalization, integration, internationalization) [13]. Also, the definition of these two coefficients for

different sectors of the economy will make it possible to determine the lead and elasticity factors. This will allow to compare the relative speed of the industrial investment potential and investment security dynamics, as well as assess how much the investment potential of a separate economic sector will change, depending on the 1% change in the integral level of investment security.

The coefficient of investment potential of the economic system, in our opinion, should be determined in parallel with the integral indicator of investment security of the relevant economic sector.

These ratios will characterize the state of affairs in a separate sector of the economy, which will enable the state institutions to effectively regulate their investments.

The task of determining the investment component of economic security is complicated while taking into account factors that make it necessary to forecast, assess and neutralize investment risks (threats).

To ensure risk assessment, a system for collecting and processing information is required in accordance with the choice of methodological tools [14, p.174].

Y.A. Oliynyk defines the following methods for measuring the level of safety: observation; assessing the pace of economic growth; experts' evaluation; script analysis and processing; optimization; theoretical game; multivariate statistical analysis [15].

When applying the observation method for the estimation of investment risk, it is necessary to constantly monitor macroeconomic indicators characterizing investment activity in the economic sphere and compare them with threshold values. The study on the definition of the category of economic security allows us to conclude that it is expedient to use an investment security assessment methodology, which should be based on the definition of the threshold values of its indicators characterizing the state of investment security of the economic system from a quantitative and qualitative side, as well as on the assessment of the level of potential economic threats' danger (investment risks).

The essence of the method of estimating the rate of economic growth of the country and the dynamics of their change respectively to the measurement of investment risk should be reduced to the allocation of the interval series of dynamics, when the level of investment risk will be related to the result for a

certain time interval. It is precisely the range of dynamics that will be of real meaning, because it involves the development periodization of such a phenomenon as investment security. The urgency of this method's application is also determined by the fact that the dynamic range assumes the quality of its individual levels (that is, the possibility of a correct assessment of individual branches of the economy in terms of the degree of investment security).

When using this method, it is possible to calculate the growth rates of investment risk (index), average factors, and growth rates as well as the absolute value of one percent of growth or one percent of the increase in risk [16, p. 170].

The method of expert evaluation is mainly used to determine the integral index of country reliability and insurance risk [17; 18].

The application of this method for determining the investment component of economic security requires the development of a methodology for analyzing the level of investment risk by identifying the factors of investment risk and their importance in each of the risk groups. In order to assess the investment risk by this method, it is necessary to attract highly skilled experts in the field of investment, as well as pair comparison of expert assessments made. Expert assessments should be analyzed in terms of diversity and controversy. At the same time, the maximum allowable difference between the estimates of two experts should not exceed the specified probability of occurrence of this investment risk [19, p.150]:

$$\max |A_i - B_i| \leq K_i, \quad (10.1)$$

where A, B - evaluation vector of each of the two experts; i - factor of investment risk; K - criterion value;

The method of analysis and processing of scripts can be used mainly in the case when it is possible to distinguish a certain number of predicted variants of the event development. To conduct research based on this method, it is necessary to have the maximum possible amount of qualitative and quantitative information under static and dynamic conditions. On the basis of the obtained result, a "decision tree" is constructed, where all possible scenarios are displayed, and with the help of modern mathematical modeling methods the initial forecasts concerning the state of investment security are specified, the most optimal variant of the scenario is proposed.

The optimization method is most determined by its statement, goals and definiteness of results. Determination of the optimal solution provides new possibilities for studying the structure of the population, the possibility of evaluating the interrelated features, their regression dependencies. Multicriterion optimization problem with a set of values D and a target function $f(\bar{x})$ can be written in the following way [20, p. 23]:

$$f(\bar{x}) \rightarrow \max_{x \in D}, \quad i = \overline{1, m}; \quad \bar{x} = (x_1, x_2, \dots, x_n)^T. \quad (10.2)$$

Real investment processes in the state are characterized by many indicators, therefore this method restricts the scope of investment risk criteria application.

The theory-game method of risk assessment (the threat of investment security) involves the establishment of the winnings distribution between the parties to the conflict and not only rational choice of the the business entity behavior, but also directly their possible benefits, which satisfies certain principles of stability.

According to this method, it is unprofitable for a player to choose strategies that do not belong to the equilibrium situation [20, p.128], which significantly reduces the plane of possible solutions and gives good results.

Multivariate statistical analysis allows us to choose the most accurate probabilistic statistical model that characterizes the actual behavior of the investigated objects totality. This analysis involves the use of factor, cluster and discriminant analysis. With this method, you can trace the sensitivity of the investment security level to a number of factors and indicators.

However, despite the diversity of methods and approaches in the modern process of investment security formation, there is a problem of the optimal level of economic threat establishing. In this case, the essence of the investment component of economic security should be reduced to the establishment of a minimum level of economic threat and a favorable investment climate. In connection with this, the issue of establishing the relationship between the level of investment risk (threat) and the volume of investment in the economy and in its individual sectors is given a great deal of attention in modern science.

As we may see from the practice and the real scientific researches' achievements in the field of economic security and its investment component, it is necessary to take a one-sided approach with taking into account the

investment security parameters of the economic system, and a multivariate analysis, which will allow approaching as closely as possible to the formation of the country's security optimal level in the field of investment.

10.2. Core Indicators of Investment and Innovation Security

Innovations at the present stage of economic development become the main means of preserving competitiveness and are an integral part of entrepreneurial activity. The experience of the world developed countries shows that the best successes in the economy and welfare of the citizens reached those countries that stimulated the development of innovations. In a context of growing competition, active investment-innovation activity in enterprises increasingly determines the success of entrepreneurial activity. New ideas, products, technologies and organizational solutions will bring companies out of crisis situations and guarantee them financial stability.

The problem of enterprises' innovation development is stipulated as a state innovation policy, and directly depends on the efficiency of the use of innovative resources, machinery and technologies, as well as innovative active management.

Countries that will not be able to create opportunities for effective innovation will risk hopelessly lagging behind in competitiveness and security issues, both in economic and social development, because today's security depends on its intellectual and investment-innovation potential [21].

According to the Law of Ukraine "On the Fundamentals of National Security of Ukraine" at the present stage, the main real and potential threats to the national security of Ukraine, the stability of society in the economic sphere are: a substantial reduction of the gross domestic product, investment decrease and innovation activity and scientific, technical and technological potential, reducing research in strategically important directions of innovation development [22].

Thus, national security is a complex system, which includes a plurality of elements and areas, among which the important place belongs to Ukraine's innovation and investment security.

In the scientific literature, there are different points of view regarding the concepts of innovation and investment security of the state. Some authors understand the sustainable process of creating, using and disseminating new knowledge and technologies, based on the combination of the country's scientific and technological potential and international cooperation opportunities [23].

It assumes the achievement of sustainable development on the basis of innovative transformations, the use of its own intellectual and technological resources, generation, introduction of innovations that will provide a critical mass of qualitative transformations in the economy.

There is an opinion that innovation security is the ability of the state to generate progressive changes in technology, labor, information and goods [24].

The main threat to Ukraine's innovative security is the low level of scientific and technical works' financing, which is accompanied by a flow of scientific and highly skilled specialists, insufficient development of innovation infrastructure, innovative potential of the country and enterprises, and hence the slow pace of production of innovative products.

The indicator of innovation security is calculated as the ratio of the amount of financing of innovation activity at the expense of all sources to GDP. Ukraine's optimum threshold for the investment level of innovation should be at least 2% of GDP [25, p. 16].

The innovation potential of the national economy is characterized by the following data. The number of enterprises implementing innovations in Ukraine decreases with each passing year, reaching 12.8% in 2009, which is less by 4-5 times than in innovative developed economies. The volume of industrial production is at a level of 0.4%, when legislation is set at 1.7% of GDP, an order of magnitude lower than world level. Growth of GDP due to the introduction of new technologies in Ukraine is estimated at a total of 0.7-1.0%.

The share of domestic science-intensive products in the world market of high-tech products is less than 0.1% (mainly, it is the products of the military industrial complex and the aviation industry), while the US share in this market is about 36%, Japan - 30%, Germany - 17%, China - 6%, Russia - 0.5% [26].

The costs' structure analysis of financing technological innovations by enterprises shows that the largest share of these expenditures is made up of own

funds of enterprises (60.6% and 65% respectively in 2008 and 2009). However, they are not enough and the quality of the innovation process is deteriorating. Today, the Ukrainian state is virtually indifferent to innovation: the share of relevant government expenditures varies between 1-2.8% of total expenditures.

By 2008, the financing of innovations at the expense of foreign investors has reached 1% to 3% of the total amount of innovation costs. Beginning in 2009 there is an increase of more than 13 times. The engagement of foreign capital into the innovative sphere of the enterprise on the one hand, will contribute to its growth and increase the efficiency of the enterprise's operation. On the other hand, it may lead to certain threats to the innovative development of the Ukrainian economy, due to the fact that the results of innovation activity are usually exported abroad. This is supported by a low level of protection of intellectual property in Ukraine and a high level of immigration of scientists.

To date, there is no unambiguous definition of the essence of investment security. So, according to [27].

By the order of the Ukrainian Ministry of Economy "On the Methodology Approval for Calculating the Level of Ukrainian Economic Security" №. 60 from March 2, 2007, investment security is the level of national and foreign investments (provided their optimal ratio correlation), which is capable of providing long-term positive economic dynamics with a proper level of science-technical sphere funding, creation of innovation infrastructure and adequate innovative mechanisms.

Some authors [28, c. 14] understand investment security as such an economical investment level that would ensure its extended reproduction, rational restructuring and technological re-equipment.

Others [29, c. 24] point out that investment security is determined by the possibility of resources' accumulation or capital investments. At its proper level, the capital efficiency of the functioning of the economic sectors increases, the pace of expanded reproduction and technological re-equipment of the economy grow.

According to O. Baranovsky, the investment security of the state should be understood as the achievement of the investment level, which allows to meet optimally the current investment needs of the national economy by volume and structure, taking into account the effective use and return of the funds invested,

the optimal ratio between the sizes of domestic and foreign investments, foreign investment in the country and domestic abroad, maintaining a positive national balance of payments [3,p.366].

The investment component is a special subsystem of economic security that creates preconditions for the best use of socio-economic relations in the scientific and technical development of society's productive forces through the active investment activity.

Indicators of the economic security's investment component are the growth rates of gross investment and the effectiveness of their use. If these figures are higher than the national average, one can speak of favorable conditions for investment activity in a country or a given region and about an adequate level of economic security [30, p.10].

World experience has shown the investment security's threshold, which contributes to the stability of economic growth. Annual investments should be equal to 19-25% of GDP. At the same time, the maximum threshold value of investment security corresponds to the stage when the economy is at the stage of reformation and requires significant investment, less threshold value of the indicator is used at the stage of stabilization of economic development [25, p. 15].

Taking into account that Ukraine is at the stage of economic recovery from the crisis, the threshold should be at the maximum level of 25% of GDP. This is in line with the Order of the Ministry of Economy of Ukraine "On Approval of the Methodology for Calculating the Level of Economic Security of Ukraine" from October 29, 2013, № 1277, where the normative indicators of fixed capital gross accumulation should be not less than 25% of GDP.

As for Ukraine, domestic investment only reached the limit of the norm in 2007 (26.2%), and then we have witnessed a steady decline in this indicator and amounted to only 16.6% in 2016.

The lack of efficiency of economic development innovative processes in Ukraine is accompanied by the unresolved problem of combining market mechanisms with state-owned methods of innovation activities' regulation, forms of participation of the state and business in the financial and investment provision of innovation activity - all this negatively affects the innovation and investment security of the national economy.

The main condition of innovation and investment development of the national economy is maximization of business participation in the innovation processes of the country. Cooperation of commercial structures with the state concerning legislative initiatives and joint decision-making is a guarantee of innovation and investment security.

The state should develop a system of policy support for innovation in the real sector of the economy, find mechanisms for influencing the market, which will stimulate the business to finance and implement new technologies (production, management). The introduction of new technologies involves a new level of security, which is accompanied by environmental and reliability requirements.

Innovations at the present stage of economic development become the main means of preserving competitiveness and are an integral part of entrepreneurial activity. The developed countries' experience shows that the best successes in the economy and the welfare of citizens may be reached by stimulation of the innovations' development. Under the conditions of growing competition, active investment-innovation activity in enterprises increasingly determines the success of entrepreneurial activity. New ideas and products, new technologies and organizational solutions will bring companies out of crisis situations and guarantee them financial stability.

The problem of enterprises' innovation development is determined both by the state innovation policy and the efficiency of the innovative resources' use, technologies' use, as well as innovative active management.

Countries that will not be able to create opportunities for effective innovative development risk losing competitiveness and security both in economic and social development, because today the security of the state depends on its intellectual and investment-innovation potential [21].

According to the Law of Ukraine "On the Fundamentals of National Security of Ukraine" at the present stage, the main real and potential threats to the national security of Ukraine, stability in society in the economic sphere are: substantial reduction of the gross domestic product, decreasing in investment and innovation activity, of scientific and technological potential, reducing the number of researches on strategically important directions of innovation development [22].

Thus, national security is a complex system that includes a plurality of elements and areas, among which the important place belongs to Ukraine's innovation and investment security.

In the scientific literature, there are different points of view regarding the concepts of innovation and investment security of the state. Some authors understand it like the sustainable process of creation, use and dissemination of new knowledge and technologies based on the combination of the country's scientific and technological potential and the possibilities of international cooperation [23]. При цьому передбачається досягнення сталого розвитку на основі інноваційних перетворень, використання власних інтелектуальних і технологічних ресурсів, генерування, впровадження інновації, які забезпечать критичну масу якісних перетворень в економіці.

There is an opinion that innovation security is the ability of the state to generate progressive changes in technology, labor, information and goods [24].

The main threat to the innovative security of Ukraine is the low level of scientific and technical works' financing, which is accompanied by an outflow of scientific and highly skilled specialists, insufficient development of innovation infrastructure, innovative potential of the country and enterprises, and hence the slow pace of production of innovative products.

The indicator of innovation security is calculated as the ratio of the amount of innovation activity financing at the expense of all sources to GDP. Ukraine's optimum threshold for the investment level of innovation should be at least 2% of GDP [25, c. 16].

The innovation potential of the national economy is characterized by the following data. The number of enterprises introducing innovations in Ukraine decreases with each passing year, reaching 12.8% in 2016, which is less by 4-5 times than in innovative economies. The volume of industrial production is at a level of 0.4%, when legislation is set at 1.7% of GDP, an order of magnitude lower than world level. Growth of GDP due to the introduction of new technologies in Ukraine is estimated at a total of 0.7-1.0%.

The share of domestic science-intensive products in the world market of high-tech products is less than 0.1% (mainly, it is the products of the defense industrial complex and the aviation industry), while the US share in this market is about 36%, Japan - 30%, Germany - 17%, China - 6%, Russia - 0.5% [26].

The costs' structure analysis of financing technological innovations by enterprises shows that the largest share of these costs is made up of enterprises' own funds (60.6% and 65% respectively in 2014 and 2015). However, there is a lack of them and the quality of the innovation process is deteriorating. Today, the Ukrainian state is virtually indifferent to innovation: the share of relevant government expenditures varies between 1-2.8% of total expenditures.

By 2008, the financing of innovations at the expense of foreign investors amounted from 1% to 3% of the total amount of innovation costs. Beginning in 2009 there is an increase of more than 13 times. The attraction of foreign capital into the innovative sphere of the enterprise on the one hand, will contribute to its growth and increase the efficiency of the operation of the enterprise. On the other hand, it may lead to certain threats to the innovative development of the Ukrainian economy, due to the fact that the results of innovation activity are usually exported abroad. This is supported by a low level of intellectual property protection in Ukraine and a high level of scientists' immigration.

To date, there is no unambiguous definition of the essence of *investment security*. Thus, according to the Decree of the Ministry of Economy of Ukraine "On Approval of the Methodology for Calculating the Level of Economic Security of Ukraine" from October 29, 2013, № 1277, investment security is the level of national and foreign investments (provided their optimal ratio exists) that can provide a long-term positive economic dynamics with an adequate level of financing of the scientific and technical sphere, creation of innovation infrastructure and adequate innovative mechanisms [27].

Some authors [28, p. 14] understand the investment security as investment of the economy, which would ensure its enhanced reproduction, rational restructuring and technological re-equipment.

Others [29, p. 24] point out that investment security is determined by the possibility of resources' or capital investments' accumulation. At its proper level, the capital efficiency of the functioning of the economical sectors increases, the pace of expanded reproduction and technological re-equipment of the economy grow.

According to O. Baranovsky, the investment security of the state should be understood as the achievement of the investment's level that allows to meet the current investment needs of the national economy by volume and structure,

taking into account the effective use and return of the funds invested, the optimal ratio between the sizes of domestic and foreign investments, foreign investment in the country and domestic abroad, maintaining a positive national balance of payments [3, c.366].

The investment component is a special subsystem of economic security that creates preconditions for the best use of socio-economic relations in the development and scientific and technical restoration of society's productive forces through active investment activity.

Indicators of the investment component of economic security are the growth rates of gross investment and the effectiveness of their use. If the figures are higher than the national average, one can speak about favorable conditions for investment activity in a country or a given region and about an adequate level of economic security [30, c.10].

World experience has shown the threshold of investment security, which contributes to the stability of economic growth. Annual investments should be equal to 19-25% of GDP. At the same time, the maximum threshold value of investment security corresponds to the period when the economy is at the stage of reformation and requires significant investment, less threshold value of the indicator is used at the stage of stabilization of economic development [25, c. 15].

Taking into account that Ukraine is at the stage of economic recovery from the crisis, the threshold should be at the maximum level of 25% of GDP. This is in line with the Order of the Ministry of Economy of Ukraine "On Approval of the Methodology for Calculating the Level of Economic Security of Ukraine" from October 29, 2013, № 1277, where the normative indicators of gross fixed capital accumulation should be not less than 25% of GDP.

As for Ukraine, domestic investment only reached the limit of the norm in 2007 (26.2%), and then demonstrated a steady decline in this indicator and amounted to only 16.6% in 2015.

The lack of efficiency of economic development innovative processes in Ukraine is accompanied by the unresolved problem of combining market mechanisms with state-owned methods of innovation activities' regulation, forms of participation of the state and business in the financial and investment provision of innovation activity - all this negatively affects the innovation and investment security of the national economy.

The main condition of innovation and investment development of the national economy is maximization of business participation in the innovation processes of the country. Cooperation of commercial structures with the state concerning legislative initiatives and joint decision-making is a guarantee of innovation and investment security.

The state should develop a system of policy support for innovation in the real sector of the economy, find mechanisms for influencing the market, which will stimulate the business to finance and implement new technologies (production, management). The introduction of new technologies involves a new level of security, which is accompanied by environmental and reliability requirements.

10.3. Private-government partnership in the system of innovation and investment security of the national economy

Improving the existing model of the innovative economy, taking into account the modern features of the state regulation system, the state and capabilities of the manufacturing sector, the high level of requirements and needs of consumers, dynamic and irreversible processes of globalization is possible only if the actions of all participants in this process, including the state, are combined. That is why the interaction of the subjects of innovation development is proposed to be based on the principle of innovation partnership (Figure 10.2), which is a logical continuation of the social and investment partnership [31].

Private-public partnership (PPP) in the innovation-investment sphere is considered as new technologies of economic development and is a peculiar determinant of innovation and investment security of the national economy. In this case, the determinant is the factor, (from the Greek determinans, -ntis - defining, from the English, the determinant is the factor), which causes one or another phenomenon.

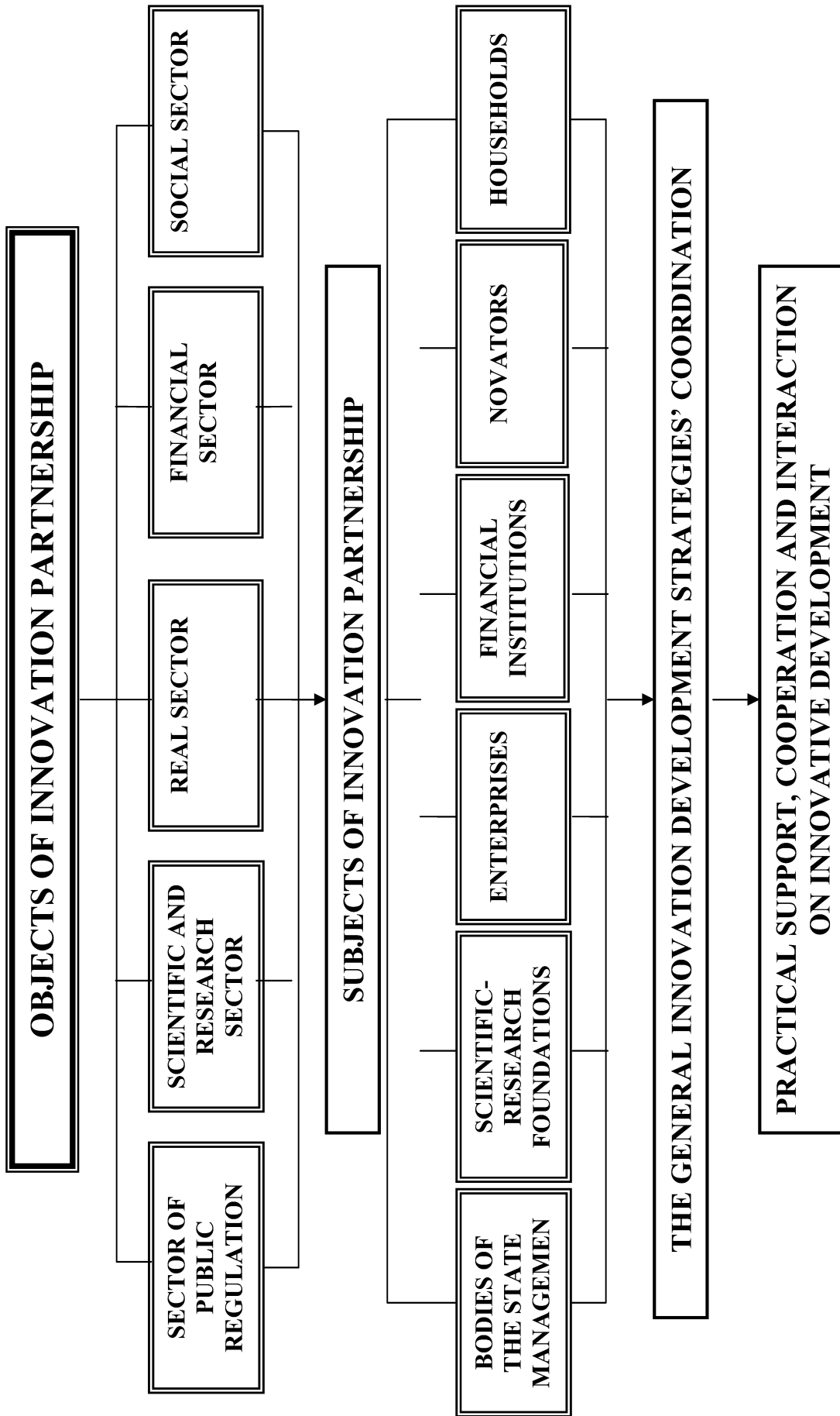


Fig. 10.2. The scheme of innovation partnership

The essence of partnerships is the active cooperation of all bodies, which is activated on the basis of finding common areas for the certain missions' implementation. Partners become participants in all sectors of innovation development:

state (management and regulation of innovation development of the economy);

production of new knowledge and innovations;

education and professional development of workers;

commercialization of scientific knowledge and innovation and the use of these innovations.

Each of the participants plays a role in the functioning of the partnership, without any of them it is impossible to achieve positive results.

It is precisely the partnership commitments that make it possible to create a harmonious system of management and regulation of innovation development at the state, regional and global levels, both by industry and by all interconnected productions. The innovation partnership is characterized by a reorientation of the direct interference impact on coordination and initiative cooperation. Its main idea is the mutual coordination of work, when the various functions and purpose of the entities achieve a common goal, increasing the efficiency of their work, accelerating the achievement of planned results, introducing new technologies, promoting the acquisition of the necessary financial resources, starting the competitive principles in the distribution and implementation contracts, forming the optimal structure of production, implementing a national strategy for development on an innovative basis.

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implementation contracts, forming the optimal structure of production, implementing a national strategy for development on an innovative basis.

In the Law of Ukraine "On Public-Private Partnership" public-private partnership is defined as the system of relations between the state (Ukraine, the ARC, territorial communities represented by the relevant bodies of state power and local self-government) and private (legal entities and individuals-entrepreneurs) partners, built on the principles of partners' equality and the coherence of their interests, in which the opportunities of both partners are united, with the appropriate distribution of risks, responsibilities and obtaining a positive end result for mutually beneficial cooperation on a long term basis [32].

In domestic economic practice, the term "public-private partnership (PPP)" appeared as a literal translation of the notion commonly accepted in the world economy, where it is used practically for all forms of cooperation between state power and private business. However, this terminology is still imperfect, as is stated in the work [33].

An important contribution to the development of public-private partnership development issues was made by foreign and domestic scientists: O.I. Amosha, V.G. Varnavsky, V.M. Heyets, J. Galbraith, R.S. Greenberg, M.A. Daryabina, V. V. Ivanter, T. I. Efimenko, M.V. Klinova, AV Kuznetsov, K. McConnell, J.Mill, O.V. Martjakova, Y.M. Pakhomov, S. E. Pivovarov, K. Rau, A. A. Chukhno, A. N. Shokhin, Y.G. Yasin and others.

Today, public-private partnership is one of the most widespread terms, but there is currently no single and systematic understanding of the phenomenon at the state level and in the scientific environment.

In a broad sense, public-private partnership is any interaction of state and business to achieve the general goals of socio-economic development: the joint development of strategic documents, normative legal acts, the promotion by the state of private projects of companies abroad, joint work to improve the image of the country. In the narrow sense, this is a co-financing of large-scale projects or other financial participation of the state in business projects [34].

In the modern sense, public-private partnership is an institutional and organizational alliance between the state and business for the purpose of

implementing national and international projects in the field of industry, research and development work (R & D), public services. Such alliances are created for a certain period of time for the implementation of certain projects, and then cease their activity.

A similar definition is given by scientist V.G.Varnavsky, who notes that public-private partnership is an institutional and organizational alliance between state and business in order to implement socially significant projects and programs in a wide spectrum of industrial fields and research and development work. [35].

However, these definitions inadequately reveal the possible directions of creating a partnership for the implementation of many socio-economic tasks of the state.

The European Bank for Reconstruction and Development (EBRD) defines public-private partnership as a long-term contract with the private sector to provide services to the state, in favor of the state or on behalf of the state. Payments within its framework may be made between the concessionaire and the state in both directions" [34].

However, such a definition has a narrow sense because of the fact that it is more legal in nature and involves the implementation of a long-term public contract by a business, and mainly in a limited form – the form of concession agreements.

The OECD (Organization for Economic Cooperation and Development) Committee has the following term for scientific and technological policy: "Private-Public Partnership is any formal relationship or arrangement for a fixed / infinite period of time between public and private parties in which both parties interact in the decision-making process and the co-investment of limited resources (money, personnel, equipment, information) to achieve specific goals in a particular area of science, technology and innovation " [36].

This definition of public-private partnership is the most complete, due to the fact that it defines not only the terms of partnership, but also the legal rights of the parties in the partnership, as well as the forms of partnership participation and the main areas of interaction.

Today in Ukraine the relevant state decisions, including the legislative plan, are being developed and adopted too slowly, and private business has so

far been little and reluctant to participate in stimulating science and introducing innovations.

That is why in Ukraine, the economy of which has been significantly affected by the crisis, it is necessary to create a system of cooperation between the private sector and the state, within which it is possible to combine the commercial interests of business with the solution of innovative national problems.

The solution of these problems would be facilitated by the development and expansion of the system of public-private partnership. It is the institution of public-private partnership that can stimulate the activity of private business, as well as state enterprises and structures for the implementation of risky developments. The implementation of the innovation partnership principle allows us to form an economy with such innovative features:

- the direction of the reproduction process to achieve the high technological competitiveness of the country on the basis of scientific knowledge, technologies and information;

- further development of socio-economic infrastructure in accordance with the tasks of increasing technological competitiveness to the level of developed countries;

- increasing the degree of technological and production potential use - material, financial and human resources, which would be able to provide the creation of competitive high-tech products;

- intensification of integrational process of socio-political, scientific, educational, economic and other interests in order to develop Ukraine on an innovative basis.

Thus, we can conclude that the innovative model of Ukraine's development can not be realized without creating an environment based on the principles of partnership. This is one of the ways of further economic development at the stage of relations' formation, which become the result of a consistent innovation policy of the state, adapted to the features and requirements of the global world space.

Public-private partnership relations are relatively new for Ukraine, since their special legal regulation originates from 30.10.2010, when the Law "On Public-Private Partnership" came into force on July 1, 2010. [32].

However, certain types of contractual form of such partnership (concession, production-sharing agreements) are used for a significant period of time according to regulatory framework [37; 38; 39; 40].

There is a number of documents on public policy in the field of governance and development of public investment in Ukraine, including the development of public-private partnerships. Such documents are the Agreement on the coalition of the parliamentary factions "European Ukraine" from 27.11.2014, "Strategy of sustainable development of Ukraine - 2020" (Decree of the Ukrainian President from January 12, 2016, № 5/2015), Program of the Cabinet's of Ministers activity (Resolution from 11.12. 2014 № 26-VIII) and "The Concept of Public-Private Partnership Development for 2013-2018" (approved by the Cabinet of Ministers of Ukraine from 14.08.2014, №. 739-p). These documents, in addition to the Concept of Public-Private Partnership Development for 2013-2018, do not contain provisions on the priority of PPP development, justification of the need to implement such projects and the benefits that can be obtained in implementing PPP, does not contribute to the effective implementation of investment projects. Also, PPP priority areas and areas of development are not identified. For example, in the Coalition Agreement, the energy efficiency of administrative buildings, the development of the port infrastructure and the modernization of the roads are among the priority sectors for the PPP. In its turn, the Development Concept determines transport, energy, housing and communal and agricultural infrastructure, and health care as their main project areas. Other documents do not contain provisions on priority development areas at all.

Thus, one can conclude that the Government does not have a single development plan and policy on PPP development, which complicates the selection of PPP innovation projects.

The legislation of Ukraine provides for the following areas of public-private partnership: realization of projects in the spheres of search, exploration of mineral deposits and their extraction; production, transportation and supply of heat and distribution and supply of natural gas; construction, operation of motorways, roads, railways, bridges, road raids, tunnels and subways, sea and river ports and their infrastructure; engineering; collection, purification and distribution of water; health care; tourism, recreation, culture and sports;

ensuring the operation of irrigation and drainage systems; waste treatment; production, distribution and supply of electric energy; real estate management; other spheres of activity, except those which according to the law may be carried out exclusively by state-owned enterprises / organizations.

It should be noted that the practical application of the PPP has not been sufficiently developed in Ukraine, but examples of successful investment projects on PPP principles are very limited. Types and forms of PPP are determined in Art. 5 of the Law of Ukraine "On PPP", which establishes a non-exclusive list of contracts that can be concluded within the framework of PPP implementation. The PPP should include concessions, joint activities and other contractual instruments. The most common is the use of public-private partnership instruments in infrastructure projects, which are mainly implemented in the form of concessions.

One of the problems that arise at this stage is the correlation of the overall mechanism of public-private partnership and other PPP instruments, including in terms of their legal regulation. Based on the current state of legislation in this area, the most appropriate approach is the PPP, unless an instrument for which specific legislation is adopted (for example, a concession) is not acceptable.

According to the central and local authorities in Ukraine:

- as of January 1, 2016, on the basis of public-private partnership, 177 projects were implemented (146 concession agreements, 31 agreements on joint activities were concluded);

- as of August 1, 2016, on the basis of public-private partnership, 185 projects are implemented (153 concession agreements, 31 joint activity agreements, 1 public-private partnership agreement).

- as of January 1, 2017, on the basis of public-private partnership, 186 projects were implemented (154 concession agreements, 32 joint venture agreements, 1 public-private partnership agreement), tabl. 10.1.

In general, the scope of PPP projects implemented in Ukraine corresponds to the level of world practice. On the other hand, the structure of projects varies significantly: in the G7 countries, the largest number of projects are in education, health care (about 50% of these projects), and in countries with economies in transition the priority area of project implementation is the construction of motorways (62% of the total number of projects). In Ukraine,

infrastructure projects are substantially dominated by social projects related to health care, and educational projects are not implemented at all.

Table 10.1. Characteristics of public-private partnership projects in Ukraine (2013 - 2017)

Scope of the project	Number of projects, units		Specific weight of the projects, %	
	2013	2017	2013	2017
Water supply	71	37	44,4	20
Production, transportation and supply of heat	32	6	20,0	3,2
Construction and operation of transport infrastructure (including sea and river ports)	16	16	10,0	8,6
Tourism, vacation, recreation, culture and sports	9	1	5,6	0,5
Geological exploration and extraction of minerals	8	1	5,0	0,5
Waste recycling	7	112	4,4	60,5
Healthcare	3	-	1,9	-
Power engineering	3	5	1,9	2,7
Others	11	8	6,8	4,0
Total amount	160	186	100,0	100,0

The model of public-private partnership involves the existence of concrete forms (mechanisms) of interaction between the state and business structures, first of all - legal forms. The essence of such a category as a method of public-private partnership is realized through an action on the economy (pricing, planning) or the scope of cooperation between the state and business services - to provide socially meaningful services, to create public goods, to recreate the existing infrastructure.

Effective PPP tools that are commonplace in the world of innovation support that can be applied in Ukraine are administrative, financial and organizational-legal. The main directions of state support for innovation are: government contracts (USA, France, Great Britain, Germany), financial incentives (Austria, Canada, Finland, Germany), development of scientific and technical infrastructure (Finland, Germany, Japan).

The most expedient would be such a systemic approach to public-private partnerships in innovation is welcome, which is based on the interaction

between the state and the private sector throughout *the innovation cycle*, from research and commercialization of developments to the production of high-tech products [41].

Under the current market strategy of innovation policy, the concept of PPP is changing. The leading role in it must be played by private business and entrepreneurial initiative. The role of the state in innovative relations also changes. The state acts in the PPP relationship not as a subject of power, but as an equal partner and entrepreneur who is ready to share the risks of innovation [42].

In this paper, which is based on the study of world experience, it has been pointed out that PPPs can be created at all stages of the life cycle of innovation: at the scientific level, non-profit partnerships are special services that will assess the innovative capacity (market orientation) of research results, qualify objects of innovation, assist in accounting and taxation, patent protection and intellectual property rights (such as French SAICs and Research Centers, Swedish VINNOVA Competence Centers, etc.);

– at the level of implementation in production - commercial partnerships based on universities, research institutions for the purpose of innovation, ie commercialization of developments in which state scientific institutions will be intellectual property rights, and private investors by financial contributions. Such partnerships were introduced by the Austrian programs K-ind / K-net and COMET (Centers of Excellence in Technology), the Belgian START program;

– at the level of financing: venture and other public private investment funds (an example is the French OSEO, created in the organizational form of a private law company, consisting of a holding company and subsidiaries, 50% of which is owned by the state) and joint programs financing (like the Austrian joint fund program of the Christian Doppler Research Association, where an industrial partner invests 50% and the rest 50% is funded by the state mainly by the Federal Ministry of Economy, Family and Youth Association and through similar program of Ludwig Boltzmann Society);

– at the regional level, ie at the cluster level (the creation of innovative policies, parks, centers) is actively being implemented in Scandinavia, France, Austria, Germany, Great Britain, Italy, Belgium and other scientific and educational centers;

- at the startup level - help through business - incubators, venture mechanisms (actively implemented in France, UK and many other countries);
- international level - Strategic and International Partnerships (European Innovation Partnership Initiative).

At the same time, the state defines the types of innovations that are enshrined in it on the property and bring them to practical application on their own (in particular, they are related to defense, national security), as well as distinguishes innovations, rights of use and orders which may be transferred to business for their next market activity.

Business can take part as an investor, a marketer who brings innovations to the market as a customer, and when creating the necessary incentives - and as a developer, producer of innovative goods. Public-private partnerships are in fact "on the verge of public and private sectors, without being either privatized or nationalized. It is a kind of "third way", which allows us to use political in essence forms of improving the provision of public goods to the public " [43].

Implementation of programs within the framework of public-private partnership involves not only equity financing of the parties, but also the joint use of information, research and development results, intellectual property, new technologies, personnel and capacities. Programs can be targeted at stimulating private sector R & D, and may work on the additions principle, when government research institutes, for example, an academic profile, complement the work of the private sector. In the first case, the initiators of cooperation, as a rule, are companies and firms, and in the second - state research organizations. Nevertheless, both in this case and in another case, the determining factor is the presence of motivation for innovations from the manufacturer and the creation of special cooperative institutions capable of filling the existing failures between different types of research and business activities to organize the implementation of the so-called technological impetus and traction of the market in the respective area of cooperation.

Thus, the forms and objectives of the public-private partnership program are characterized by great diversity [44]. In particular, they may be directed on:

- acceleration of the processes of research and development results' transfer, created in state organizations, using the state budget;

- support for small and medium-sized innovative enterprises, in particular, encouraging the creation of state-run “start-up” and “spin-off” companies;

- development of market-oriented cluster studies;
- encouragement of networking initiatives.

In order to resolve a number of obstacles to the development of public partnership, on November 24, 2015, the Verkhovna Rada of Ukraine adopted the Law №. 817-19 "On Amending Certain Laws of Ukraine Regarding Removal of Regulatory Barriers for the Development of Public-Private Partnerships and Stimulating Investments in Ukraine" (hereinafter - the Law). The law is intended to improve the functioning of the mechanism of public-private partnership (PPP), expand the scope of guarantees for private investors and eliminate the contradictions between legislative acts in the relevant field.

The main innovations of the Law are as follows: in case when foreign legal entities and / or individuals take part in the tender for the definition of a private partner, the law allows the creation of a separate legal entity for the purpose of concluding an agreement in the framework of the PPP. Contest condition: the winner of the contest must directly or indirectly own more than 50% of the authorized capital of this legal entity. Also, for a more effective implementation of the PPP contract on the side of the state partner can be a state-owned enterprise, communal enterprise, enterprise of the ARC or a business association, 100% of the authorized capital of which belongs to the state (subject to the subsidiary responsibility of the state partner on obligations of such entity).

It is worth noting that the scope of activities where PPPs can be applied is supplemented, and this list is now not exhaustive, as the law is now allowed to implement PPPs and in other areas by the decision of the public partner. In addition, an agreement on management of property is included in the list of contracts that can be concluded within the framework of the PPP.

To stimulate investors, the Law of Ukraine "On Public-Private Partnership" provides for a number of additional guarantees for investors, namely:

- additional types of state support under the PPP: by paying to a private partner other payments stipulated by the contract made in the framework of the public-private partnership, in particular, the fees for the readiness (availability)

of the PPP object for exploitation (use), through the purchase by the state partner of a certain volume of goods (works, services) that are produced (performed, provided) by a private partner under an agreement concluded in the framework of the PPP; by supplying a private partner with the goods (works, services) necessary for the implementation of PPP;

- the right to apply to international arbitration and / or arbitration courts for resolving disputes;

- the provisions on the stability of legislation;

- the right of a private partner to suspend execution of investment obligations if prices (tariffs) for goods (work, services) of a private partner subject to state regulation are not economically justified and there is no adequate compensation.

10.4 Technological platforms development as an effective form of public-private partnership in the investment-innovation sphere

For productive use of business potential in identifying priority areas for technology development, discussion of forecasts and policy support instruments, world practice suggests the creation of technology platforms and roadmaps, while the state-private partnerships are the main ones in the stage of investment.

Technological platforms are an important tool for the formation of national technological development priorities and the uniting of business, science, and state efforts in their implementation. The European Research Advisory Board (EURAB) on January 4, 2004 defined the concept of "European Technology Platforms" (ETPs) as one of the most important pan-European missions or managed initiatives aimed at strengthening Europe's potential through innovation.

The technology platform can also be considered as a communication tool that helps to intensify efforts to create promising innovative technologies, new products (services), with the attraction of significant resources for research and development by combining the efforts of all interested parties (business, science, state, society), creation and improvement of the legislative and normative base in the innovative development sphere.

Fedulova L.I. provided the following definition of the technological platform: "The technological platform is a mechanism of public-private partnership in the field of scientific and technological and industrial development, implemented with the participation of various stakeholders, aimed at improving the interaction and development of cooperation between state and municipal authorities, economic entities - organizations of science, education, the real sector of the economy, social sphere, organizations and associations of civil society in the most promising research and development fields related technologically and / or as having a single field of application of the results and / or having a single functional purpose "[45].

Thus, in the European Union, the establishment of technological platforms was aimed at "combining technological know-how, industry, regulatory and financial institutions to develop a strategic agenda for leading technologies" [46].

European Technology Platforms (ETPs) have been set up as forums run by representatives of business associations to identify medium- and long-term research and technological objectives, and further develop road maps for their implementation. As a result, it was planned to achieve synergies between different structures in the research sector and enhance European competitiveness [47].

At present, 38 technological platforms have been created and developed in all areas of the EU Seventh Framework Program. Within the framework of a specific TP, along with discussions of possible research and production cooperation, assessment of the preconditions for the formation of partnerships and consortia, the issues of training, standardization and certification are also considered.

The tool for "technology platforms" should be used in cases where the interests of the business are poorly structured, the impact of business and society on the formation and selection of strategic directions is not sufficient. Technological platforms are a tool, first of all, that structures the interests of different parties in specific technological branches of industry [48].

The effectiveness of the TP tool is determined by a number of factors: the focus on solving specific tasks of business or public sector development, a strong representation of business in the management of TP; clear and

transparent "rules of the game" for all participants, platform openness for the "entry" of new participants.

Technological platforms, both in theory and in practice, are not perceived as a single and universal tool for all areas of PPP development in the innovation field. Their formation is advisable in the presence of the following problems:

the number of participants in the technology platform;

unnecessary discussion of perspectives of innovative development of Ukraine by combining the possibilities of power, business, education and science;

multidirectional research for the development of promising innovative technologies;

the presence of departmental barriers between enterprises and scientific organizations.

The European practice of applying TA, which is methodically based on the Ukrainian initiative to create a new PPP mechanism, has been around for more than 10 years. The first European Advisory Council for Aeronautics Research in Europe was established in 2001. In recent years, 38 ETSs have been created in European countries, in more than seven areas of scientific and technological development (Table 10.2) [49].

The Ukrainian economy is dominated by low technological manufacturing sectors, which naturally belong to low-tech industries: extractive and fuel - 0.8-1%; food industry, light industry, agro-industry - 1.2%. In general, reproduction of production of the 3rd technological process (mining, rail transport, multi-tonnage inorganic chemistry, etc.) prevails in Ukraine.

Accordingly, almost 95% of domestic products belongs to the production of the 3rd and 4th technological processes. The number of enterprises that innovate decreases with each passing year and now stands at 12-14%, which is less than 3-4 times that of innovative economies. The science-intensive industrial production is at a level of 0.3%, which is considerably smaller than world-class.

Growth of GDP due to the introduction of new technologies in Ukraine is estimated at only 0.7-1.0%.

Table 10.2. European Technology Platforms

Sphere	Name of the technological platform
Computer ICT technologies	Embedded Computing Systems Mobile and Wireless Communications Networked European Software and Services Initiative Networked and Electronic Media Integral Satcom Initiative Smart Systems Integration
Nanotechnologies	Nanotechnologies for Medical Applications European Nanoelectronics Initiative Advisory Council Photovoltaics Photonics
Water	Water Supply and Sanitation Waterborne
Energy	European Biofuels Wind Energy Sustainable Nuclear
Transport	European Rail Research Advisory Council European Road Transport Research Advisory Council European Space Advisory Council for Aeronautics Research in Eur
Materials	European Steel European Construction Future Textiles and Clothing Advanced Engineering Materials and Technologies
Production technologies	Industrial Safety Plants for the Future Zero Emission Fossil Fuel Power Plants Future Manufacturing Technologies Robotics
Others	Sustainable Chemistry Sustainable Mineral Resources Global Animal Health Renewable Heating & Cooling Farm Animal Breeding and Reproduction

In developed countries, the knowledge economy that corresponds to sectors of the 5th and 6th technological processes is the core of the economy and provides up to 30% of GDP growth, job creation, export potential growth, reduces production costs, promotes quality transformation of society as a whole [26].

Russian scientist S. Yu. Glazyev, based on the provisions of the theory of long waves, M. D. Kondratiev, distinguishes six technological methods, which are currently complemented by the seventh pattern. Systematization of technological methods is presented in the table. 10.3.

Table 10.3. Characteristics of technical and technological methods
[50; 51; 52]

Technical and technological process	Period	Basic innovation	Industry
1st	1770-1830	Textile machinery, water engine	Textile industry, smelting of pig iron, metal working, construction of main channels
2nd	1830-1880	Steam engine, machine tools	Mechanical production based on a steam engine, railway construction, railway, stevedoring, machine-building, coal industry
3rd	1880-1930	Electric motor, steel	Radio communication, telegraph, electrical and heavy machinery, steel production and rolling, lamp electrical appliances, shipbuilding, inorganic chemistry
4th	1930-1980	Internal combustion engine, petrochemical	Automotive, tractor construction, aircraft engineering, synthetic materials, non-ferrous metallurgy, organic chemistry
5th	1980-2030	Microelements	Electronic industry, computers, software, telecommunications, fiber optics, information services
6th (1 st postindustrial)	2030-2090	Nanotechnology	Robotics, Biotechnology, Artificial Intelligence, Global Information Networks, Integrated high-speed transport systems, space technology, nuclear industry, use of hydrogen as energy carrier, genetic engineering
7th (2 nd postindustrial)	2090-2130	Cognitive technologies (human bioenergetics)	Acquisition of physical vacuum, new models and forms of life on the planet, biocomputer systems and biomedicine

According to analytical materials to the parliamentary hearings "Strategy of innovation development of Ukraine for 2010-2020", in Ukraine, the enterprises of the III technological structure account for 46% of their total, IV - about 50%, V - 3%, and innovation activity does not change the technological structure of the economy, preserving it [53].

In the US, the share of the fifth technological structure is 60%, the fourth - 20%, and only about 5% falls on the sixth technological process. For comparison, in Russia, the share of fifth-grade technologies is about 10% (in the military-industrial complex and in the aerospace industries), the fourth - more than 50%, the third - about 30%, and the sixth is not yet formed [54].

In order to become a part of technological leaders, Ukraine needs to focus its efforts on creating fundamentally new areas that are characteristic of the knowledge economy (ie, the 5th and 6th technological developments), financing them through the development of unique technologies of the 3rd and 4th -th order. Scientific and scientific-technical potential of Ukraine in a number of basic industries adequately corresponds to the level of developed countries of the world and allows to create the basis for the formation and development of technologies of the 5th and 6th modes [51].

In this regard, technology platforms in Ukraine have not yet become widespread. The first technology platform created in 2016 in Ukraine is Ukrainian NTP "Agroprovodchaya" (Uzhgorod), the prototype of which is the European technology platform "Food for Life". One of its tasks is to use an effective tool to strengthen the innovative potential of Ukrainian small and medium-sized enterprises in the food sector, in particular through their involvement in the implementation of European programs of scientific and technical cooperation. At the time of the constituent meeting, the official announcement of the registered USTP "AP" as an official partner of the EET network "Food for Life" and approval of its current structure and strategic Action Plan [55] took place.

In addition, on September 27, 2012 an agreement was signed between the Research-Economic Institute of the Ministry of Economic Development and Trade of Ukraine (NDIEI) and the Ukrainian Institute of Scientific-Technical and Economic Information (UkrINTEI, currently the Ukrainian Institute of Scientific and Technical Expertise and Information) . This cooperation envisaged the formation of a national science and technology platform on the basis of NDEI and UkrINTEI, which will serve as a focal point for research in the field of green economy and green growth.

The platform is a network open to institutional and individual participants (including representatives of scientific institutes, laboratories, central and local

government bodies and local self-government, non-governmental non-profit organizations, entrepreneurs, etc.) interested in the formation and implementation of policies in Ukraine "green economy" and ensuring "green" growth.

The main advantages of technological platforms are:

- distribution of risks and expenses for implementation of large projects at the stage of research and development;
- access to modern technologies of industry development;
- the possibility of diversifying funding sources for major projects [56].

Along with technological platforms technological road maps are the new tool of strategic planning of innovation and technological development. Technological road maps (hereinafter referred to as TPCs) are considered as a specialized type of strategic plan that defines the directions of the organization's activities for achieving the set goals and end results in a timely manner, they are one of the main stages of the functioning of technological platforms.

At the same time, the process of developing road maps is considered as a process of creating, implementing, monitoring, evaluating and, if necessary, adjusting the TLD to the extent of progress or the emergence of new reporting data, assumptions about changes in factors of influence and expected investment opportunities [57].

Thus, the world experience has proved the expediency and efficiency of using modern tools of innovation development: technological platforms, technological road maps and models of harmonization of indicators of end results with the volume of necessary financial resources during the formation and systematic adjustment of plans and forecasts.

Taking into account that the main task of technological platforms is the development of conceptual and strategic aspects of technological and innovative development of the economy and their systemic legislative support, it is appropriate to propose to expand the composition of TP participants. Yes, L.A. Musina considers it appropriate to include such institutional stakeholders as industry associations and large companies (both consumers and developers of applied technologies) as well as deputies and policy makers in the sector.

Concerning TDCs, which should facilitate the implementation of the tasks of technological platforms, the obligatory component of the TPC should be the

calculation of the necessary investments in the entire path of technology from science to market, with the proportion between public and private funds in favor of the latter, which are closer to the end innovation chain. The selection of scenarios should be based on the comparison of the cost of the project and its contribution to the expected final result. TPCs should replace state target scientific and scientific-technical programs, which have already proven their poor performance [47].

10.5 Potential advantages and risks of public - private partnership

The benefits of public-private partnerships can be seen in several respects. Cooperation between the state and private business within the framework of the public-private partnership can be mutually beneficial, since the implementation of its organizational and economic mechanism contributes to increasing the competitiveness of the state sector of the economy, attracting investment, innovating the industry and social infrastructure of Ukraine.

The main advantage of public-private partnership, in comparison with other types of contractual relations between the authorities and the private sector, is the optimal distribution of powers to control joint activities. The advantages for the state are the possibility of reducing budget expenditures and finding resources quickly for various projects or state target programs, as well as keeping state ownership of property objects, which, according to many experts, is an alternative to privatization [58].

Public-private partnerships enable the pooling of state and business resources. The state can provide financial guarantees, infrastructure, create new segments of customers, and business investing, apply innovative management methods, develop cost cutting measures, and introduce innovative technologies and products.

The introduction of PPP allows the state to solve important tasks of reducing costs, and to release funds more efficiently for the development and implementation of state policy.

Another feature to be noted is the creation of real PPP mechanisms, where the state will become a real business partner and will participate in the distribution of both profits and risks.

One of the steps that confirms the state's intention to develop a PPP may be to provide guarantees to domestic and foreign investors in the form of risk insurance (preferably in leading Western insurance companies) in case of non-fulfillment of their obligations.

In favor of the development of the PPP Institute in the innovation sector can be the fact that it is a non-alternative opportunity to bring into public sector hundreds of thousands of engineers who have become private entrepreneurs, and do not work in the specialty, without resorting to their knowledge. This important task can be solved by the state on the basis of the PPP model, creating an institute of innovation managers who will develop this business in the country [59].

For the private sector, this form of cooperation is attractive as a result of providing the state with a guarantee of saving investments in implementing risky large-scale projects with high payback periods; expansion of spheres of investment in new segments of the economy, where competition and the minimum presence of business structures are low.

In the scientific literature, approaches are proposed for determining the effectiveness of industrial enterprises in the use of the institution of private-public partnership [60].

In this work, in particular, the effect is to be determined by several components: economic, social, infrastructural and political. As economic effects it is supposed to use: net profit, net discounted income, profitability, solvency, liquidity; as social effects - turnover of personnel, level of social tension; as infrastructure - the possibility of expansion and diversification, the possibility of re-engineering, access to public infrastructure (including the possibility of obtaining a public order, relations between government bodies [60].

In the analysis of the effectiveness of public-private partnership, which is carried out in accordance with the Resolution of the Cabinet of Ministers of Ukraine of February 16, 2011 No. 232, the level of risks in establishing such a partnership is determined and possible directions of their avoidance or mitigation [61].

In this regard, the risks are divided into:

1) related to the influence of external circumstances that do not depend on the will of the partners (the emergence of force majeure circumstances; a significant change in the economic situation, which makes it impossible to fulfill the terms of the contract);

2) political (refusal to issue executive authorities or local self-government bodies permits, rejection by the executive body or local government of a decision necessary for the private partner to take advantage of the land plot; refusal of the state partner to fulfill the terms of the contract in connection with change of partnership priorities);

3) connected with the non-fulfillment by the partners of the terms of the contract (untimely or not full implementation of investments and / or payments; performance of works (provision of services) to the extent less than stipulated by the contract or inadequate quality; non-compliance with the terms and procedure for the execution of works (provision of services);

4) commercial (non-receipt of profits (revenues) from conducting entrepreneurial activity within the framework of the contract, in particular due to a change in market price or a decrease in the demand for manufactured goods, works performed or services provided under the contract, investment attraction in volume, insufficient to fulfill the terms of the contract);

5) financial (change in the exchange rate used to make settlements under the agreement; increase in interest rates on loans provided under the partnership);

6) environmental (causing damage to the health of people and the environment, man-made disasters).

Partners can take the following actions to eliminate the consequences of the risks:

providing state support;

use by the public or private partner of additional funds necessary for the fulfillment of the terms of the contract, in the amount that is determined and agreed upon by the partners;

dismissal of a partner from a contract established by the contract for failure to fulfill or improper performance of its conditions, if it is conditioned by the occurrence of a risk;

termination of performance by the partners of certain terms of the contract;

review of terms of the contract in connection with the occurrence of a risk, in particular prolongation of its validity;
termination of the agreement by one of the partners while resolving the issue of compensation for the related losses;
the change of the tariff policy stipulated by the agreement with respect to the goods being manufactured, the works being performed and the services provided by the partners;
the transfer of individual rights to third parties, including creditors, in accordance with the terms of the agreement, agreed partners;
insurance against non-performance or improper performance by the relevant partner of the terms of the contract as a result of the risk.

Because of the strategic importance of infrastructure for the security of the country, they are usually kept in state ownership.

Due to budget constraints, the state is unable to provide expansion, updating and upgrading of infrastructure, which leads to a deterioration in the quality of its services.

The need for attracting additional investment was met through the introduction of public-private partnership mechanisms that include certain incentives for private capital (tax privileges, access to previously closed businesses, the exclusive right to provide certain services in a specified area, etc.).

Implementation of public-private partnership mechanisms provides a number of significant benefits both to the state and to the private sector [62] (Fig. 10.3).

The main advantages of state participation in public-private partnership projects are:

Reducing the costs associated with the provision of publicly-needed services by the state;

intensification of investment activity and acceleration of realization of large capital-intensive investment projects, which the state would not personally realize in the near future;

promotion of effective management of state-owned objects; saving of financial resources;

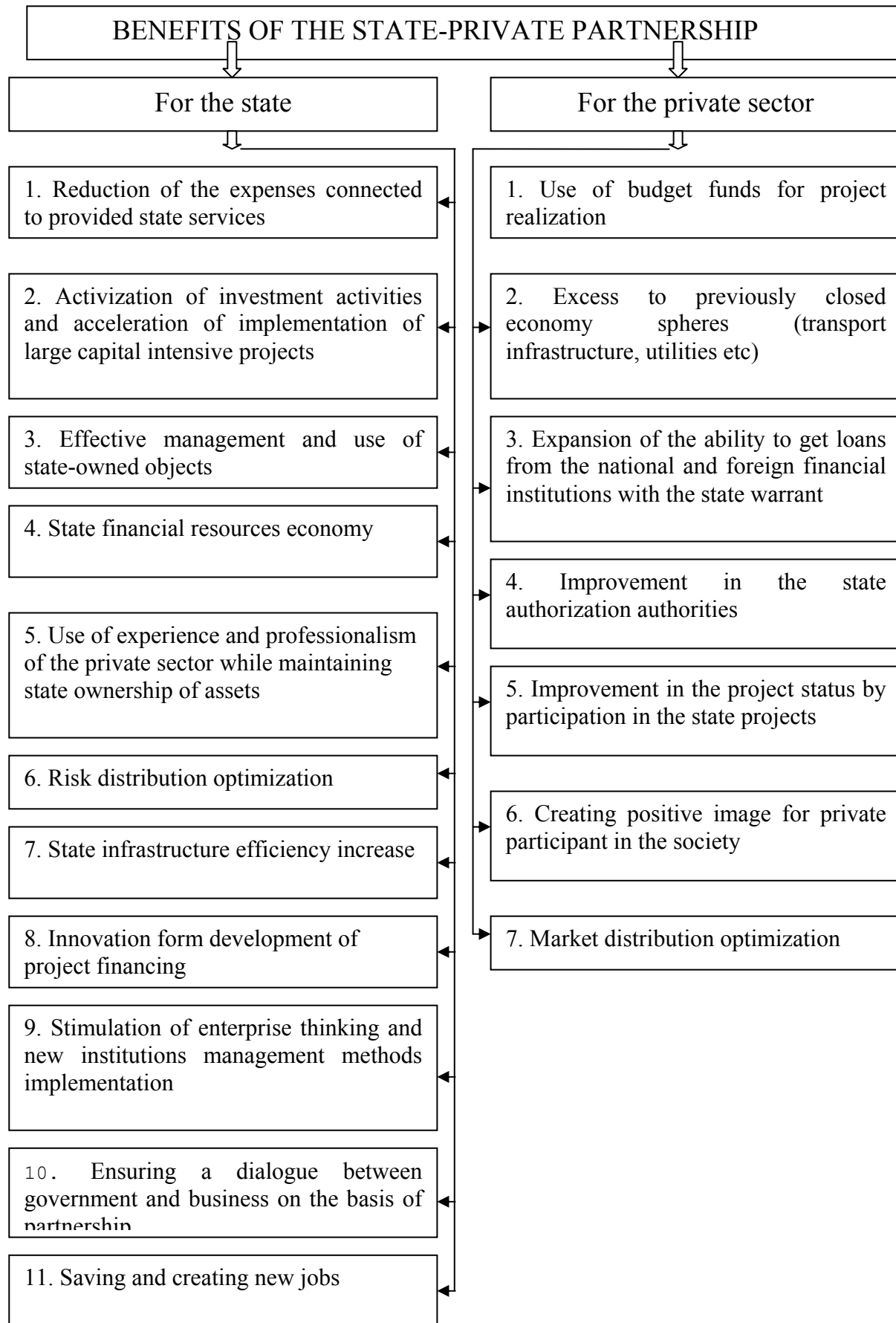


Fig.10.3. The benefits of public-private partnership

obtaining the opportunity to successfully use the experience and professionalism of a private partner while maintaining state ownership and control over assets;

promotion of innovative forms of project financing; optimization of risk distribution;

increase of efficiency of the state infrastructure; stimulating entrepreneurial thinking and promoting the introduction of advanced management practices in government.

Providing dialogue between government and business on the basis of partnership.

The main advantages of participation in public-private partnership projects for private capital can be as follows: involvement of budget funds in the implementation of the project; access to previously closed areas of the economy (transport infrastructure, housing and communal services, etc.); expansion of the possibilities for obtaining loans under the project from domestic and foreign financial and credit institutions under state guarantees; through participation in projects there is a significant facilitation of work with the authorities in obtaining licenses and other permits; enhancement of the status of the project through participation in the state; creating a positive public image of the private sector partner [63].

10.6. World experience of public-private partnership and prospects for development for Ukraine

When developing the Ukrainian model of innovation and investment development, it is necessary to take into account the positive and negative experience of foreign countries, to adapt it critically to the conditions of the national economy taking into account its political, social and economic development and national characteristics. Studying foreign experience of innovation development, stimulating and supporting investment in the innovation industry will help avoid many miscalculations in the formation of the domestic model of innovation development.

The mechanism of cooperation between the state and business for the first time arose in a concession form for a long time (France in 1552), but was

actively used at the turn of the XIX-XX centuries, especially in infrastructure facilities in the construction of canals, highways and railways. Another burst of increased interest in the PPP occurred in the 90's of the XX century [64].

In the West, the main goal of the development of public-private partnership is to reduce the budget deficit at all levels of government and improve the quality of public services provided by attracting operational private investors, namely, the PPP is considered as an institution for coordinating public goals and private investors. In Russia, PPP is primarily used as a lever of attracting private investment in risky and long-term sectors of the economy and is seen as a very effective mechanism for the further denationalization of federal and municipal ownership in the implementation of innovation-investment and social projects [65].

Large-scale infrastructure objects are being built on the basis of a public-private partnership in the world: roads, bridges, tunnels, energy facilities, hospitals, schools, prisons, whose construction would only be impossible for the state or municipalities [66].

Abroad, a public-private partnership called a very wide range of business models and relationships. In the broadest sense, this term is used with any use of private sector resources to meet public needs. Areas of application of public-private partnership in developed countries of foreign countries are very diverse. Cooperation between partners can take place within different legislative frameworks, with a wide range of tasks and competencies.

International partnership practice shows that they can be implemented in a variety of industries: transport, construction, operation, maintenance, implementation of traffic management systems and many other projects in various transport sectors, including urban transport.

Housing and communal services - population service; utilization of utility networks (water supply, sewage); cleaning of streets, removal and utilization of garbage.

Ecology - the creation, maintenance and development of urban and country parks with the right exploitation of natural resources and income from the organization of environmental tourism.

Real estate - construction and operation of public buildings and municipal housing in exchange for the right to build and participate in commercial

projects. Public order and safety - maintenance of order in transport and in public places serviced by private companies; organization and maintenance of parking.

Telecommunications - creation of telecommunication infrastructure and provision of services to consumers.

The financial sector - the involvement of private insurance and management companies in compulsory social insurance and state pension provision.

Education - the construction and equipment of schools and other institutions by private companies that receive the right to build and develop the adjoining territory [67].

The forms in which the private-public partnership is implemented differ in the degree of responsibility that the state or the private sector assume for the operation and maintenance, capital investments and current financing, commercial risk, as well as those who own the assets and the duration of the cooperation. The world leaders in the field of private-public partnership are recognized by the United States and Great Britain, France and Germany.

Projects based on private-public partnership (private partnership projects) began to be implemented in England in the early nineties, when a special law was passed that allowed investors to build infrastructure objects on shares with the state. Since then, similar laws have started to operate in 40 countries of the world.

The first DPP experience in the UK was obtained in 1981 in connection with the restructuring of London docks on the basis of a new deregulated and market-oriented planning policy.

In the UK, there are up to 80 new partnership agreements annually. According to the British government, such projects provide 17% savings for the country's budget [68].

In the United States, cooperation between government and private partners is particularly widespread and positively perceived at the municipal level. According to the National Council for Public-Private Partnership in the United States of the 65 basic municipal activities (plumbing, sewerage, garbage collection, school education, marketed sites use, the average city uses 23 commercial firms to perform these works [69].

In Germany, the idea of private-public partnership was very early adopted in projects of cooperative construction. The first non-profit building associations were created on the basis of private initiatives in the middle of the XIX century. In the context of cooperation between non-profit companies and the public sector, such companies are forced to impose some restrictions on their own business and profit-making policies. In exchange for this practice, the state grants them tax privileges.

In the practice of the European Union countries, the share of foreign investors in public-private partnership projects (PPP) in the sphere of infrastructure varies from 20 to 80%. As a rule, foreign investors are involved in projects with the European Investment Bank (EIB). In particular, in the Netherlands, on average, in the major road projects, the ratio of financing is as follows: EIB - 40%, foreign investor - 40%, national investor - 20%. In this case, small infrastructure projects are funded by banks serving the municipal authorities. In the field of education and culture of the Netherlands, national investments prevail. Also active in PPP projects in the social sphere of the Netherlands take pension funds [70].

Thus, in foreign countries implemented in the framework of public-private partnership, projects can be easily detected in a wide variety of economic sectors. In foreign countries, today, to encourage private capital to implement allegedly unsuspecting projects for private business, with its material contribution, the state provides money for socially significant projects (budget investments) or tax privileges, grants.

10.7. Investigation of methods of control of the investment capacity of private business in the system of public-private partnership

Particular importance in the system of managing the effectiveness of innovative projects in the mechanism of private-public partnership becomes a problem of improving the methods of verification of investment capacity and "good faith" of private partner companies. This is due to a number of factors.

In today's conditions, Ukraine still has a biased attitude to business, entrepreneurship, underestimated its role in a market economy, which is the main reason for the insufficient development of the domestic innovation

system. Its successful formation is directly related to the degree to which the state provides favorable conditions for the development of the business environment for the effective creation and dissemination of innovations and the modernization of the national economy.

The effectiveness of entrepreneurial activity is determined by the market infrastructure and its main elements: legal, financial, organizational, which in Ukraine does not fully correspond to civilized market relations, which led to the formation of: inadequate business environment; illegal forms of business activity; elements of the shadow economy. As a result, such an environment creates a threat to the economic security of business and the national economy.

In this regard, the problem of effective management of the process of coordinating interests and coordinating the efforts of the state and business as the main institutes of a market economy becomes of particular urgency.

In addition, short-term profit-sharing goals are often dominated by businesses, which can undermine the long-term goals associated with investing in strategic innovation projects, which are typically characterized by high risks and uncertainties. This forces the business to minimize the risks associated with opportunities not to implement innovative projects or to incur additional costs by creating "false", "gray" companies.

Therefore, when implementing innovative projects to ensure innovation and investment security in the mechanism of public-private partnership, both the state and the private sector are forced to apply the following checks:

- the state should check a private company that wishes to co-finance an innovative project for the availability of investment resources, labor force, and transparent financial reporting;

- The state must check the contractors involved in a private partner company for the availability of experience in implementing innovative projects, financial transparency;

- A private company that has won the tender, with the involvement of contractors should check its financial capacity, the experience of implementing innovative projects.

Summarizing the proposals of different authors concerning the composition of information, according to which the partner company can be considered unfair, the following criteria can be named:

- a) Violation by the partner company of the taxation order:
- does not give tax and accounting reporting to the tax authorities;
 - carries out business operations on fictitious documents;
 - registered for a non-existent address;
 - carries out frequent re-registration;
 - has a significant number of subsidiaries;

b) uses a large number of intermediaries and suppliers;

c) Untimely payment of taxes to the budget;

d) concludes contracts with producers who did not engage in the production of products necessary for the implementation of investment projects.

Among the systemic problems of using the PPP mechanism, it is expedient to distinguish:

- insufficient attractiveness for private investors of a significant part of the objects, which provides for the implementation of projects on the basis of PPP (usually it is the objects of housing and communal services with physically depreciated equipment that requires significant financial resources in uncertain terms of profit from their exploitation);

- absence of tax or customs privileges for private investors in the process of implementation of PPP projects;

- imperfection of the domestic normative-legal framework (in particular, difficulties with obtaining by the private investor of permits and approvals necessary for the fulfillment of the terms of the agreement), which does not provide for norms existing in developed countries of the world (discussion of the conditions for payment to private owners of compensation in case of non-fulfillment by the state their obligations under concluded contracts, reimbursement of difference in tariffs, etc.);

- lack of use of EU experience in cooperation between the state and business on the basis of PPP in the humanitarian sphere;

- high level of corruption, which increases the transaction costs of business structures and minimizes the entrepreneurial initiative of private investors (including foreign ones);

- insufficient professional training of civil servants who deal with PPPs, low level of their motivation to search and work with private investors in order to launch projects on the basis of PPP;

- low awareness of business representatives about the benefits of using PPP mechanisms in the development of entrepreneurial activity [71].

The study of the problems of implementing public-private partnership projects in the practice of countries in Europe, North and South America, Ukraine, and Russia shows that there are risks for both the state as a partner and a private investor [72; 73; 74].

The analysis of literature allows to distinguish the following potential risks for the participants of the public-private partnership. For the public sector, such are the risk of transferring to him the risks, unfair intentions of a private partner. For private companies, risks are associated with possible changes in the state's policy, adverse or volatile market conditions, failure or failure of the public sector to fulfill the terms of the contract.

The most common risks for the state are: 1) technical errors at the stage of project development; 2) choice of irrational form of public-private partnership; 3) unfairness on the part of the private partner (the study of the World Bank has a number of examples of obtaining budget subsidies by the private investor and their misuse, cases of fictitious bankruptcy, fraud, etc.); 4) low quality of services provided to consumers by a private partner (concessionaire) [63, p.309-314].

Private business representatives who decide to participate in PPP projects should realize that public-private partnerships are aimed at achieving common economic goals for solving current socio-economic challenges, as well as the fact that the most important feature of the PPP is its presence on the " objects in the sphere of direct state control due to their social importance [75].

In case of possible delegation of public services to private individuals, it is expedient to preserve the functions of the state control over the quality of the services delegated by private persons.

To minimize the risks of the state associated with the participation of a private partner in PPP projects, it is advisable to implement such a method of protection, such as the termination of the PPP contract with possible compensation of costs by a private partner.

The main ways of further development of PPPs should include improvement of the regulatory framework, institutional framework for joint implementation of innovation projects, provision of state guarantees at high investment risks, and observance of the rights and interests of the partners. In

the economic sphere, it is necessary to develop direct state subsidies, public participation in financing research and development, commercial risk insurance, guaranteeing loans provided by non-state financial institutions, accelerated depreciation of equipment, provision of privileges for rental rates for premises, customs duties and meetings.

In the western economy, the main goal of the development of public-private partnership is to reduce the budget deficit at all levels of public administration and improve the quality of public services as a result of attracting private investors. The PPP is seen primarily as an instrument for attracting private investment in risky, long-term and recuperative sectors of the economy with the implementation of innovation-investment and social projects.

Thus, one of the promising directions of public-private partnership, and at the same time - and the stimulus of the development of leading entrepreneurial structures, as evidenced by international practice, is the transfer of part of the functions that are now owned by the state. In particular, such functions may include the provision of a certain part of state support, in particular in the field of innovative business by providing a guarantee in obtaining loans, performing certification tasks, licensing, verifying and certifying compliance, monitoring the implementation of socially responsible business conduct.

In this regard, it is appropriate to suggest authors that the sharing of risks between partners should take place with an appropriate distribution of the revenues and revenues expected from projects [76].

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CHAPTER 11 THE ROLE OF INFORMATION SUPPLY IN THE SYSTEM OF ECONOMIC SECURITY OF ENTERPRISE

Under modern conditions, the system of economic security of any enterprise should be one of the main elements of the enterprise strategic management, which envisages giving the management a significant attention to the information-analytical, innovative and strategic provision of the proper level of their economic security in the current and future periods. That is why the extremely pressing task of protecting contemporary economic interests is to conduct a well-grounded policy in terms of economic security of the business entity.

The need to develop and apply new approaches to administration that require an effective mechanism for managing the company's economic security leads to the activity of modern enterprises, which is characterized by different levels of instability. Therefore, proper internal control over the effective functioning and strategic development of the enterprise in a changing internal and external environment will ensure the proper protection of its vital interests.

One of the most important conditions for the successful functioning and development of entrepreneurship in all countries of the world is economic security, the increase of which is a prerequisite for the social and economic development of the state, especially at the present time, when Ukraine's integration into international economic organizations is continuously underway.

Convincing is the point of view of Kamlik M.I. regarding the fact that economic security of entrepreneurship is one of the main conditions for the normal functioning and development of entrepreneurship in the economy of the country [1, p.39].

At present, a significant share of all domestic enterprises is occupied by small and medium-sized enterprises. Therefore, the search for and implementation of effective practical recommendations for this sector is becoming urgent.

We agree with M. L. Danilovich-Kropivnitskaya and K. O. Ritikova, who argue that the importance of the problem of economic security is particularly important for small and medium-sized enterprises (SMEs) due to the following reasons:

- spontaneously chaotic and under-executed by the state formation of the SME sector in the period of the economy transformation;
- objectively higher degree of enterprises vulnerability of this sector of the economy because of their size, level of availability of material and financial resources;
- imperfect competitive environment, manifestations of monopoly and client relations, corruption in the "business state" relationship;
- excessively high level of criminalization and shadowing of economic activity in the SME sector [2].

We share the Vasylytsev's T.G. point of view on the importance of studying the theoretical foundations and the development of applied recommendations for strengthening the economic security of entrepreneurship, which is due to the suspension of the development rates of small and medium business, lowering the level of business activity of the population. Such a situation does not allow to improve the main indicators of entrepreneurship development, to reach the level of the developed countries, to ensure proper and equal access of every citizen to entrepreneurial activity. The only correct way in this case is the appropriate and necessary conduct of system-structural analysis and the implementation of the positive world experience in ensuring the economic security of entrepreneurial activity [3, p.59].

We agree with the statement of Chumachenko M. G. that the analysis of existing western techniques, the development of adapted to the conditions of Ukraine, implementation methodologies, studying the experience of their implementation in Western enterprises is particularly relevant for today [4, p. 8-16].

Economic security has five levels, located in the following hierarchical sequence: global, international, state, regional and micro level - the level of subjects of management [5, p. 10].

We share the Khudolii's L. M. point of view, who emphasizes that ensuring the functioning stability and efficiency of all the main components of the enterprise (financial, informational, technical, technological, personnel and legal) contributes to the achievement of a high level of the enterprise economic security [6].

Full economic independence of SMEs allows economic entities to independently choose economic policy, forms and methods of organizing the

production and marketing process, and ensures full responsibility for the results of their activities. This, in turn, requires management of enterprises to use the appropriate set of measures aimed at ensuring economic security. It should be emphasized that an integrated and systematic approach to the organization and management of the company's economic security system makes it reliable.

It is expedient to highlight the work [7, p. 430] sources of negative impact on the enterprise and the formation of the enterprise economic security, namely: objective (coincidence of circumstances - the state of financial conditions, scientific discoveries, technological developments, force majeure circumstances) and subjective (conscious or unconscious actions of certain officials persons, as well as economic entities - bodies of state power, contractors).

According to the author's vision, the main objective of the company's economic security is to provide guarantees of a highly effective and stable operation of the enterprise in the current and future periods.

The great scientific value is substantiated by Otenko I. P., Ivashchenko G. A. and Voronkova D. K., on the basis of which, in accordance with the resource-functional approach, the enterprise's economic security is ensured by the prevention of external and internal threats on the basis of achieving its functional objectives, such as: 1) the entry of the enterprise into a phase of stable and continuous production activity; 2) achievement of the enterprise financial and economic stability; 3) increasing the efficiency of the use of available resources; 4) adaptation to changes occurring in the external environment; 5) ensuring the continuous development of the enterprise [5, p. 22-23].

Due to the wide variety of internal and external factors that influence the organizational structure of SMEs, there is no "correct", common and acceptable organization for the protection and increase of economic security.

The basis of any socio-economic system activity is information, processed and structured in a certain way, specific purpose, content, form and quality. In the modern world, information is a powerful strategic resource. It should be emphasized that the most significant property of information is the ability to cause change.

Due to the fact that each year economic potential is more determined by the level of information structure development, the potential vulnerability of the economy from information influences is proportional. Therefore, there is a need to protect SMEs from the potential informational dangers that directly affect economic security.

Improving business significantly depends on the development of information systems that improve the quality of management, ensure the relevance of information processes to real business processes, accelerate the flow of documents and prepare management decisions. The use of information technology is among the list of important factors that determine the competitiveness of enterprises.

Each company uses massive amounts of information in its activities, but its degree of use varies, depending on the development of information systems and the approach to enterprise management.

Relying on the Law of Ukraine "On Information" [8] is set out in Table. 11.1 types of information that is necessary for the full functioning of the high level of economic security of SMEs. These requirements ensure that information is adapted to changes in the changing external and internal environment, the needs of specialists and management of the enterprise to ensure the preparation and adoption of sound management decisions aimed at improving the internal quality and economic security.

The determined information requirements make it possible to calculate its value, which is proposed to be calculated using formula 11.1.

$VI = P$ (probability) + Ad (adequacy) + Ct (certainty) + I (intelligibility) + U (usefulness) + C (completeness) + RR (regularity of receipt) + R (relevance) + T (timeliness) + A (accuracy), where VI is the value of information. (11.1)

The assessment is carried out by assigning to each element the appropriate number of points in the range from 0 to 2, respectively, for three levels of assessment: 0 - low, 1 - middle level and 2 - high level.

Table 11.1 Types of information used to achieve the high level of SMEs' economic security Source: compiled by author on the basis of [8]

№	Kind of information	Characteristic
1.	About an individual	information on the individual employee
2.	Of reference-encyclopedic character	systematized, documented, publicly disclosed or otherwise disseminated information about public, public life and the environment that has a direct impact on the economic security of small and medium-sized enterprises
3.	Ecological	information and data on the state of the environment of SMEs, factors that are directly related to its activities and affect or can affect the environment or the health and safety of workers, the conditions of their work
4.	On finished products	data, which reveal quantitative, qualitative and other characteristics of finished products (goods, works, services)
5.	Scientific and technical	any information and data on the domestic and foreign achievements of science, technology and production, obtained during the research, development, design and technological work that can be borrowed
6.	Tax	a set of data and data created or received by the subjects of information relations in the course of current activities and necessary for the implementation of tasks and functions entrusted to the supervisory bodies in the manner established by the Tax Code of Ukraine, which affect the economic security of SMEs
7.	Legal	any information, legal facts, offenses committed by and against SMEs, as well as fighting and preventing them
8.	Statistical	documented information that gives a quantitative description of mass phenomena and processes occurring in different spheres of society, which enables SMEs to adjust their economic activity, rather than increase the existing level of economic security
9.	Sociological	any documented information about the attitude of individuals, events, phenomena, processes, facts that change the economic security of SMEs
10.	With restricted access	confidential, secret and official information that directly affects the level of economic security

An integrated model for measuring the value of information can also be represented by formula 11.2.

$$IQI = \sum_{i=1}^{n=10} BI_i, \quad (2)$$

where IR - information requirements.

All the incoming information comes in the form of information flows, representing a set of information that allows the company to conduct financial and economic activities. Information flows ensure the normal operation of the enterprise, the organization of which in small and medium-sized enterprises should be aimed at making decisions on key financial and economic issues, meeting the requirements of the management system and improving and facilitating enterprise and production management processes.

Typically, there are two types of information flows (environments): external (a set of economic and political actors operating outside the enterprise, and the relations that are formed between them and the enterprise).

Relations determine the interaction between the enterprise, its real and potential clients, as well as competitors) and internal (relations in the team that determine the saturation of information and the intensity of communication flows, as well as knowledge that are laid and generated in the production process) [9, p. 246].

It should be emphasized that there is a direct relationship between the subject size of the business and its incoming information flows. Thus, the larger the enterprise and the wider its activity, the larger the incoming streams of information.

It is important to provide information support for a wide range of internal and external issues of SME activity, therefore, a comprehensive approach is needed to determine the sources of information resources. The primary task in this case is to create a capacious system of information support of an industrial enterprise.

The analysis of the level of economic security of the enterprise is based on the assessment of the effectiveness of measures to prevent losses and the calculation of functional and aggregate criteria of the enterprise economic security, therefore the main primary source of information on the request for economic security is the internal accounting information formed in the financial, managerial and statistical accounting, which contains information about the resources, sources of their receipt, directions and efficiency of use. Particularly important is accounting information on the volume and cost of production (goods, works, services), investment activity, financial indicators. The main array of this information should be presented by indicators, which can

really be changed as a result of the implementation of the management decisions made. Particular care must be taken to monitor the indicators that allow you to diagnose the situation in the bottleneck area and determine the opportunities to implement the competitive advantages of the enterprise. In case of insufficient information received, special one-time or periodic sample surveys are conducted. Also, information is obtained from external sources.

Unfortunately, due to the chaos of incoming information flows, the imperfection of methods and techniques of collecting, storing and processing data leads to a significant delay in obtaining the necessary information and to lose its quality, and also contribute to the emergence of threats to the enterprise.

An important role in informing the system of economic security is dedicated specifically to the development and implementation of internal documentation, which has the form of integrated reports, consolidated tables, invoices, acts that contain specific grouped information of a specific nature, with clearly specified parameters for the operational solution of certain tasks. The information presented in this documentation is more transformed, and therefore more suitable for rapid processing. However, as a rule, it is used mainly in large industrial enterprises.

It is worth remembering that the sources of information depend on what information is needed for strategic or operational planning.

Business process management requires a comprehensive consideration of external and internal factors and risks. Information management support should provide guidance on the current state of affairs, forecasting the effects of changes in the internal and external environment.

In our view, the adoption of managerial decisions aimed at ensuring a high level of internal control and economic security is achieved through such a chain. A senior manager of a small and medium sized business finds out what information is needed to solve a specific task. The needs of the enterprise in information depend on the specific factors of its practical activity.

The next step is to collect information of an appropriate nature from the external and internal environment. It is then necessary to analyze and systematize the information collected. To achieve the desired goals when collecting and processing information, it is necessary to clearly identify the

responsibilities of process participants: collectors, processors, coordinators and calculate the approximate time for the collection and processing of materials.

For information analysis there are various methods, techniques and tools that should be selected and implemented at this stage according to the professional judgment of the manager. It is at this stage that it is advisable to use the methods and procedures, which will reduce the time involved and the cost of collecting information while providing an efficient system of economic security.

The recipients of information often tend to ask for large volumes of information, without thinking about the ratio of costs and benefits. Therefore, in the evaluation of information, it is necessary to establish how important this information is. In this phase, control measures are carried out - the actual values of the indicators are compared with the planned tasks. On the basis of the analysis of the revealed deviations, formulate proposals on the appropriateness of introducing corrective measures. After that, the information is summarized in the form of well-defined and substantiated results and recommendations. Depending on the goals set, the recommendations are passed to the appropriate managers for implementation in the practical activities that take place in the next stage. The last step in the specified algorithm is the correction of information needs. Under this we mean a certain improvement of the already developed and implemented management decision, a kind of correction to the vector of its direction in order to strengthen economic security.

Since management activities regulate organizational and production processes, they bring them into line with previously established goals, while relying on information flows, there is a need to develop a systematic approach to the selection, analysis and issuance of new information of a specific nature.

It is advisable to consider the main users of information and directions of using the information shown in Fig.11.1.

An important component of information provision is the documentation of the activities of SMEs for internal control and economic security. Most enterprises are negligent in the development, direct use and unconditional implementation of internal documents on ensuring an adequate level of internal control and economic security, which increases the relevance of a systematic approach to taking measures to provide information security for SMEs.

Interested in establishing the effectiveness of management of the enterprise managers	Owner	Public	Interested in creating business jobs, rational use of public resources, assistance in financing social programs
Interested in information for prevention, timely detection of a crisis situation, creation of conditions for its rapid overcoming.	Head	Suppliers, lenders	Interested in the company's ability to pay off arrears in a timely manner
Interested in the company's ability to pay dividends on time	Shareholders	Investors	Interested in information about the company's ability to profit
Workers	Interested in the company's ability to pay wages and provide labor protection in a timely manner.		

Users of the information control system at the request of economic security

Fig. 11.1. Information users on the request of economic security

Information provision of processes and procedures of the system of economic security is accompanied by the application of external legislative and regulatory acts on issues of maintenance and financial support of industrial production and its implementation, as well as the development of internal normative documents - instructions, methodologies, regulations, which are independently selected and for which they are personally determined types and ways of distribution.

The main processes and procedures for economic security that are subject to documentation at small and medium-sized enterprises are given in Table. 11.2.

Table. 11.2 Major SMEs' Processes and Procedures on Economic Security

Processes	Procedures
- Distribution of key managerial rights and responsibilities to ensure economic security	<ul style="list-style-type: none"> - Appointment of responsible persons on the issues of ensuring proper internal control and high level of economic security - development of regulations, methodologies, instructions, and other internal documents used in the framework of providing economic security
- training on general issues of internal control and economic security for employees and special training for managerial powers	<ul style="list-style-type: none"> - involvement of personnel in the process of ensuring economic security; - motivation of personnel in the process of providing economic security
- managing threats related to the specifics of SMEs	- compliance with the requirements of legislative and regulatory acts, possible development of internal documents on issues of ensuring and strengthening internal control and economic security
- control of the state of internal control as a component of the economic security of SMEs	<ul style="list-style-type: none"> - identification of existing threats to small and medium enterprises; - assessment of the impact of the identified threats
- regulation of the functioning of the internal control system, taking into account the impact of internal and external threats	<ul style="list-style-type: none"> - making a management decision to take into account the impact of external and internal threats; - adaptation of the system of economic security in the context of the management decision taken

According to the author's vision, the main purpose of the SME's paperwork at the request of economic security is to form the necessary and sufficient information base on the basis of existing legal acts, international standards of management and recommendations, already existing and specially developed nomenclature of primary documents, to provide the professional needs of specialists. specific directions and managers-managers in solving the tasks of achieving a high level of internal control and economic security at the enterprise in Ilove

The document flow of small and medium-sized enterprises in the context of economic security involves the systematization of all documentation relating to internal control and economic security on it (Figure 11.2).

For the use of these documents are appointed persons responsible for timely receipt, registration and distribution in the middle of the enterprise. As a rule, at large enterprises such functions are assigned to the general department or the office or the secretariat.

types of documents on the provision of SMEs in the context of economic security	Inside	Organizational and constituent	regulations,	Papers are officially approved
		Regular	constituent agreement, provisions	laying out on paper or on electronic media
		Disciplinary	methods, instructions, standards in terms of internal control and economic security, developed directly to the characteristics of SMEs	laying out on paper or on electronic media
		Accounts	orders	presented on paper or on electronic media, obtained through software products "1.C. Enterprise", "Parus ", " Galaxy "
		Information	revision materials, external and internal audit; laboratory control; results of inspections of the tax service; materials of production meetings, meetings of the labor collective; mass-media; internal interdepartmental documents; information received from the performer; protocols reports of their own financial analysts;	presented on paper or on electronic media, obtained from software products MPP II, ERR, etc., made by hand
	Outside	Interorganizational	letters from third parties and organizations;	presented on paper or on electronic media, obtained through software products such as "Ascod" or by mail, courier, etc.
		Normative-legal	laws, regulations of various levels, codes, provisions on internal control and economic security	presented on paper or on electronic media used on the Internet ("League Law") and in consultation with outside specialists
		Nationwide	standards, standards	
		International	ISO standards by activity; IAS IFRS	theoretical foundations, presented on paper or on electronic media, are practically used after certification

Fig. 11.2. Types of documents on the provision of SMEs in the context of economic security

The effective uninterrupted functioning of SMEs with a high level of economic security depends on the completeness and timeliness of the necessary information of a specific nature receipt in the form of a specific document. Management decisions at any enterprise cover all aspects of its activities: production at different stages, sales, finances, work with personnel, safety, etc. Therefore, the competent manager should coordinate the activities of all departments to achieve their most effective participation in the process of solving current, tactical and strategic tasks.

When designing the system of information support of the enterprise at the request of economic security should be clearly taken into account:

- (1) information needs of the head;
- (2) the flow of information flows in the information system of the entity;
- (3) total volume of information flows;
- (4) information needs of the head;
- (5) the flow of information flows in the information system of the entity;
- (6) total volume of information flows;
- (7) time and cost of processing and transformation of information flows;
- (8) the benefit of the processed information flow;
- (9) close interconnections between separate units of the production system that serve the achievement of the strategic objectives of the enterprise;
- (10) complexity, which manifests itself in a large number of feedback bonds;
- (11) high inertia, which makes forecasting possible for the future;
- (12) the possibility of using alternative production technologies and management methods.

In order to take into account the above-mentioned aspects and reduce the risk of information leakage, automatically adjusting to the changes that have taken place, involving and processing a large amount of information of various nature, there is a need to computerize the current system of acceptance and processing of information flows of SMEs, to change the algorithm of document circulation, automation of transmission information. In this connection, three areas are ensured for the provision of computerized information support to SMEs in the context of economic security, as shown in Fig. 11.3.

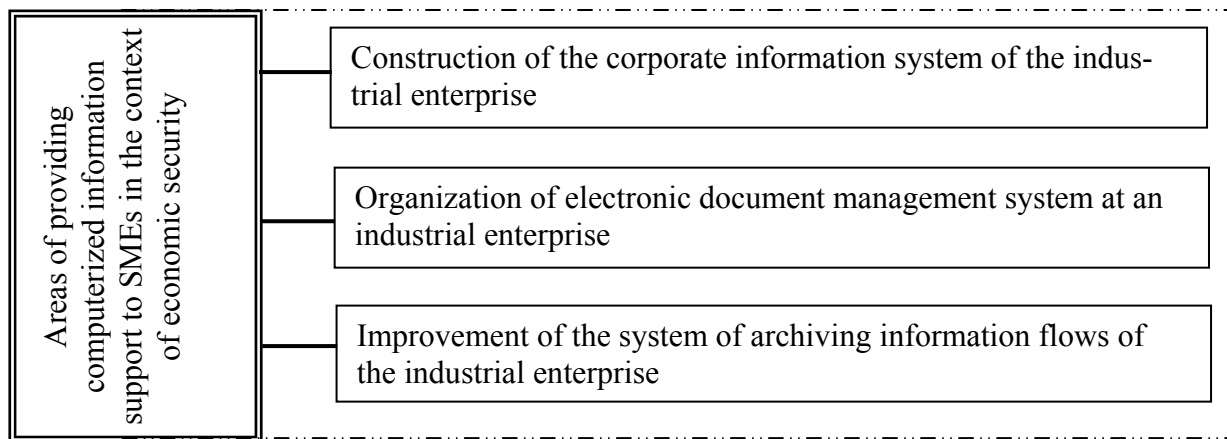


Fig. 11.3. Areas of providing computerized information support to SMEs in the context of economic security

The first direction is dedicated to the construction of a corporate information system that supports the automation of management functions at the enterprise and delivers information for management decisions and combines business strategy of the enterprise and progressive information technologies.

For a summary of financial and economic activity of enterprises apply economic and financial management software used to implement the automation of accounting and transfer reporting to external agencies; automation of management accounting for the collection and presentation of data used to make managerial decisions; organization of the process of planning and reporting on the implementation of plans, budgets of the enterprise and operational adjustments of production plans.

To control, accounting and management of financial flows typically use CashFlow-model (CF-model), based on the balance between the value of assets and liabilities, commitments and actual revenues and control over financial balance, optimize cash flow and conduct scenario analysis of movement cash flows.

For Ukrainian industrial enterprises, the most relevant are the concepts of planning resources for production of MRP II (minimizing the costs associated with inventories at different production sites, allowing regulating the supply of components for production, controlling inventories and the very technology of production), and planning the resources of ERR reduction and unification of hardware through the technology of "client-server" and the integration of the information system, the construction of business processes after the merger to

mpany, data on human resources, downsizing, providing support information system).

As a rule, small and medium-sized enterprises do not use similar software products.

Interesting are the national information systems "Parus" (characterized by a large set of functional modules and has such elements as: planning, forecasting, accounting, analysis, monitoring, control, automation of decision making options, etc.) and "Galaxy" (provides automation of operational, financial and strategic and operational investment activity using the latest tools with an emphasis on planning and analysis) that can almost completely cover the information needs of the cone system. rolinhu at the request of economic security.

According to the author's vision, the scheme of functioning of the information support system for the adoption of management decisions of SMEs is presented in Fig. 11.4.

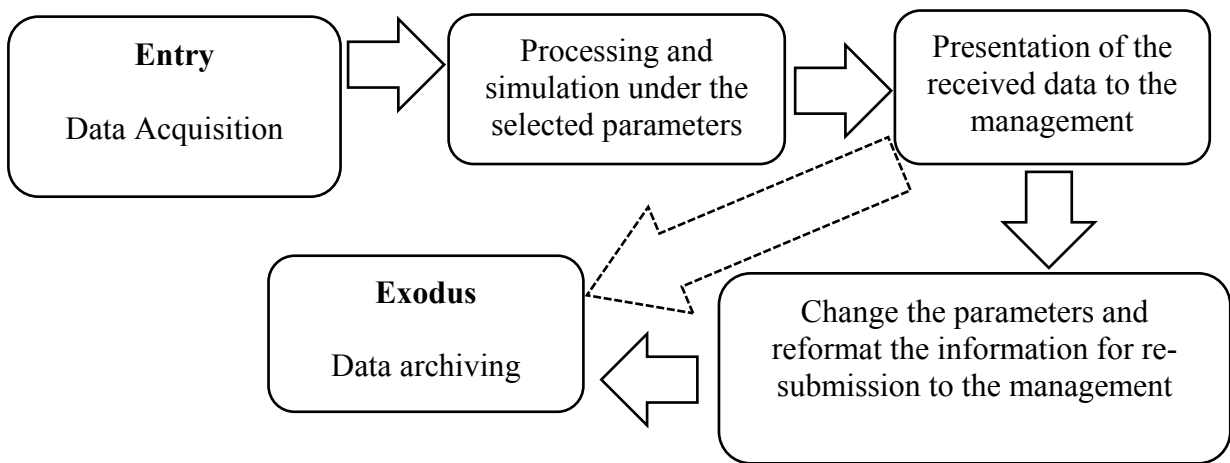


Fig. 11.4. Scheme of information support system for SME management decisions

According to this scheme, the functioning of the information support system for making managerial decisions in small and medium-sized enterprises begins with the receipt of incoming information in the form of information flows from the external and internal business environment. Then all input data is processed using methods, tools and techniques for the request of economic security, as well as modeling the parameters entered earlier.

In the process of modeling, analytical or numerical methods of calculations, their parameters (step of integration, initial conditions for numerical integration, initial approximations for the solution of systems of equations), structure of the model of the system, as well as models of individual elements that satisfy the system of economic security.

After processing, the structured data is provided to the management for familiarization and management decisions. In the event of any inaccuracy or lack of completeness of the data, the information is subject to re-processing, taking into account the requirements of the updated parameters, and then redirected to the management.

The final stage highlights the archiving of the final version of the transformation of information.

Creating electronic documents of various formats should meet the needs of different groups of users, increase productivity, allowing to quickly receive and transmit data, explore small details, analyze information in excellent measurements, present a continuous flow of information in a variety of visual forms.

An electronic document flow system should minimize changes in day-to-day work, be the most inconspicuous, provide real benefits, service required, and help link the documents with business processes occurring in the enterprise.

The benefits of using electronic document management have the following benefits for SMEs:

- reduction of product preparation cycles due to the transition to electronic transactions with counterparties and the transformation of all business processes into a well-established, synchronous work on the principle of "exactly in time";
- realization of finished products and goods electronically to eliminate intermediaries from transactions with customers;
- elimination of bottlenecks in management, thus freeing intellectual workers for more important tasks, while adhering to the smallest staff of employees;
- coordination of internal documents;
- control over the execution and execution of the instructions of the management within the established term;

- control over access to certain documents, thus controlling the outflow of information.

Modern computer networks provide the opportunity to receive and provide data in simple and cheap ways. All electronic documents are located on servers that provide information security for businesses. This is achieved due to the high level of privacy, data centralization and backup. Very popular for medium and large enterprises is the creation of a "home grid" that not only functions as an electronic data exchange tool between the personnel, but also allows it to be archived, increases speed and reduces the time required to find the necessary data in huge information and disk arrays.

A well-designed archiving system, regardless of volume, records and safely stores all information on the server, reduces the risk of loss of important information, which provides a high level of economic security and internal control.

Consequently, in general, the creation of a new or improved existing mechanism of management of economic security forms the ability to respond quickly to a variety of changes in the external environment, which gives the company competitive advantages to achieve significant goals.

In order to achieve the highest level of economic security, small and medium enterprises must monitor the maximum security of the main functional components of the system of economic security of the enterprise, the basis of which are information flows of different nature and quality. Only a rational practical approach to the structuring, processing and use of information will allow SMEs to operate in the mode of the adopted strategic plan, providing reliable protection against external and internal factors that threaten functioning and existence.

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CHAPTER 12. LOGISTIC CONSULTING AS AN INSTRUMENT OF ENTERPRISES ECONOMIC SECURITY

Ukraine's access to world markets for goods and services is a challenge for enterprises of the Road Transport Complex (RTC). They should adapt quickly enough to the new conditions of economic activity caused by changes in the rules of doing business and the market environment in particular.

There is a need to ensure efficient activity in a global business environment. Economic activity in such an environment is associated with significant competition, the essential dynamics of the market changes and intense modification of the markets of goods and services.

Therefore, the importance of introducing new tools and innovative forms at RTC-enterprises for ensuring rapid adaptation and effective functioning of economic entities in a global competitive environment is very relevant.

Only a small number of RTC-enterprises have some experience in international affairs. The vast majority of these enterprises are not competitive in the regional and global markets. And in the first stage of entry into the world market space, external assistance of the team managers is needed, which will formulate a strategy for their development and work out a promising program of activities that, in its turn, will ensure the enterprises' efficient activity in the future.

Solving similar problems involves the implementation of a number of approaches. One of the directions of solving Ukrainian RTC-enterprises' problems, connected with factors of the market environment's transformation, is the use of management consulting on the example of one of its latest directions – logistics consulting. Logistics consulting as a new trend and a component of management consulting emerged with the development and implementation of the logistics concept management practices [1].

Despite certain features in the field of consulting services, there is no definite systemic vision of the theoretical and methodological foundations of logistics consulting and its use in the new market conditions of the RTC [2]. Today such issues like role and place of logistics consulting as an instrument for ensuring the competitiveness of RTC-enterprises in modern business are not solved.

The analysis of recent research papers and publications has shown that Western research projects, which are focused on the scientific generalized practice of consulting work, are being actively implemented and are devoted to solving such problems that are related to ensuring the effectiveness of participants' interaction in the consulting process, identifying factors and constructing models of effective collaboration of consultants with client organizations. A significant theoretical contribution to the study of the interaction principles between consultants and clients was made in the fundamental works of M. Kubra, E. Shine, G. and R. Lippit. Further development of scientific research is presented in the writings of both foreign and domestic scientists, among which A. Buonjo, A. Verrra, Posadsky A. P, Kainish S.V., F. Chernyavskaya, N. Nikolova, Y. V. Chernov, V. A Willows and others are the most significant. The questions of logistics consulting are considered in the works of well-known foreign and domestic specialists in the field of logistics, for instance James R. Stoke, Douglas M. Lambert, M. Christopher, H. Firon, B. A. Anikina, T. A. Vorkut, V. G Alkema, O. S. Kirichenko M. V.Miyusova, M. V Pidgorny and others.

The complex of RTC 's business entities' problems, which are sharply shifting to the new business rules (practically without a transitional period), from the conditions of the regional to the conditions of operation in the international business is far from always possible to be solved through the existing team managers. Therefore, in such conditions, it is expedient for RTC-enterprises to engage a team of highly skilled consultants. Especially when it comes to the latest business areas in which the possibilities of national science and practice are sufficiently limited. The benefits of such an approach are the widespread use of experience and the introduction of best options for effective practice and, as a result, a qualitative and timely solution to economic problems with a minimal spending resources. International business is a deeply integrated dynamic environment, characterized by a high level of internationalization and globalization of all aspects of the life of individual regions, nations, continents and poly-transformation of cultures. International business is increasingly transformed into an environment that is a network of flow processes that operate in time and space. This indicates a logistical approach to its organization.

Therefore, such problems as the activities of international business' subjects are often associated with the functioning effectiveness of both internal and external material, financial, informational, service and other flows. The functioning of external logistics flows in the international business is characterized by a number of risks, which are caused by a considerable length of logistic chains and their multiparameter and variability of parameters at different links. Solving problems of this nature is a competence sphere of international and individual domestic consulting companies that provide a range of logistics consulting services [1].

The analysis of modern information sources about logistics consulting as a scientific direction and type of business testifies to its rapid development. Which is associated with the wide introduction of activity concepts to the practice of management logistics. Logistics consulting as a tool for ensuring efficiency in the world began to be used after the energy crisis of the 70s of the last century. Logistics consulting, within the CIS countries, began to form in the late 80's of the last century as one of the promising areas of management consulting. Despite the fact that in Ukraine logistics consulting is at the initial level of development, it can claim to be an effective tool for ensuring the competitiveness of Ukrainian enterprises in general and RTC-enterprises in particular [1].

Logistics consulting is a complex of interconnected services for diagnostics, development and implementation of organizational, technical and informational measures aimed at optimizing logistics costs of the modern business' subjects [3].

The aim of logistics consulting is to formulate the conditions for creating a comprehensive utility flow or process at the expense of:

- reducing the execution time of key logistics processes;
- increasing the reliability and capacity of the logistics chain;
- improving the quality of business processes' management;
- increasing in labor productivity and reducing the number of logistics personnel;
- rational use of resources;
- increasing of working capital turnover by optimizing stocks;
- automation of logistics business processes.

Logistics consulting can be viewed from a variety of points, namely: as one of the applied areas of management science, as a type of economic activity, as an art of problem solving and as a particular field of activity.

This is due to the significant expansion and structuring of logistics consulting services. Logistic consulting is an independent applied scientific field.

The subject of logistics consulting is:

- flow processes (material, informational, financial, transport, service, labor flows, knowledge flows, etc.);
- laws, principles and methods of logistics consulting;
- the activity of logistics consultants, research and consulting structures;
- requirements which the logistics consultant must meet;
- relationships that are formed between clients and consultants and other relationships in the process of logistics consulting.

As a kind of economic activity, logistics consulting is a complex of processes and activities aimed at optimizing material, informational and financial flows at the enterprise. In the practice of international business, there are several levels of logistics consulting: Start-consulting; Pro-consulting; Expert consulting. The level of logistics consulting is a qualification category that determines the scope and complexity of consulting services, that are given to the subject of international business.

The first level, Start-Consulting—a set of consulting services, which include pre-project logistics company research.

The second level, Pro-consulting, provides a wider range of services, such as: complete logistic audit of the enterprise, re-engineering of logistics design processes and the implementation of management systems for them.

The third level, Expert Consulting—is a set of consulting services aimed at finding optimal managerial solutions for solving complex practical problems.

In the international business, all levels of consulting are important, but Expert Consulting is an extremely important tool for diagnosing the ability of the multinational corporations to compete in the commodity markets, not only today but also in the future, due to an objective forecasting of their logistics strategies.

Logistics consulting, depending on the areas and objects of its application, has the following main areas:

- formation of logistics service standards;
- consulting in the field of procurement logistics;
- consulting in the field of industrial logistics;
- consulting in the field of warehousing logistics;
- consulting in the field of transport logistics;
- supply chain management consulting;
- regulation of logistic business processes;
- design of the logistics system;
- development of logistics strategy;
- logistic audit [4].

Consequently, the key competence of logistics consulting covers all the areas of logistics and aims at its prediction, planning, design, regulation, normative support and the rational organization and operation of logistics systems as well as processes and flows generated by them. Logistics consulting – is the art of solving a complex of problems based on unique professional competence, skills, experience, personal abilities and talent of a consultant. As an area of activity, logistics consulting combines a specific process of logistics counseling, art and science and demonstrates the growing professionalism of logistics consultants. In spite of some differences between certain types of logistics consulting, in general, it has the following features: independence and impartiality, professionalism and competence, confidentiality, indifference, recommendation nature of the proposals, uniqueness, complexity of the quantitative measure of utility, etc.

Logistic consultation as a type of economic activity has a number of functions:

- diagnostic;
- analytical;
- forecasting;
- consulting;
- design and research.

Each of these functions of logistics counseling, in its turn, contains a set component tasks. Services provided by a consulting company, depending on the

functions' structure and the scope of tasks performed, may have the following main forms: analytical activity, forecasting, consulting, audit of activities, joint activities in logistics management [5,6].

Ukraine's accession to the WTO requires from the RTC's business entities, both in Ukraine and abroad, to operate in conditions of intense competition with subjects of international business, which have experience in such a strife and use innovative technologies to ensure its effectiveness. We offer the use of logistics consulting as one of the tools for ensuring the survival and further development of Ukrainian RTC-enterprises under these conditions.

Such approach will allow RTC-enterprises to adapt quickly to new conditions and rules that are inherent in modern international trade and to provide an appropriate level of competitiveness in the future. Realization of this approach in practice can be ensured by the creation and development of domestic and the involvement of foreign companies in logistics consulting.

At the present stage, there are certain conditions for the development of each of the named areas. Each of the directions has its advantages and disadvantages. Involvement of foreign consultants in the sphere of the Ukrainian RTC-enterprises' activity provides a wide use of other world countries' effective experience in ensuring the RTC-enterprises' competitiveness. But foreign consultants are not always ready to study the peculiarities of domestic business, and therefore, the economic models they offer sometimes do not work efficiently. Accordingly, Ukrainian consultants are deeply aware of the specifics of the RTC-enterprises' functioning, but do not have sufficient experience in solving current management problems related to activity in the context of international business.

The main argument against the use of logistics consulting is the significant labor costs for highly skilled consultants. But the consulting cost in these conditions can be repaid by a substantial increase in profits both at the expense of rationalization of logistics processes and the additional profit obtained due to the synergistic effect of modern logistics. Even in such conditions where the economic effect is not significant, the use of logistics consulting is relevant to ensure sufficient competitiveness of the Ukrainian RTC-enterprises and countering squeezing out of Ukrainian companies by the leaders of international business.

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CHAPTER 13 ECONOMIC SECURITY OF HEI (HIGHER EDUCATION INSTITUTION): A METHODOLOGICAL APPROACH TO ITS EVALUATION

In today's conditions of development of the Ukrainian economy both higher education institutions (HEI) and the state faces an important task of ensuring economic security. The decision of which can increase the efficiency of the nation scientific and technological potential use, in connection with which the role of universities, which at the same time are the leaders of innovation and knowledge centers in ensuring the proper level of specialists' training who can be competitive in the domestic and international labor markets, and can ensure in the long run the economic development of the state on an innovative basis.

According to national realities of the Ukrainian economy, the role and mechanism of interaction of the state with higher education in the labor market and, as a reciprocal effect, the influence of the labor market elements on ensuring the economic security of HEI, economic development of the country and ensuring the economic security of the state can not be traced. In other words, it is an imperfect mechanism through which the interaction of graduates of higher education institutions and employers takes place by agreeing the price on intellectual capital and working conditions between them taking into account the image of universities, which promotes the attraction of the intellectual capital of the nation to the sphere of national production and ensuring the economic security of HEI and state. Only training of world-class level specialists can provide a stable trend of economic growth in the state.

Some aspects of the economic security essence study and its evaluation are considered in the writings of such authors as: Martyniuk V.P. [2], Stetsiv I. S. [3], Kozachenko G.V., Tyulenev G.D. [4].

In the context of the research, it is expedient to consider the economic safety of HEI as an element of the system (national security - economic security - economic security of the country - economic security of the state - economic security of the enterprise). Taking into account the above, the study is important [4], which states that in addition to the provision of enterprise's economic security, there is an urgent need to ensure economic security and important socio-economic systems, which include higher education institutions [1] ,

which the authors suggest to call "ecosed" (economic security of education). It was also noted that [4] "the ecumenical basis of ecosed should be formed on some mixed position, which is conditioned by the close connection of social relations in the system of national higher education with economic relations".

Often, the economic security of HEI "is considered from the standpoint of resource and protective approaches - as a state in which the available resources are sufficient to prevent, weaken or protect against the threats of the activities of the University" [2].

Also, HEI's economic security [3] is described as "a state of its economy that allows them to remain stable against internal and external threats and guarantees stable operation and dynamic development".

Under threat (which may eventually be expressed in the form of damage that characterizes the decline in the economic potential of higher education) is understood as a set of conditions, processes, factors that impede the realization of the economic interests of the HEI [2].

Taking into account the general approaches to the term "economic security of HEI" in its assessment as well as state economic security, it is appropriate to pay attention to the identification of threats and to develop measures to overcome them.

In this context, it is expedient to see the study of guiding author's approaches to the interpretation of interrelated concepts in terms of ensuring the economic security of HEI (taking into account the variety of consideration by various scholars of concepts such as the concepts of "risk", "threat", "security", "danger", " economic danger "), considering their role and importance for the economic development of the state, higher education act simultaneously as elements of the socio-economic system and as subjects of management), in particular:

1. Danger is a condition that can lead to negative consequences of the functioning of institutions of higher education in the form of negative, destructive changes as a result of the imbalance in the socio-economic system.

2. Economic danger is a state that results in negative economic results of the functioning of institutions of higher education, which can act simultaneously as elements of the socio-economic system and as subjects of management and has a negative impact on the economy of the country.

3. Threat is a derivative of danger, which is manifested in the form of risks subject to quantitative measurement using economic and statistical methods.

4. Risk is a concrete quantitative dimension of the consequences of a threat, derived from danger as a state, which as a result of a disturbance in the balance may lead to loss of resources of various types or lack of income, provided that the negative trends in the socio-economic sphere, which in turn are formed under the influence of factors of the external and internal environment.

The disrupted link between education, science and production can be considered one of the reasons for the detachment of knowledge gained at domestic higher education from the requirements of employers. In particular, in favor of the needs of the economy, there is a lack of preferences in the gradual entry into institutions of lower levels of accreditation, and hence higher education, which leads in particular to deepening the gap in knowledge and further negative transformations in the labor market. The state does not grant privileges with such a sequence of admission to educational institutions, taking into account their profile. Improving the efficiency of HEI, postgraduate and doctoral studies as training tools to meet the needs of the economy, labor market demands and employers are important tasks at the current stage of Ukraine's economic development.

The deterioration of the solvency of the population, the decline in the prestige of scientific and pedagogical and scientific activities contribute to the increase of threats to the economic security of the HEI. In this context, both before and after the state, an important task is to ensure economic security, taking into account the increase of globalization processes taking place at all levels (economic, political, socio-cultural, educational, etc.), the realization of European integration priorities of Ukraine and the transition to a knowledge economy.

Due to the lack of holistic scientific work on ensuring the economic security of the HEI, the constancy in the interpretation of the concept of "economic security HEI", taking into account the role and significance of higher education in ensuring the country's economic growth, in order to improve the situation in higher education, eliminate the gap between education

and science and production in the long run, harmonization of labor market needs, requirements of the economy and employers with the prospect of increasing the competitiveness level of the HEI and the state as a whole developed a methodical approach to the evaluation of economic security HEI as important elements of social and economic system.

In determining the initial data, for the purpose of assessing the economic security of the HEI, the peculiarities of using one of the strategic management tools - Balanced Scorecard - BSC [5-9] - are adapted to the needs of higher education institutions. Taking into account the above initial data (indicators) for assessing the economic security of the HEI were divided into four groups: finance (indicators characterizing the management of financial flows of the HEI); internal processes (indicators, increase of which will contribute to increasing the efficiency of the HEI); students (indicators by which one can characterize the ratio of students to the HEI as a whole); training and development (indicators that can be used to identify the main areas for improving the quality of the HEI's educational services).

During the formation of the initial data and calculations, data from the higher education institutions of the III-IV accreditation levels (before the adoption of the Law of Ukraine "On Higher Education" in 2014 [10] higher education institutions were divided according to the levels of accreditation at higher educational institutions of the I-IV levels) and those that according to the State Statistics of Ukraine since 2016 are divided into "Universities, academies, institutes". When calculating the economic security indicators of the HEI, the official information of the State Statistics Service of Ukraine, the Resolution of the Cabinet of Ministers of Ukraine, Orders of the Ministry of Economic Development and Trade of Ukraine was used for the groups of indicators. The information used is shown in the tables 13.1-13.4 [11-24].

For calculation used for the period 2010-2016 years. The above is based on the fact that for the year 2017 the general official information of the State Statistics Service of Ukraine has not been disclosed. Tables 13.1-13.4 show the initial data for the normalization of the indicators by the groups "Finance", "Internal processes", "Students", "Education and development".

Table 13.1 shows the initial data for the normalization of the indicators for the "Finance" group.

Table 13.1. Output data for indicators' normalization for the "Finance" group

Years	The share of expenditures on higher education in Ukraine's GDP*	The share of expenditures for higher education in general state budget expenditures*	The share of applicants to the HEI in the total number of HEIs	The share of graduates from HEI in the total number of HEIs	The share of HEI students in the total number of HEIs
2010	0	0	1155,6424	1602,6515	6262,6273
2011	0,3467	0,0958	942,6871	1579,8528	5825,5767
2012	0,2933	0,2750	1047,9873	1599,4304	5602,25
2013	0,3467	0,2875	1091,9741	1526,5922	5415,1683
2014	0,5867	0,5000	1052,8773	1463,5090	5191,1733
2015	0,8933	0,8625	902,4444	1298,7083	4774,8611
2016	1,0	1,0	882,2892	1110,3868	4771,5401

* calculation made in hryvnias

Table 13.2 shows the initial data for the normalization of the indicators for the group "Internal processes".

Table 13.2. Output data for normalization of indicators in the group "Internal processes"

Years	The share of higher education expenditure in the total consolidated budget expenditures for education in the total number of HEIs*	The share of higher education expenditure in the total consolidated budget expenditures for education in the total number of HEI students*	The share of public procurement (admission) in the total number of HEIs	The share of government procurement (issue) in the total number of HEIs
2010	75752727,2727	12095,9980	799,2091	774,8030
2011	81655214,7239	13617,6334	701,3681	771,7853
2012	92835126,5822	16075,2937	789,6551	801,8354
2013	97097411,0032	17930,6359	751,1877	770,0453
2014	102312274,368	19708,8921	835,5451	859,9928
2015	107575694,444	22529,5966	651,65625	1022,2188
2016	122763066,202	25728,1851	661,4425	605,2369

* calculation made in hryvnias

Table 13.3 shows the initial data for the normalization of the indicators for the group "Students".

Table 13.3. Output data for normalization of indicators for the group "Students"

Years	The share of applicants to HEI in the amount of the state order (admission)	The share of HEI graduates in the volume of the state order (issue)	The share of students who studied at the expense of the state budget in the total number of students	The share of students who studied at the expense of local budgets in the total number of students	The share of students who studied at the expense of state authorities and legal entities in the total number of students	The share of students who studied at the expense of individuals in the total number of students	The share of students in the total population of Ukraine
2010	1,446	2,0685	0,3864	0,0070	0,0040	0,6025	0,0450
2011	1,3441	2,0470	0,3977	0,0094	0,0045	0,5884	0,0415
2012	1,3271	1,9947	0,4206	0,0101	0,0036	0,5657	0,0388
2013	1,4537	1,9825	0,4398	0,0078	0,0047	0,5477	0,0367
2014	1,2601	1,7097	0,4612	0,0085	0,0071	0,5232	0,0317
2015	1,4658	1,2705	0,4721	0,0107	0,0069	0,5103	0,0320
2016	1,3339	1,8346	0,4768	0,009	0,0067	0,5075	0,0320

Table 13.4 shows the initial data for the normalization of indicators for the group "Education and Development".

Table 13.4. Output data for normalization of indicators in the group "Education and Development"

Years	The share of scientific and pedagogical workers in the total number of HEIs	The share of scientific and pedagogical workers in the total number of students	The share of scientific and pedagogical workers with a Ph.D. in the total number of HEI	The share of scientific and pedagogical staff with doctorate in the total number of HEIs	The share of postgraduate students and doctoral students in the total number of students
2010	432,397	0,069	202,0879	40,5061	0,0145
2011	426,4325	0,0711	205,6963	41,2147	0,0151
2012	433,8987	0,0751	214,1614	43,7532	0,0161
2013	437,6926	0,0808	225,1845	46,178	0,0166
2014	423,0939	0,0815	224,3971	45,7834	0,0173
2015	387,9375	0,0812	210,5139	43,1181	0,0190
2016	382,1354	0,0804	213,4704	45,547	0,0178

On the basis of the constituents of indicators' balanced system, the normalization of the indicators was carried out (due to the fact that the initial data for the calculation are heterogeneous, hence the estimated indicators are comparable and are immeasurable) in groups, which are subsequently used in determining the economic security of HEIs. In connection with the absence of reference or standard values of economic safety assessment indicators, HEI basis for comparison was the maximum (minimum) value based on their variation in scope of variation.

Normalization of the indicators was carried out on the basis of the variation in the scope of the variation in order to avoid the negative values of the integral index of HEIs' economic security, which may occur in the process of normalizing the standard deviation.

In the process of normalization, according to the scope of variation, the division of evaluation indicators into indicators-stimulators and indicators-distimulators was carried out (the relationship between the integral index of economic security of HEI as a whole and by groups and the indicator-stimulator is direct, between the integral index and the disintegration indicator - the reverse).

The indicators of stimuli include those whose increase leads to an increase in the level of economic security of HEI, to indicators of disintegration - indicators, the increase of which leads to a decrease in the level of economic security of HEI. The selection of HEI indicators and their division into stimulants and disintegrators is based on the fact that the state, in modern conditions, departs from the policy of supporting unpromising specialties in terms of reconciling the needs of the labor market, the requirements of the economy and employers in order to eliminate the breakdown of the relationship between education and science, and provides support for those that are promising in the conditions of market relations, globalization and implementation of European integration priorities of Ukraine.

The results of normalization according to the scale of variation by groups of indicators are given in tables 13.5-13.8.

The normalized indicators for assessing the economic security of the ZOO in the "Finance" group are given in the table 13.5.

Table 13.5. Normalized indicators for assessing the economic security of the HEI for the "Finance" group

Years	The share of expenditures on higher education in Ukraine's GDP (X 1)	The share of expenditures on higher education in general state budget expenditures (X 2)	The share of applicants to the HEI in the total number of HEIs (X 3)	The share of graduates from HEI in the total number of HEIs (X 4)	The share of HEI students in the total number of HEIs (X 5)
2010	0	0	1,0	1,0	1,0
2011	0,3467	0,0958	0,2210	0,9537	0,7069
2012	0,2933	0,2750	0,6062	0,9935	0,5571
2013	0,3467	0,2875	0,7671	0,8455	0,4317
2014	0,5867	0,5	0,6241	0,7173	0,2814
2015	0,8933	0,8625	0,0737	0,3826	0,0022
2016	1,0	1,0	0	0	0

Normalized indicators for assessing the economic security of HEI in the "Internal processes" group are given in Table 13.6.

Table 13.6. Normalized indicators for assessing the economic security of HEI in the group "Internal processes"

Years	The share of higher education expenditure in the total consolidated budget expenditures for education in the total number of HEIs (X 1)	The share of higher education expenditure in the total consolidated budget expenditures for education in the total number of HEI students (X 2)	The share of public procurement (admission) in the total number of HEIs (X 3)	The share of government procurement (issue) in the total number of HEIs (X 4)
2010	0	0	0,1976	0,5933
2011	0,1256	0,1116	0,7297	0,6006
2012	0,3634	0,2919	0,2496	0,5285
2013	0,4540	0,4280	0,4587	0,6048
2014	0,5650	0,5584	0,0000	0,3890
2015	0,6769	0,7654	1,0	0
2016	1,0	1,0	0,9468	1,0

Normalized indicators for assessing the economic security of HEI in the "Students" group are presented in Table 13.7.

Table 13.7. Normalized indicators for assessing the economic security of HEI in the "Students" group

Years	The share of applicants to HEI in the amount of the state order (admission) (X 1)	The share of HEI graduates in the amount of the state order (issue) (X 2)	The share of students who studied at the expense of the state budget in the total number of students (X 3)	The share of students who studied at the expense of local budgets in the total number of students (X 4)	The share of students who studied at the expense of state authorities and legal entities in the total number of students (X 5)	The share of students studying at the expense of individuals in the total number of students (X 6)	The share of students in the total population of Ukraine (X 7)
2010	0,0963	0,0000	1,0	1,0	0,1143	1,0	1,0
2011	0,5916	0,0269	0,8750	0,3514	0,2571	0,8516	0,7368
2012	0,6743	0,0925	0,6217	0,1622	0,0000	0,6126	0,5338
2013	0,0588	0,1078	0,4093	0,7838	0,3143	0,4232	0,3759
2014	1,0	0,4496	0,1726	0,5946	1,0	0,1653	0
2015	0,0000	1,0	0,0520	0	0,9429	0,0295	0,0226
2016	0,6412	0,2931	0	0,4595	0,8857	0	0,0226

The normalized indicators for assessing the HEIs' economic security in the "Education and Development" group are given in the table 13.8.

Table 13.8. Normalized indicators for assessing the economic security of the ZOO in the group "Training and Development"

Years	The share of scientific and pedagogical workers in the total number of HEIs (X 1)	The share of scientific and pedagogical workers in the total number of students (X 2)	The share of scientific and pedagogical workers with a Ph.D. degree in the total number of HEIs (X 3)	The share of scientific and pedagogical workers with a doctorate in the total number of HEIs (X 4)	The share of postgraduate students and doctoral students in the total number of students (X 5)
2010	0,9047	1,0	0	0	0
2011	0,7973	0,8320	0,1562	0,1249	0,2083
2012	0,9317	0,5120	0,5227	0,5725	0,5086
2013	1,0000	0,0560	1,0	1,0	0,6398
2014	0,7372	0	0,9659	0,9304	0,8680
2015	0,1044	0,0240	0,3648	0,4605	1,3701
2016	0	0,0880	0,4928	0,8887	1,0

Further, according to tables 13.5-13.8, the calculation of aggregate indicators (integral indicators) by groups for the further determination of the HEI economic safety with the use of factor analysis by the method of the main components. In order to facilitate complex calculations, statistical software product Statistica was used, with the help of which HEI economic security, in particular the evaluation of its integral index, was further developed in order to calculate the weight of each indicator within the group (due to the fact that the economic indicators of HEIs' safety are heterogeneous and affect integral indicators with varying strength). The advantage of this approach to the calculation of integral indices by the groups of indicators and the general index is determined by the following:

- the approach described in the Methodological Recommendations on the Estimation of Economic Security Level in Ukraine [25], which involves the determination of weighting factors as a result of expert evaluation, despite its obvious advantages (such as knowledge of experts on the problem under investigation, high level of their qualification, etc.) contains a number of shortcomings. One of the main drawbacks of the expert evaluation method is the rather high level of subjectivity in determining the weighting factors according to expert responses, which may lead to ambiguity in the interpretation of the results of their survey.;

- The method based on factor loadings involves performing weight estimation of factors, taking into account latent factors, which combine the indicators selected for evaluation by groups. If this method is used, one can estimate the contribution of each of the factors in the formation of latent factors and calculate their weight for each group.

The weight calculation of each indicator by groups is carried out in the following sequence:

1. Factor loads are determined (the results of which indicate the degree of influence of each of the factors on each feature, which is investigated on each line), from which the maximum values are selected (calculated using statistical product Statistica using factor analysis of the main components method).

2. The selected maximum values (load) are multiplied by the shares of the total dispersion for each indicator.

3. Determine the amount of products received on all factors.

4. The weight of each indicator is calculated by dividing the product of the maximum value and the share of the total dispersion for each indicator by the sum of the obtained products for all indicators belonging to one or another group.

Calculated in this way, the scales for the "Finance", "Internal Processes", "Students", "Education and Development" groups are shown in Tables 13.9-13.12, the data of which indicate which indicators are attributed to the factors and what percentage of the dispersion of the two factors Each group explains the percentages of the total dispersion.

The weight calculation of indicators for the "Finance" group is shown in the table 13.9.

Table 13.9. The determined weight of each indicator in the "Finance" group

Indicators	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Maximum value (load)	Product	Weight
The share of expenditures on higher education in Ukraine's GDP (X 1)	0,9962	-0,001	-0,0555	0,0362	-0,0566	0,9962	0,8950	0,2105
The share of expenditures on higher education in general state budget expenditures (X 2)	0,9805	-0,1737	0,019	-0,0895	-0,006	0,9805	0,8809	0,2072
The share of HEI applicants in the total number of HEIs (X 3)	-0,8517	-0,5235	0,0126	0,0122	-0,0135	0,8517	0,7652	0,1800
The share of HEI graduates in the total number of HEIs (X 4)	-0,9501	0,1115	-0,2886	-0,0362	-0,0186	0,9501	0,8536	0,2008
The share of HEI students in the total number of HEIs (X 5)	-0,9541	0,1767	0,2377	-0,029	-0,0346	0,9541	0,8572	0,2016
Total dispersion	4,4921	0,3479	0,1434	0,0116	0,005	-	-	-
The share of total dispersion	0,8984	0,0696	0,0287	0,0023	0,001	-	-	-
Sum	-	-	-	-	-	-	4,2518	1,0

The calculation of indicators weight for the group "Internal processes" is given in the table 13.10.

Table 13.10. The determined weight of each indicator in the "Internal processes" group

Indicators	Factor 1	Factor 2	Factor 3	Factor 4	Maximum value (load))	Product	Weight
The share of higher education expenditure in the total consolidated budget expenditures for education in the total number of HEIs (X 1)	0,9574	0,0332	-0,2842	-0,0385	0,9574	0,5707	0,3129
The share of higher education expenditure in the total consolidated budget expenditures for education in the total number of HEI students (X 2)	0,9693	-0,0557	-0,2361	0,0397	0,9693	0,5778	0,3168
The share of public procurement (admission) in the total number of HEIs (X 3)	0,7178	-0,1249	0,6849	-0,0027	0,7178	0,4279	0,2346
The share of government procurement (issue) in the total number of HEIs (X 4)	0,1130	0,9901	0,0826	0,0032	0,9901	0,2476	0,1357
Total dispersion	2,3842	1,0002	0,6125	0,0031	-	-	-
The share of total dispersion	0,5961	0,2501	0,1531	0,0008	-	-	-
Sum	-	-	-	-	-	1,8239	1,0

The calculation of indicators weight for the group "Students" is given in table 13.11.

In the future, the calculation of integral indexes of HEI economic security by groups of indicators was carried out using the approach to constructing the relationship between the integral and basic indicators, which is called the convolution. The most common are two forms of convolution: additive and multiplicative [26; 27]. According to the data used to assess economic security (Table 13.1-13.4), a significant decline in the indicators for 2010-2016 was observed. In such tendencies, when using multiplicative convolution, the obtained values not only do not characterize the results obtained at the proper level, but could also lead to a leveling of overall results.

Table 13.11. The determined weight of each indicator in the group "Students"

Indicators	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Factor 6	Maximum value (load)	Product	Weight
The share of applicants to HEI in the amount of the state order (admission) (X 1)	0,1876	0,9575	-0,1785	0,1175	-0,0459	-0,0143	0,9575	0,1525	0,0447
The share of HEI graduates in the amount of the state order (issue) (X 2)	0,8499	-0,4098	-0,1358	0,2782	-0,1168	-0,0148	0,8499	0,5727	0,1680
The share of students who studied at the expense of the state budget in the total number of students (X 3)	-0,9676	-0,0211	-0,1527	0,1968	0,0005	0,0341	0,9676	0,6520	0,1913
The share of students who studied at the expense of local budgets in the total number of students (X 4)	-0,5361	0,0974	0,8339	0,0597	-0,0639	-0,0047	0,8339	0,1024	0,0301
The share of students who studied at the expense of state authorities and legal entities in the total number of students (X 5)	0,9122	0,0660	0,2574	0,2841	0,1284	0,0087	0,9122	0,6147	0,1803
The share of students studying at the expense of individuals in the total number of students (X 6)	-0,9750	-0,0191	-0,1276	0,1779	-0,0067	0,0325	0,9750	0,6570	0,1927
The share of students in the total population of Ukraine (X 7)	-0,9762	-0,1246	-0,0912	0,1247	0,0507	-0,0712	0,9762	0,6578	0,1929
Total dispersion	4,7169	1,1150	0,8599	0,2615	0,0389	0,0078	-	-	-
The share of total dispersion	0,6738	0,1593	0,1228	0,0374	0,0056	0,0011	-	-	-
Sum	-	-	-	-	-	-	-	3,4092	1,0

The calculation of indicators weight for the "Education and Development" group is presented in the table 13.12.

Table 13.12. The determined weight of each indicator in the "Education and Development" group

Indicators	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	Maximum value (load)	Product	Weight
The share of scientific and pedagogical workers in the total number of HEIs (X 1)	0,4878	-0,8536	0,1790	-0,0349	0,0135	0,8536	0,2393	0,0885
The share of scientific and pedagogical workers in the total number of students (X 2)	0,9950	-0,0084	-0,0819	-0,0394	-0,0412	0,995	0,6866	0,2538
The share of scientific and pedagogical workers with a Ph.D. degree in the total number of HEIs (X 3)	-0,7941	-0,6044	0,0282	0,0467	-0,0336	0,7941	0,5480	0,2026
The share of scientific and pedagogical workers with a doctorate in the total number of HEIs (X 4)	-0,9070	-0,3532	-0,2226	-0,0548	0,0067	0,907	0,6259	0,2314
The share of postgraduate students and doctoral students in the total number of students (X 5)	-0,8771	0,4282	0,2113	-0,0497	-0,0158	0,8771	0,6053	0,2237
Total dispersion	3,4504	1,4021	0,1337	0,0104	0,0033	-	-	-
The share of total dispersion	0,6901	0,2804	0,0267	0,0021	0,0007	-	-	-
Sum	-	-	-	-	-	-	2,7052	1,0

When using additive convolution (as opposed to multiplicative) it is assumed that the indicators linearly affect the integral parameters within the group and the overall indicator; the values of integral indicators by groups of indicators and general indicator are in the range from 0 to 1. This corresponds to the basic idea of determining the level of HEI economic security.

Taking into account the above and despite the recommendations [26; 27], when determining the integral indicators both in the groups of indicators and in the general integral indicator, the advantage in choosing the shape of the convolution is given by the additive.

The integral indicator of economic security is determined hierarchically on the basis of the additive convolution (formula 13.2) by defining integral

indicators for each group in accordance with the approach [25] by the formula 13.1 and the formula 2.

$$I_m = \sum_{i=1}^n d_i \times y_i, \quad (13.1)$$

where I_m – aggregate indicator (integral indicator per group of indicators) / subindex of the m-group of HEI economic security indicators, where $m = (1, 2, 3, 4)$;

d_i – weight of the indicator, which determines the degree of contribution of the integral index to the integral index of the component (groups of indicators) of HEI economic security;

y_i – normalized value of the integral indicator;

n – the number of indicators used to estimate the integral indicator in the aggregate indicator (integral indicator in the group of indicators) / subindex of the m-group of indicators of HEI economic security;

$$\sum d_i = 1;$$

$$0 \leq d_i;$$

$$y_i \leq 1.$$

The integral indicator of HEI economic security in general is calculated by the formula 2.

$$II_{HEIES} = \sum_m d_m \times I_m, \quad (13.2)$$

where II_{HEIES} – integral indicator of HEI economic security;

d_m – weighting factor determining the degree of contribution of the index / subindex of the m-group of economic security to the integral index of HEI economic security;

I_m – aggregate indicator / subindex m-group of economic security, where $m = (1, 2, 3, 4)$;

$$\sum d_m = 1;$$

$$0 \leq d_m;$$

$$y_m \leq 1.$$

On the basis of formulas 1 and 2, according to tables 13.5-13.12, the calculation of aggregate indicators (integral indicators by groups) was calculated. The calculation results are given in Table 13.13.

Table 13.13. Aggregated indicators (integral indicators) for each group

Years	Aggregated indicator (integral indicator) for the "Finance" group	Aggregated Indicator (Integral Indicator) for the "Internal Processes" group	Aggregated metric (integral indicator) for the "Students" group	Aggregated indicator (integral indicator) for the "Education and Development" group
2010	0,5823	0,1269	0,6319	0,3339
2011	0,4666	0,3274	0,5615	0,3889
2012	0,5396	0,3365	0,3905	0,5645
2013	0,5273	0,4673	0,3333	0,6798
2014	0,5401	0,4065	0,3833	0,6704
2015	0,4573	0,6888	0,3580	0,5023
2016	0,4177	0,9875	0,2558	0,5515

Subsequently, a factor analysis was carried out using the method of the main components, the eigenvalues that are defined in the process of its implementation are given in the table 13.14.

Table 13.14. Own values for the variance of factors that are being investigated

Value	Own values	Percentage of total dispersion	Cumulative eigenvalues	Cumulative Percentage
Main component 1	2,7490	68,7261	2,7490	68,7261
Main component 2	1,1379	28,4480	3,8870	97,1741
Main component 3	0,0968	2,4204	3,9838	99,5945
Main component 4	0,0162	0,4055	4,0000	100,0000

The data in Table 13.14 indicate an uneven distribution of the percent of total dispersion, thus, the three main components account for 99.59% of the total dispersion, in particular, the largest share falls to the first - 68.73%.

In order to find out what factors influence such an effect on the explanation of the variance, a factor load study is conducted (Table 13.15). It shows a load of more than 700000, factor loadings are selected without the rotation procedure.

The data in Table 13.15 indicates the influence of each of the factors on the incoming 4 model signs, so that the first two factors are significant and can fully explain the dependence and overall variance. In other cases, the dependence is not significant, and there are also small correlations

Table 13.15. Factor load (no rotation)

Variables	Factor 1	Factor 2	Factor 3	Factor 4
Aggregated indicator (integral indicator) for the "Finance" group (X 1)	-0,7472	0,6325	0,2034	-0,0171
Aggregated indicator (integral indicator) for the "Internal Processes" group (X 2)	0,9413	-0,2873	0,1607	-0,0741
Aggregated metric (integral indicator) for the group "Students" (X 3)	-0,9520	-0,2761	-0,0956	-0,0908
Aggregated indicator (integral indicator) for the group "Education and development" (X 4)	0,6310	0,7610	-0,1431	-0,0467
Total dispersion	2,7490	1,1379	0,0968	0,0162
The share of total dispersion	0,6873	0,2845	0,0242	0,0041

Factor 1 intensively affects the sign X 2, inversely - on the signs X 1 and X 4. That is, he explains three variables. Factor 2 directly affects the sign X 4 and explains one variable. Factor loads exceed the value of 0.7.

As a result of factor analysis, in particular, in the process of calculating factor loads, there is a complex factor structure that complicates the identification of non-correlated variables (main components) and the interpretation of the data in the context of determining the level of HEI economic security.

The search for a factor structure in which the factor load is approaching 1 or 0 was carried out in the light of the research [26; 27] with the help of the rotation of the quartile, resulting in the rotation of the factor axes to increase the values of factor loads while taking into account the quality of the structure of all components.

However, given the most common approaches to implementing this procedure (Varimax raw (of initial data) and Varimax normalized; Quartimax raw (of initial data) and Quatimax normalized), the procedure Quatimax normalized was chosen.

As a result of using this procedure, factor loads are determined (the aggregated indices obtained are generalizations, not the main components: factor 1 intensively affects the sign X 1, inverse - on X 2, and factor 2 produces a direct influence - on X 4, the inverse - on X 2, respectively, factor load exceeds the value of 0.7) and the calculation of the weight of each indicator. The results of calculations are given in Table 13.16.

Table 13.16. The determined weight of each indicator (after the rotation procedure)

Variables	Factor 1	Factor 2	Factor 3	Factor 4	Maximum value (load)	Product	Weight
Aggregated indicator (integral indicator) for the "Finance" group (X 1)	0,9783	0,0536	-0,1994	-0,0180	0,9783	0,5340	0,2983
Aggregated indicator (integral indicator) for the "Internal Processes" group (X 2)	-0,9279	0,3140	-0,2006	0,0135	0,9279	0,5064	0,2830
Aggregated metric (integral indicator) for the group "Students" (X 3)	0,6012	-0,7777	0,1261	0,1338	0,7777	0,3281	0,1833
Aggregated indicator (integral indicator) for the group "Education and development" (X 4)	-0,0596	0,9944	0,0623	0,0619	0,9944	0,4213	0,2354
Total dispersion	2,1830	1,6949	0,0998	0,0222	-	-	-
The share of total dispersion	0,5458	0,4237	0,0249	0,0056	-	-	-
Sum	-	-	-	-	-	1,7899	1,0

Based on the formulas 1 and 2, according to Table 13.16, the calculation of aggregated integral indicator indicators by groups and the integral indicator of HEI economic security by years have been calculated (Table 13.17).

The range of characteristic values of levels of HEI economic security is based on certain recommendations [25], according to which the level of 0 to 0.2 is absolutely dangerous; critical - from 0.2 to 0.4; dangerous - from 0,4 to 0,6; unsatisfactory - from 0.6 to 0.8; optimal - from 0.8 to 1, respectively.

Table 13.17. The generalized integral indicators for groups and integral indicator

Years	Aggregated indicator (integral indicator) for the "Finance" group (X 1)	Aggregated indicator (integral indicator) for the "Internal Processes" group (X 2)	Aggregated metric (integral indicator) for the group "Students" (X 3)	Aggregated indicator (integral indicator) for the group "Education and development" (X 4)	Integral indicator of HEI economic security (Y = X 5)
2010	0,1736	0,0359	0,1162	0,0785	0,4042
2011	0,1391	0,0926	0,1033	0,0915	0,4264
2012	0,1609	0,0951	0,0718	0,1328	0,4606
2013	0,1572	0,1321	0,0613	0,1599	0,5105
2014	0,1610	0,1149	0,0705	0,1577	0,5041
2015	0,1363	0,1947	0,0659	0,1181	0,5151
2016	0,1245	0,2792	0,0471	0,1297	0,5805

According to Table 13.17, the conclusion can be drawn on the state of HEI economic security during 2010-2016. Thus, at the lowest level during these years, and in accordance with the calculated data and determined levels, the HEI economic security was in 2010. During 2011-2016, despite a certain increase and decrease, the level of HEI economic security remained at a dangerous level. On the basis of the generalized results of the calculation of integral indicators of indicators by groups and the integral indicator, a matrix of correlations was constructed (Table 13.18).

Table 13.18. The matrix of correlations between variables investigated

Variables	Aggregated indicator (integral indicator) for the "Finance" group (X 1)	Aggregated indicator (integral indicator) for the "Internal Processes" group (X 2)	Aggregated metric (integral indicator) for the group "Students" (X 3)	Aggregated indicator (integral indicator) for the group "Education and development" (X 4)	Integral indicator of HEI economic security (Y = X 5)
Aggregated indicator (integral indicator) for the "Finance" group (X 1)	1,00	-0,85	0,52	-0,02	-0,64
Aggregated indicator (integral indicator) for the "Internal Processes" group (X 2)	-0,85	1,00	-0,82	0,36	0,93
Aggregated metric (integral indicator) for the group "Students" (X 3)	0,52	-0,82	1,00	-0,79	-0,95
Aggregated indicator (integral indicator) for the group "Education and development" (X 4)	-0,02	0,36	-0,79	1,00	0,66
Integral indicator of HEI economic security (Y = 5)	-0,64	0,93	-0,95	0,66	1,00

According to Table 13.18, which shows the results of estimates of the coefficients of the prana correlation between the signs, we can conclude that the linear coupling of the result of the characteristic (Y = X 5) with each regressor (X 1 -X 4) and the force of the linear coupling bunch of each pair of regressors.

So, the strongest directly on the resultant feature is influenced by the factor X 2, the magnitude correlation corresponds to the value of 0,93 and the reverse X 3, the correlation value is -0,95. The regressors also have a significant interaction with each other. So, a rather strong inverse relationship is observed between:

- characteristic X 1 and characteristic X 2 (-0,85);
- characteristic X 2 and X 3 (-0,82);
- characteristic X 3 and X 4 (-0,79).

Characteristics X 1 and X 2; X 2 and X 3; X 3 and X 4 are collinear.

Subsequently, a regression analysis based on multiple regression is presented, the results of which are given in the table 13.19.

Table 13.19. Multiple regression results

	BETA	Standard Error of BETA	B	Standard Error of B	t (2) Student index	p-level
Intercept	-	-	-0,0001	0,0014	-0,0788	0,9444
Aggregated indicator (integral indicator) for the "Finance" group (X 1)	0,2901	0,0012	1,0036	0,0040	248,6295	0,0000
Aggregated indicator (integral indicator) for the "Internal Processes" group (X 2)	1,3267	0,0023	1,0004	0,0018	567,0851	0,0000
Aggregated metric (integral indicator) for the group "Students" (X 3)	0,4047	0,0027	0,9967	0,0067	148,2873	0,0000
Aggregated indicator (integral indicator) for the group "Education and development" (X 4)	0,5126	0,0016	0,9981	0,0031	322,9857	0,0000

On the basis of the calculated integral indicator, the construction of the economic-mathematical model of the economic security of the ZOE was carried out, taking into account the results of the factor analysis by the method of the main components (input indicators - integral indicator indicators of the groups and the integral indicator - table 13.17), using regression analysis on the basis of multiple regression to construct a regression equation using the formula 13.2.

The general model of ensuring of HEI economic security taking into account all factor characteristics has the following form (formula 13.3).

$$II_{HEIES} = b_0 + b_1 \times X_{1(i)} + b_2 \times X_{2(i)} + b_3 \times X_{3(i)} + b_4 \times X_{4(i)} + C_i, \quad (13.3)$$

where II_{HEIES} – integral indicator of HEI economic security;

b_0, b_1, b_2, b_3, b_4 – coefficients of the model;

$X_{1(i)}, X_{2(i)}, X_{3(i)}, X_{4(i)}$ – model factors – aggregate indicator (integral indicator) for the "Finance" group (X 1); aggregate indicator (integral indicator) for the "Internal processes" group (X 2); aggregate indicator (integral indicator) for the "Students" group (X 3); aggregate indicator (integral indicator) for the "Education and development" group (X 4);

C_i – independent, normally distributed random variables with zero mathematical expectation and dispersion ε^2 (observational errors).

According to Table 13.19, the general regression equation characterizing the constructed model of HEI economic security provision will have the following form (formula 4).

$$II_{HEIES} = -0,0001 + 1,0036 \times X_1 + 1,0004 \times X_2 + 0,9967 \times X_3 + 0,9981 \times X_4 \quad (13.4)$$

In general, the change in the integral index of HEI economic security under the influence of each of the factors per unit (provided that the values of other factors are unchanged) is: 1.0036 for change of the aggregate indicator (integral indicator) in the "Finance" group (X 1); 1,0004 – for aggregate indicator (integral indicator) in "Internal processes" group (X 2); 0,9967 – for aggregate indicator (integral indicator) in "Education and development" group (X 4); 0,9981 – for aggregate indicator (integral indicator) in "Education and development" group (X 4).

In the presence of these factors of the model, the following characteristics were obtained (Table 13.20).

On the basis of the data in Table 13.19, a verification of the model was carried out, according to the results of which it can be concluded that there is a close direct linear relationship between the generalizing factors and the integral index of HEI economic security, the obtained values of the indicators of the final statistics (Table 13.20) testify to the adequacy of the model, in particular, the determination coefficient (R^2) equals 0,99999954, Fisher's criterion (F) greater than the critical value (4.2) and is 1087969,92.

Table 13.20. Characteristics of the model

Statistics	Value, $Y = X^5$
	Value
Multiple, R	0,99999977
Multiple, R^2	0,99999954
Adjusted, R^2	0,99999862
Fisher's Criterion, F (4,2)	1087969,92
p-level	0,000000919
Standard Error of Estimate	0,000070

Taking into account the aforementioned, it can be stated that due to the lack of holistic scientific developments regarding the provision of HEI economic security, sustainability in the interpretation of the concept of " HEI economic security ", taking into account the need for interaction between the state, HEI and employers in the labor market, unlike the ones developed for the first time the methodological approach to the assessment of HEI economic security is not a separate higher education as a business entity, but as an important element of the socio-economic system hierarchically (taking into account the principles of development balanced with indicators of indicators), which formed the basis of the choice of evaluation indicators).

The use of the developed methodological approach to assessing the economic security of higher education institutions (as leaders of innovation and knowledge centers) makes it possible to carry out an assessment of the impact of indicators on the state of HEI economic security; serve as a basis for decision-making at the state level on determining the main directions of development of the sphere of higher education in Ukraine; will promote increase of efficiency of use of instruments of state regulation in this sphere, HEI economic security, state and national security in general.

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WHAT IS EUROPE BUSINESS ASSEMBLY (EBA)?

Europe Business Assembly (EBA) is an **international non-governmental organization**, a voluntary association of political, scientific and business leaders from all over the world, a tool for multicultural dialogue.

The mission of EBA: business globalization of community members, **promotion** of their achievements and innovative methods in the fields of economy, science, education and medicine, social progress **facilitation**.

The main priority is the MICE industry development (business tourism) in the elite market segment.

EBA has a **special consultative status in the Economic and Social Council of the UN** (UNECOSOC was created in 1945 as one of six principal bodies of the UN).

Juridical basis – **EBA Ltd.** (reg. No. 3964500 in England)

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Director General of EBA – Prof. John A. Netting (UK)

Board of Directors: Christina Briggs (UK) - communications; Dr. Rui Verde (UK) – science and education; Heinz Wehrle (Switzerland) – investment policy; Dr. Vincenzo Costigliola (Belgium) – medicine and healthcare; Anton Savvov (Ukraine) – marketing policy; Ivan Savvov (UK) – administrative director.

Main activity areas:

- Organization of global summits and conferences aiming at improvement of regional leaders' networking opportunities.
- Promotion of regional leaders' achievements in periodicals, in web-resources, world media.
- Leadership training programs' development and implementation.

What are EBA summits and why should you take part in them?

The summits, organized by EBA in collaboration with regional partners, are a permanent interactive platform for international economic, academic and intercultural cooperation.

Since 2000, over 10000 delegates from 56 countries have visited EBA forums, hundreds of innovative projects have been presented, specialized working

meetings for experience sharing and negotiations have been conducted, as well as networking events for rectors of higher educational institutions. This is a VIP platform for the presentation of your ideas and innovations to the business and scientific communities, an opportunity to open up oneself to the world, to find investors and partners, a path to global recognition of professional achievements.

The main summit of the year – the annual Assembly of EBA – is traditionally held in Oxford in the last days of December and sums up the closing year. Other summits, conferences and visiting sessions are held in different countries of the world, at the most prestigious business and exhibition venues in collaboration with business partners. Each participant of EBA projects and programs may initiate the EBA event organizing in his country. This is how we implement one of the main activity principles: **we represent the best of the best and the best represent their countries.**

Who can participate to EBA projects and programs?

Any person, who has succeeded in any professional activity, one who believes that he has something to say to contemporaries and descendants, regardless of the ethnic, racial, religious or social affiliation, can become an EBA projects and programs participant.

What is a Socrates ceremony?

The Socrates ceremony is the key moment of summit programs; it is a formal procedure honoring leaders in science, industry, business and medicine, who possess professional and intellectual achievements in the modern world. EBA Prof. J. A. Netting, EBA Director General, holds the ceremony together with the Board members and, in case of visiting ceremonies, public figures and media persons in the host country.

Leaders, whose nominations are approved by the Board of Directors, receive EBA awards in various categories corresponding to their area of activity.

What is the procedure* for awards competitive selection?

Nomination procedure for participation in EBA projects

Stage 1 – Qualifying

Market research and initial identification of potential nominees is carried out by experts and research centre. Amongst staff are marketing research specialists and journalists. Altogether there are 35 members of staff.

Research sources: statistical data, ranking agencies information, recommendation letters from business partners, press articles and other databases.

Research objective: to identify business activities and leadership potential of regional companies, which demonstrate positive dynamics, positive reputation, and participation in charitable and socially responsible projects.

Research criteria: nominees' activities in national and/or international markets, economic efficiency, social responsibility and other criteria.

Research results: segmented rankings of leadership potential of regional and/or international companies in the following fields:

Regions and city development - Education and science - Medicine

After preliminary research, a list of nominees is drawn according to criteria related to a particular award, then invitations are sent for additional confirmation documents.

The list of documents needed for submission to the research centre:

- Registration form with description of organization's main activities
- Company profile and/or annual report, advantages of its products or services and priority sector
- CEO's CV
- Copies of national or international diplomas, rankings, certificates and awards
- References from business partners, clients or government bodies
- Press articles

At the first stage of the selection procedure, as a rule, approximately 80% of companies do not pass necessary EBA criteria for either not meeting requirements or failing to provide documents.

Stage 2 - Public evaluation

The profile of company is produced after review of submitted documents. This gives an opportunity for a wide range of experts to get acquainted with these profiles. The experts are members of the EBA academic (app. 150 academics, university chancellors and scientists) and EBA-Global business community (app. 400 politicians, scientists and businessmen). Public experts have the right to consultative vote. For an effective public evaluation, information about nominees is placed on various EBA resources and allows each expert the

right of ‘veto’ in cases of disagreement with recommendations proposed by the expert and marketing centre.

Stage 3 – Public scrutiny

Each nominee has the right, and at the request of experts – obligation, to demonstrate publicly their leadership qualities and professional achievements. At this procedural stage, we recommend that the nominees go through the process of public protection, which provides:

- Publication of information on the nominee’s professional achievements in one of the EBA catalogues, e-magazine The Leaders Times, Socrates Almanac;
- Participation in expert sessions and direct consultations, which are held within each summit;
- Improvement of their leadership skills during special expert sessions based on the business expert of the EBA Centre in Oxford;
- Presentation of their projects during EBA summits.

Members of the EBA Speakers’ Bureau: Christina Briggs (leadership programs), Heinz Wehrle (city infrastructure), Robert Bullard (communications), Rui Verde (education), Vincenzo Costigliola (medicine), and other specialists in various fields may contribute to the expert work.

Stage 4 – Decision making

The Expert Groups (in accordance with their competences) have online consultations moderated by EBA Experts, and EBA’s Director General John Netting signs off on the decision. The decision is published in the official EBA catalogues.

What are EBA awards? Are they legitimate?

EBA Awards are club awards. They are presented to EBA members as leadership potential evidence. By presenting business activities’ attributes to the best companies and leaders in science, industry and business, we are doing a lot for their business promotion in the global economic space. Patent certification of EBA awards is confirmed by relevant licenses of UK Intellectual Property Office. Each award has a registration number. Legal rights belong to EBA.

EBA grants licenses for the right to use the award attributes in commercial purposes for five years validation period. A small fee for these licenses is also charged.

The attributes of EBA awards are handmade, manufactured from precious metals, covered with gold and encrusted with Swarovski stones. A London jeweler, Alfred Winiecki, is the manufacturer of these awards. Of course, these attributes are of economic and aesthetic value. They increase in price even more due to their value and exclusivity.

What should I do in order to become a laureate of an EBA award and a participant of the Socrates ceremony?

Fill in the registration form, which allows us to build a full profile of a candidate, give recommendations from business partners or authorities (desirable but not obligatory) and pay the registration fee. In addition, the right to nominate award candidates is granted to regional municipalities, chambers of commerce and industry, creative unions, public organizations, and our laureates- members of the 'EBA Global' loyalty programme.

What is inclusive to the registration fee and why is the price so high?

The price is not always high. According to the nomination the price starts from 250 GBP. Accreditation fee includes expenses on award attributes' manufacturing, award ceremony organization, as well as a range of promotional services to bring a laureate company to the preferable markets. Every month we host closed high class club events within the framework of the EBA Global Loyalty Programme, develop individual PR-strategies, publish catalogues, brochures, and provide marketing services. Nominees and EBA award laureates can participate in advanced leadership training programmes that are provided in Oxford at the EBA Expert Business Centre.

EBA ceremonies are actually hosted at the most prestigious venues in Europe and globally and are well-organized. Catering, conference services, photo shooting, cultural agendas are included and are very professional. Therefore, by paying the accreditation fee laureates contribute not only to their personal public image, but to the united success of summits, facilitating the participation of the best and the most in-demand speakers, experts, celebrities, writers, designers, and media representatives.

We need to pay salaries to our employees and partners, pay taxes, maintain offices, and cover running costs and unforeseen expenses.

The remaining money goes to the EBA development, its projects and programmes, as well as for charity. Charity projects, implemented by EBA over

the last years, include financial support of creative "Art Studio" of painter Polonskiy, International competition for writers "Ukrainian language is the language of unity", support of the disabled people's society, a special school for disabled children in Malta, targeted aid for treatment, sponsorship of sports and social projects.

If you have proposals for cooperation in the field of charity, please contact us. The humanitarian component of our activity is very important to us.

What is EBA team?

EBA is a multinational event holding body. Marketing centers of EBA are equipped with modern technology and communications; they are connected to high-speed Internet. 50 operators contact different companies all over the world in the online every day.

EBA Speaker's Bureau contains information about hundreds of experts that provide exclusive consulting support to members of public institutions of EBA, actively contribute to visiting investment sessions, and organize economic missions of EBA in developing countries.

We publish our own journal, the "Socrates Almanac" (registration number ISSN 2053-4736), on-line newspaper "Leaders Times", investment catalogues, informational and biographical publications, monographs, and other types of literature.

Does EBA cooperate with the University of Oxford?

We have no relevance to the University of Oxford and other educational establishments. We are not an educational institution and do not issue education certificates. Our business does not need any special licenses. Authorial training programs that are conducted in EBA training centers are the intellectual property of our speakers and are designed for improvement of leadership qualities of our members.

We expect this activity to become a priority in the future, since all existing knowledge systems today are improved and changed, and our clients are in critical need of new educational trends. If you are willing to work with us as a leading speaker or a consumer of our educational programs, we are pleased to invite you to dialogue.

* The procedure can be amended and improved. We are open for any suggestions.

Scientific publication

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