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The second issue contains articles by scientists from different countries, prepared on the basis of their scientific work. It is designed for university teachers, graduate students, undergraduates, practitioners in economics, finance, accounting and auditing, as well as other branches of economics.

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# CONTENTS

<b>CHAPTER 1</b>	
<b>CURRENT TRENDS IN ECONOMIC DEVELOPMENT</b>	<b>4</b>
<b>Organizational and economic tools to increase the contribution of small business to the sustainable development of the region</b>	
<i>Elena Berezina, Andrey Radchenko, Anastasia Pavlova</i>	4
<b>Sectoral structure of the regional economic complex: investment component</b>	
<i>Tatiana Chechetova-Terashvili, Natalia Chechetova, Joanna Stuglyk</i>	10
<b>Structure of production and economic potential of the region</b>	
<i>Svetlana Boguslavskay</i>	16
<b>Factors of formation of intellectual potential of regional economic clusters</b>	
<i>Svetlana Belous, Grigory Melnichenko</i>	23
<b>Key indicators of efficiency of innovative activity in regional companies of tourism industry</b>	
<i>Oksana Podvalnaya</i>	29
<b>Operations of the Ukrainian energy market in terms of accessing foreign markets – ways of improvement</b>	
<i>Dmytro Tkach</i>	35
<b>Economic security and principles of self-organization: China's experience</b>	
<i>Tatiana Yegorova-Gudkova, Panj Li</i>	43
<b>CHAPTER 2</b>	
<b>DEVELOPMENT OF FINANCE, ACCOUNTING AND AUDITING</b>	<b>54</b>
<b>Priorities for improving the higher education funding system in Ukraine</b>	
<i>Iryna Tarasenko, Antonina Verhun, Julia Bondarchuk, Oleksiy Tarasenko</i>	54
<b>Use of world experience in increasing investment attractiveness of Ukraine regions</b>	
<i>Klaus Lagler</i>	63
<b>CHAPTER 3</b>	
<b>MODERN MANAGEMENT TECHNOLOGIES</b>	<b>71</b>
<b>Role, place and conceptual principles of human resources management of the enterprise</b>	
<i>Volodymyr Panchenko</i>	71
<b>Legal basis of ensuring cyber security of Ukraine: problems and ways of eliminating</b>	
<i>Zinaida Zhyvko, Taras Rudyi, Volodymyr Senyk, Liliia Kucharska</i>	82
<b>Impact of the state regulation over investment processes in the construction sector: foreign experience and possibility to the Ukraine</b>	
<i>Vasyl Dmitrenko, Yury Prav</i>	91

# CHAPTER 1

## CURRENT TRENDS IN ECONOMIC DEVELOPMENT

### ORGANIZATIONAL AND ECONOMIC TOOLS TO INCREASE THE CONTRIBUTION OF SMALL BUSINESS TO THE SUSTAINABLE DEVELOPMENT OF THE REGION

**Elena Berezina<sup>1</sup>, Andrey Radchenko<sup>2</sup>, Anastasia Pavlova<sup>3</sup>**

<sup>1</sup>Ph.D. (Economics), Professor, Professor of Finance Department, Cherkasy State Technological University, Cherkasy, Ukraine, e-mail: o.berezina@chdtu.edu.ua, ORCID: <https://orcid.org/0000-0003-2233-4194>

<sup>2</sup>Chairman of the Board of PJSC "Agrarian Fund", Kyiv, Ukraine, e-mail: finance@chdtu.edu.ua, ORCID: <https://orcid.org/0000-0002-1010-9937>

<sup>3</sup>graduate student of Finance Department, Cherkasy State Technological University, Cherkasy, Ukraine, e-mail: finance@chdtu.edu.ua, ORCID: <https://orcid.org/0000-0003-1094-7671>

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**Abstract.** In modern conditions, entrepreneurial activity is increasingly becoming the basis of prosperity and economic stability of industrialized countries. The contribution of small business in solving problems of sustainability and further development of the economy of Ukraine, job creation, meeting the needs of national and regional economies and the population in goods and services, is becoming increasingly important in modern conditions.

The article substantiates the organizational and economic tools to increase the contribution of small business to sustainable development of the region, taking into account the informal component of reducing excessive administrative pressure, which provides an opportunity to determine the optimal level of administrative requirements for economic entities.

The key determinants of effective socio-economic development of individual regions that need priority attention are identified: infrastructure, investment, innovation, institutions and initiative. The conceptual model of social and economic development of the region and the algorithm of formation of priorities of sustainable development of the region taking into account the specified factors are offered. The directions of increasing the socio-economic contribution of small business to the sustainable development of the region at the present stage are identified.

**Keywords:** small business, region, socio-economic development, entrepreneurship, sustainable development, state support.

**JEL classification:** M20

**Formulas:** 0; **fig.:** 2; **tabl.:** 1; **bibl.:** 7

**Introduction.** The modern system of economic relations no longer contributes to the natural (liberal-market) development of small business in the regions. Under these conditions, the role of the state in creating conditions conducive to the growth of the small business segment in the structure of the economy increases significantly. Of course, only a balanced state policy in the field of entrepreneurship can give a serious impetus to the development of small business, bring it to a fundamentally new level of functioning, which provides a multiple increase in socio-economic contribution of small business to sustainable development of regions.

**Literature review.** Theoretical and methodological foundations of entrepreneurship as an economic phenomenon are revealed in the fundamental works of M. Weber, R. Cantillon, J. M. Keynes, A. Marshall, J. S. Mill, D. Ricardo, A. Smith, J. Schumpeter and others.

The problems of small business development, and, in particular, some aspects of organizational and economic support and methodology for creating an infrastructure to support small business in the regions, are devoted to the research of Belous S.P. [1], Burkinsky B.V. [2], Butenka A.I. [3; 4], Butyrska I.V. [5], Varnalia Z.S. [6], Grishina N.V. [7], Lazareva E.V. [3; 4], Schaffman N.L. [3; 4] and others. However, paying tribute to the achieved results, there are a number of urgent tasks to increase the presence of small business in the region and increase its contribution to the sustainable development of the economy of the regions of Ukraine.

**Aims.** The purpose of the article is to theoretically substantiate the effective organizational and economic tools to increase the contribution of small business to sustainable development of the region and to develop practical recommendations for its implementation.

**Methods.** The author used the methods of static and logical comparison, systematization and generalization, which made it possible to achieve the goal of the study.

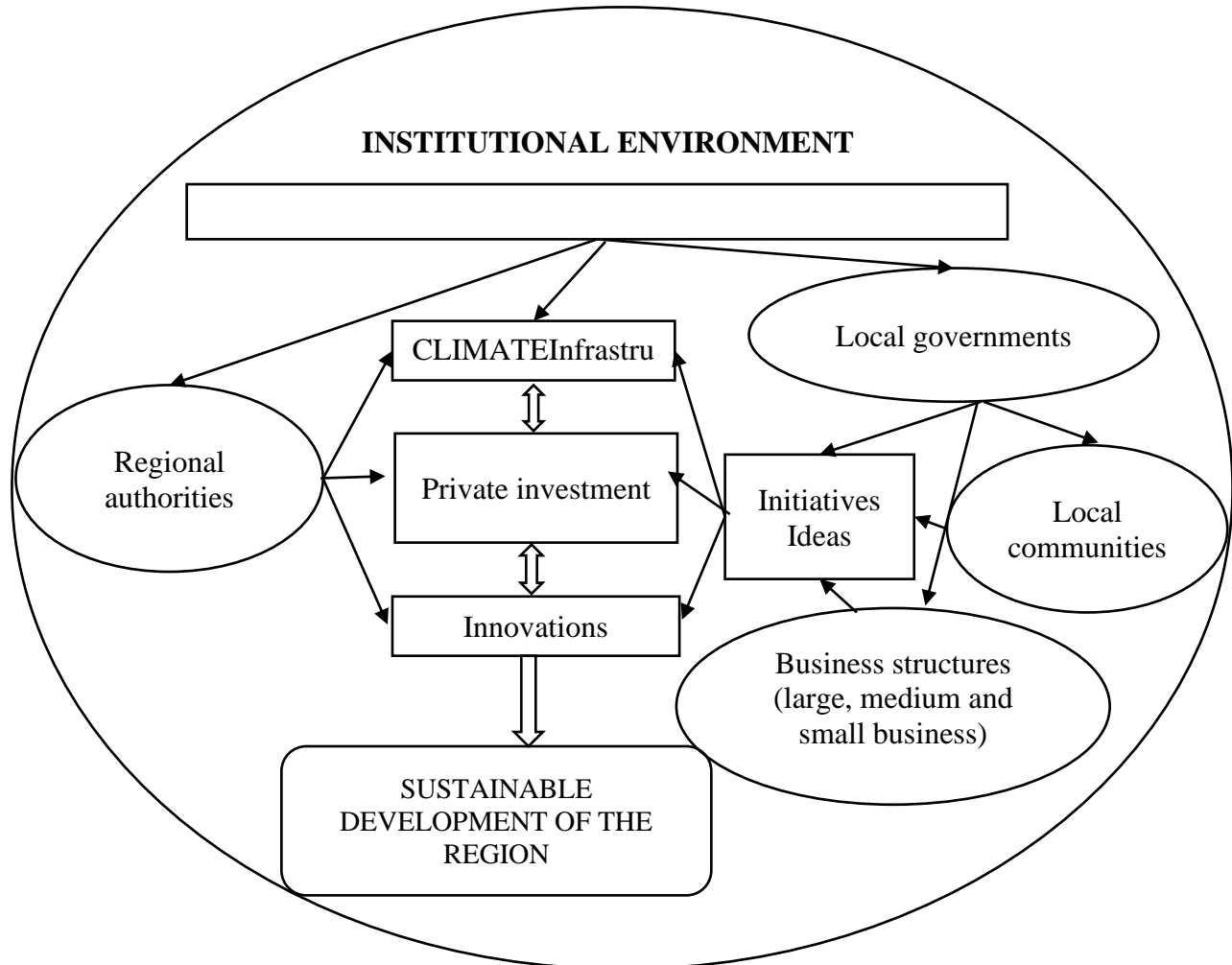
**Results.** Approaches used in the management of socio-economic development of small business in the regions at the present stage are characterized by the lack of an algorithm for identifying priority areas of targeted influence, allowing to start a chain reaction of territorial development and build a logical chain of transformations of management impulses. Currently, the economic policy of the regions for the development of their territories is characterized by the divergence of efforts on a number of different tasks and priorities. This is a consequence of the fact that in the formation of regional territorial development policy it is not always clear which areas of the economy to influence in the first place to give the territory a boost. However, most often, even if it is possible to ensure a certain dynamics of development of the territory, it must be maintained in the so-called "manual", ie coercive, non-market regime, which certainly affects the quality of socio-economic development, especially reasons.

In our opinion, the key determinants of sustainable development of individual regions that need priority are infrastructure, investment, innovation, institutions and initiative, ie the ability of various actors of local (regional) communities, regional authorities, local governments, business structures, generate, propose and implement vital ideas aimed at effectively solving the problems of socio-economic development of the territory. In the development and formation of the concept of economic policy, this factor should be given special attention, because currently it is the lack of initiative on the ground does not allow to fully disclose and realize the economic potential of the territory.

It is the development of these five areas at the present stage that should be the focus of attention of both regional government bodies and local governments. Operating in these directions, it is possible to determine the direction of priority influence, which will be able to start the chain reaction mechanism that provides controlled bifurcation for sustainable development of the territory.

Thus, in our opinion, the following logical chain is appropriate: new initiatives and non-standard ideas help to find methods, ways and means of ensuring quality

infrastructure development, which, in turn, attracts investment and stimulates innovative economic activity, strengthens the competitiveness of the territory. in turn, provides an influx of new investments, which are transformed into new ideas, innovations, new infrastructure, and the efficiency of these processes is supported by an adequate institutional framework (Fig. 1).



**Fig. 1. Conceptual model of sustainable socio-economic development of the region**

*Source: developed by authours*

This approach allows to transfer the management of the development of the territory from manual (forced) mode to the mode of natural sustainable self-development on the basis of market mechanisms. In the long run, only such a model will be able to ensure an appropriate level of sustainable development of various areas of economic activity on the ground.

Based on the basic assumption that small businesses form the basis of the economy of most administrative-territorial units, it is advisable to use the proposed approach to small business development.

Thus, the general logic of building work to promote small business development should be based primarily on the study and analysis of five key factors of its successful development in the regions: infrastructure, investment, innovation, initiatives and institutions (Table 1).

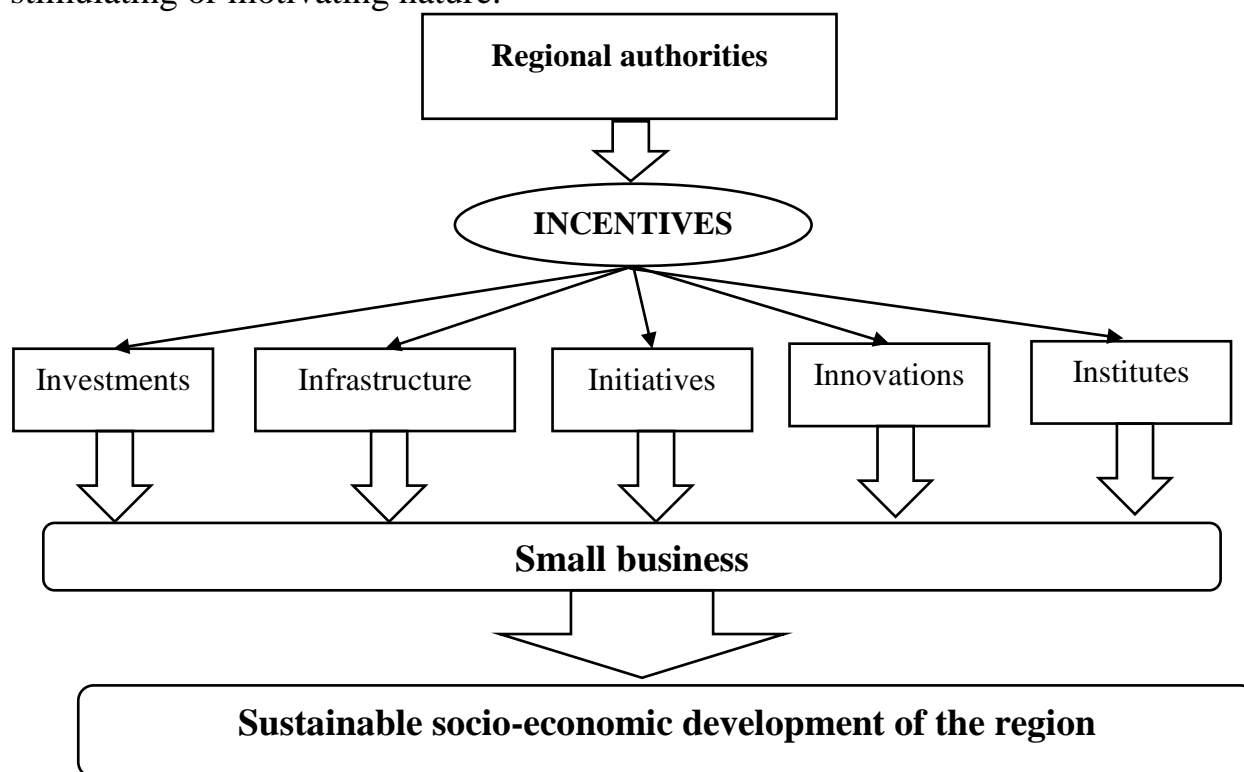
**Table 1. The main factors of successful small business development in the region**

Factor	Value
Infrastructure	The development of small business is impossible without the formation of quality infrastructure
Investments	Availability and availability of investments (budget, private in small business the main factor in the development of this sector of the economy
Innovations	Ensure the competitiveness of small businesses
Initiative	Having entities capable of generating and implementing business ideas increases the likelihood of business project success
Institutes	Provide interconnection of all factors within the uniform system capable to generate and provide conditions for realization of business initiatives

Source: developed by authours

It should be emphasized that in most cases, in practice, when organizing work to support small business, the quality of the real institutional environment of the territory with all its multifaceted set of formal and informal relationships, connections and practices is not taken into account. Ignoring this factor ultimately does not allow to get a real picture of the situation on the ground, which in the long run threatens to significantly reduce the effectiveness of business development measures.

Based on the results of the analysis, an algorithm of priorities of stimulating influence is built, which allows to start the market mechanism of sustainable socio-economic development of the territory (Fig. 2). Preference is given to measures of a stimulating or motivating nature.

**Fig. 2. Algorithm for forming priorities of sustainable development of the region**

Source: developed by authours

The declaration of the need to take measures, simple calls for it, administrative incentives to action have now lost or are losing their effectiveness, and therefore measures of an economic and motivational nature are needed. At the same time, I would like to pay special attention to the fact that the analysis must be adequate and correct and take into account the real market environment. For example, the forced development of industrial entrepreneurship, supported in the first stage by budget funding and administrative recommendations, may further turn into economic insolvency of business projects with corresponding negative prospects.

As can be seen from Figure 2, the focus should be on economic incentives for the development of specific areas, ie should be worked out effective channels of interaction of the triad of subjects of economic relations: society, government and business.

Analyzing the level of efficiency of interaction between business and government, it is necessary to proceed from the fact that the modern market space is characterized by a high degree of uncertainty. At the same time, these risks increase in a situation where the economic policy of the state is devoid of conceptuality. This situation produces a system of interaction in which both government and business use a strategy of "consumer attitude" to each other. This strategy is characterized by solving the problem of rapid, sometimes unreasonable receipt of resources from the business authorities and, accordingly, the government - from business. From the point of view of the state, such a strategy is characterized by the desire to take under the fiscal care of business entities as soon as possible and receive from them the maximum possible tax revenues to ensure social obligations, which are constantly growing. Business, for its part, also seeks to make full use of budgetary sources, primarily for the purpose of permanent financing, rather than ensuring effective development and increasing the social effect (the best example of such an approach is poor performance of public works). In this configuration of relations, the interests of society are taken into account only in order to legitimize the processes of redistribution of resources and preserve a positive image of the population. That is, we currently have a situation in which the relationship between business and government is not strategic (long-term), but operational and tactical nature, associated with solving problems in the short term.

**Conclusions.** Summing up, the main directions of increasing the socio-economic contribution of small business to the sustainable development of the region at the present stage are the following:

1. Improving the effectiveness of government programs to support and develop small business.
2. Streamlining and optimizing the regional system of administrative regulation of entrepreneurship, taking into account the expectations of small businesses.
3. Reducing the level of aggressiveness of the regional business environment, the current state of which almost completely blocks the desire of the individual to continue the business in case of the first unsuccessful experience.
4. Establishing constructive interaction of large companies with small businesses in the region.



Regional policy for small business development should be built in the context of reconciling the interests of government, business and society, which in turn should provide for the formation of a strong and sound system of motivation and responsibility of the main subjects of business relations. This is very important from the point of view of the decisive participation of regional governments in creating the conditions for increasing the socio-economic contribution of small business to the sustainable development of the region.

**Author contributions.** The authors contributed equally.

**Disclosure statement.** The authors do not have any conflict of interest.

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## SECTORAL STRUCTURE OF THE REGIONAL ECONOMIC COMPLEX: INVESTMENT COMPONENT

**Tatiana Chechetova-Terashvili<sup>1</sup>, Natalia Chechetova<sup>2</sup>, Joanna Stuglyk<sup>3</sup>**

<sup>1</sup>Doctor of Science (Economics), Associate Professor, Simon Kuznets Kharkiv National University of Economics, Kharkiv, Ukraine, e-mail: docha@pisem.net, ORCID: <https://orcid.org/0000-0002-5217-9255>

<sup>2</sup>Doctor of Science (Economics), Professor, O.M. Beketov National University of Municipal Economy, Kharkiv, Ukraine, e-mail: nchechetova@ukr.net, ORCID: <https://orcid.org/0000-0003-1988-2923>

<sup>3</sup>Ph.D. in Economics, Taurida National University named after V.I. Vernadsky, Kiev, Ukraine, e-mail: crimea.tnu@gmail.com, ORCID: <https://orcid.org/0000-0003-3726-9452>

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**Abstract.** The article considers the main approaches to the definition of a regional economic complex. The paper analyzes a wide range of indicators that are the subject of analysis and assessments in the long-term planning and forecasting of development indicators of the regional economic complex. The paper substantiates, both in theoretical and methodological, and practical plans, the use of a systematic approach, which involves the allocation of internal and external components of the regional economic space. The main functions that perform the external and internal components of the economic space are analyzed. The main approaches to determining the structure of the economic system are investigated. The traditional criteria that determine the classification of economic entities to a specific industry are highlighted. The principles of sectoral (sectoral) classification of regional economic systems are considered. The author substantiates the statement that to manage the development of the regional economic complex and bring it to the path of sustainable development, a three-sector model of the economy can be applied and its main components are presented.

**Keywords:** region, economic complex, economic system, structure, industry, sector.

**JEL classification:** R12, R58

**Formulas:** 0; **fig.:** 0; **tabl.:** 0; **bibl.:** 5

**Introduction.** The structural-dynamic approach and the theory of structural dynamics investigate specific quantitative relationships of structural and dynamic aspects of the development of economic systems on actual material using measures of dynamics and structural changes in economic aggregates.

The regional economic complex (REC) is characterized by hierarchical management and the activity of its individual subsystems. It has a complex internal structure, the interaction of the elements of which is determined by formally defined relationships (for example, the existing industry structure). From this point of view, the REC is presented as a purposeful and multi-purpose system with heterogeneous internal and external goals, independent subgoals of individual subsystems, a system of indicators for measuring goals, diverse strategies for achieving them, etc.

Under the current conditions, the foundation for creating comprehensive programs for the planned development of the region is the assessment of the joint dynamics of the structural and volumetric parameters of the functioning of the sectors of the regional economy, which will reveal the patterns of their development and determine the targeted proactive effect.

Thus, a study aimed at developing a single concept for managing the regional economy from the standpoint of a structurally dynamic approach and improving the system for managing regional development is relevant.

**Literature review.** The economic structure and problems of improving structural policy are studied by domestic and foreign scientists, including O.I. Aptekar, V.V. Bila, V. Geets, I.V. Kryuchkova, O.A. Volynets, O.A. Lebedeva, E. Libanova, A.F. Melnik, A.A. Pavlyuk, L.V. Shinkaruk and others. Despite the growing interest of scientists in the chosen subject area for research, many fundamental issues have so far only been identified, but not resolved, including those related to the formation of the sectoral structure of the regional economic complex, and the development of a methodology for studying the dynamics of the development of REC.

**Aims.** The purpose of the article is to explore the theoretical and methodological foundations of the sectoral (sectoral) structure of regional economic systems.

**Methods.** The author used the methods of static and logical comparison, systematization and generalization, which made it possible to achieve the goal of the study.

**Results..** A regional economic complex is a combination of a large number of economic entities of various types of activity. They can closely interact with each other at the stages of production and circulation of goods and services, but they can function almost isolated in the technological process, interacting only indirectly, for example, through a common infrastructure.

Ensuring sustainable economic development has always been and remains a key task of the state. High rates of economic growth create the necessary potential for realizing national interests and meeting the needs of society, for ensuring its development in all areas corresponding to the chosen goals. Economic growth in modern conditions is considered not only quantitatively, but also qualitatively. Therefore, the problem of economic growth should be closely linked to structural problems. Forecasting long-term economic development trends and building strategic plans are the basic tasks of any state.

Long-term planning and forecasting of REC indicators must take into account the complexity of the factors that influence this growth. The subject of analysis and evaluation is a wide range of indicators, namely:

- the scale and pace of GDP growth;
- The resource base for economic development is investment;
- the effectiveness of the national economy;
- price dynamics and inflation parameters;
- financial base for development;
- parameters reflecting the foreign economic situation of a country or region.

It is obvious that all these indicators are dependent on measuring the economic product and measuring the costs of resources. The scale of the economy and its dynamics are usually estimated on the basis of indicators of GDP (GRP).

All business processes in the region proceed within a certain spatial framework, so it is rational, from our point of view, to study both the theoretical, methodological and practical plans, using a systematic approach, which involves the allocation of internal and external components of the regional economic space. Each of these components of the economic space of the region performs certain functions.

So, the external economic space of the functioning of the regional economy provides:

- 1) the organic relationship of the regional economy with other regions and the country as a whole;
- 2) the formation of reproduction resources created in the process of exchange;
- 3) the formation of the natural-material structure of products to be exported to other areas, taking into account the capacity of national and regional markets.

The functioning of the external economic space allows each regional system to take full advantage of the territorial division of labor, common principles for the distribution of productive forces, and general rules for regulating monetary circulation and financial and credit relations.

Internal economic space is, first of all, elements of the economic potential located in the region that make up the material and material and technical basis of the regional reproduction process [1].

Before analyzing the internal space of a regional economy, the following remark should be made. The functional representation of a particular system is inextricably linked with its structure, since the latter describes a set of stable connections of an object, ensuring its integrity and identity to itself, preservation of the basic properties with various internal and external changes.

The structural method of analysis of a regional economy should not be reduced only to determining its elemental composition. Structuralism in the broadest sense, as an abstract-theoretical research method, suggests the possibility of modeling, formalizing and mathematizing a system selected as an object of study. The choice of system structure always contains the possibility of variation.

The general theory of systems and system analysis defines the structure as a set of stable system connections ensuring the preservation of its basic properties under various external and internal changes. The composition of the elements, their general organization, method of connection, spatial location, etc., are associated with the concept of system structure. A change in the structure of the system consists in a change in the parts and interconnections between the parts, which can be accompanied by a change in their number and leads to a qualitative transformation of the system. Thus, the structure is one of the main characteristics of the development of the system, since the process of its development is closely related to qualitative changes [2].

Currently, in the economic literature there is no unambiguous representation of the structure of the economic system, which is mainly due to the lack of a unified interpretation of the very object of structuring.

In his monograph Blyakhman L.S. interprets the structure of the economy as a structure, a set of relations, parts and elements that make up a certain economic whole. The structure reflects the form of arrangement of elements and the nature of the interaction of their sides and properties, this is the result of the movement of elements of the system, the result of their organization, ordering. In turn, the elements of the system consist of parts that, at a certain level of consideration, possess all system attributes. Thus, we can speak both about the structure of the economy as a

whole and about the structure of its constituent parts, that is, about the macro- and microstructure [3, p. 118].

According to Zotov V.V. The internal economic space of the region as an economic complex combines a number of parameters [4]:

- elements of production potential located in the region that make up the material basis of the regional economy;
- the natural environment of life and the course of production processes;
- structural elements of the regional system;
- a set of interacting institutional actors;
- technical and technological structure of business processes;
- a system of regional clusters that are currently forming the bulk of economic ties between regional entities;
- regional economic mechanism;
- the cultural environment of the society, ensuring the susceptibility of the regional community to the dissemination of standards of quality of life and innovations in reproduction.

In the context of the globalization of the economy, REC is understood not as a spatially limited form of territorial formation, but as an independent spatially localized community based on the unity of economic relations, having a single economic base capable of sustainable development, and includes economic clusters vertically and horizontally interacting between the internal and external systems in the process of social reproduction.

The principles of sectoral (sectoral) classification are based on the concept of an industry (type of activity) as an element of REC. Branches are groups of business entities of various organizational and legal forms that are homogeneous by a certain qualitative characteristic and are characterized by specific production conditions in the system of social division of labor.

As traditional criteria for determining the classification of business entities as a specific industry, the authors distinguish the following:

- the purpose of the product or service;
- type of basic raw materials and materials, other factors of creating the result (product, service);
- features of the process of creating a product or service, expressed, inter alia, in terms of the duration of the operating cycle and asset turnover characterizing the inertia of the industry.

For the purposes of industry analysis of the mesoeconomic system at the first stage of the study, it is rational to divide the industries into two areas, traditional for classical foreign and domestic economic theory, the production sector and the service sector.

**Discussion.** I would like to pay a special attention to the system of regional clusters - a set of interconnected market formations of various types that ensure the effective development and functioning of the regional economic complex. The system of regional clusters includes the consumer market, the market for means of production, the labor market, the market for financial and credit resources and

securities, the real estate market, and the market for information and knowledge.

All clusters participate in the circulation of material, financial, credit and cash flows, while regulating economic relations between the entities of REC in order to ensure continuity and balance in the development of productive forces and production relations.

Regional markets are interconnected with each other and with the external environment. In accordance with the functional purpose, regional markets can be divided into three groups:

- 1) a cluster of markets directly or indirectly affecting the material security of the population and living standards (consumer market, labor market, information and knowledge market, real estate market, financial market);
- 2) a cluster of markets associated with the formation of material and material flows in the region and ensuring the reproduction of elements of productive forces (market: labor, the market of means of production, the market of information and knowledge);
- 3) a cluster of markets that performs the functions of a cross-cutting service character (information and knowledge market, financial market).

All regional clusters consisting of the above markets are interconnected and interact in the direction of realizing the interests of the subjects of the regional economic complex and forming the prerequisites for sustainable and balanced regional development.

The sustainable development of the REC is a consequence of the differentiation and integration of its elements and depends on the degree of development of the social division of labor, forms of ownership of the means of production and on the effectiveness of the public administration system at the mesoscale.

All forms of differentiation of production can be reduced to two groups: 1) vertical differentiation, which provides for the separation of independent industries and industries, and 2) horizontal, associated with the formation on the territory of the country of specialized territorial-production formations, such as industrial units, territorial-production complexes.

To manage the development of the REC and bring it to the path of sustainable development, a three-sector model of the economy can be used. Three-sector economy: the zero (material) sector produces objects of labor; the first (capital-creating) - means of labor; the second (consumer) - consumer goods. The material sector occupies a special intermediate position between the capital-creating and consumer sectors: in a certain respect, its behavior is similar to that of the consumer sector, although it is related to the capital-creating sector by purpose. It is assumed that each sector has fixed production assets, while labor and investment can move freely between sectors [5, p. 83].

Currently, scientists are exploring the possibility of using a stratified classification of the economy. A stratified classification is based on elements called strata. Each stratum has its own characteristics, laws and principles that characterize the system as a whole and the processes occurring in it. In the regional economy, strata can be considered a set of industries (types of economic activity) or territorial elements (municipalities), economic processes, etc.

Stratification of REC allows us to study the evolutionary dynamics of the transformation of economic elements and to regulate their “movement” to achieve the desired state. The evolutionary movement of structural elements causes correspondingly different rates of change in activities.

**Conclusions.** The formation of the sectoral structure of the REC makes it possible to streamline the regional management system according to the subject principle and to regulate the development dynamics of individual sectors to achieve the desired state of the REC in general.

In carrying out practical calculations and forecasts, the researcher often resorts to grouping existing activities into sectors for the convenience of working with a wide range of information.

The sectoral structure of the RHC is built depending on the nature of the functioning of economic entities and their role in the development of the region:

- subsidized sector (activities related to solving social problems of regional development and which are significantly dependent on state funding);
- investment sector (activities attractive to private investors, the implementation of which requires significant financial injections for further development);
- the donor sector (areas of activity related to increased exploitation of natural raw materials, which do not require significant state funding and are a source of development for the regional economic system);
- self-sufficient sector (a range of infrastructure enterprises operating on the principles of self-sufficiency), the content of which varies depending on the specifics of each particular region and the general level of its socio-economic development.

The filling of REC sectors varies depending on the specifics of each particular region and the general level of its socio-economic development. The formation of the sectoral structure of the REC makes it possible to streamline the regional management system according to the subject principle and to regulate the development dynamics of individual sectors to achieve the desired state of the REC in general.

**Author contributions.** The authors contributed equally.

**Disclosure statement.** The authors do not have any conflict of interest.

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# STRUCTURE OF PRODUCTION AND ECONOMIC POTENTIAL OF THE REGION

Svetlana Boguslavskaya<sup>1</sup>

<sup>1</sup>Ph.D. (Economics), Associate Professor, Associate Professor, Management and Economic Security Department, Bohdan Khmelnytsky National University of Cherkassy, Cherkassy, Ukraine, e-mail: boguslavskaya1980@gmail.com, ORCID: <https://orcid.org/0000-0002-6834-9765>

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**Abstract.** The article considers the concepts of "economic potential of the region" and "production potential of the region", which are a factor in the economic development of the region. The article conducts a thorough study of scientific approaches to defining the definition of "economic potential of the region" and "production potential of the region" and as a result the author's definition of the concept of "production and economic potential of the region". The main differences between the author's definition and those already existing in economics are proved. Substantiated systematic approach to managing the development of the region, which in turn allows to determine the system of economic and financial indicators that characterize the state of production and economic potential of the region by structural units: financial potential; labor potential; stock potential; scientific potential; natural resource potential; institutional capacity; information and communication potential, which in turn is presented in the article in the form of a graphical diagram of the structure of production and economic potential of the region. The paper also provides a brief description of all types of potentials involved in the structure of production and economic potential of the region. The article also considers scientific approaches to the definition of fixed and working capital, analyzes their differences and similarities. Given the lack of a clear definition of the concept of fixed capital in the economic literature, the author presented his own vision of the definition of this concept, which in his opinion most fully reveals the meaning of this economic category.

**Keywords:** potential, development, region, capital, structure, production, economy.

**JEL Classification:** D60, O47

**Formulas:** 0; **fig.:** 1; **tabl.:** 0; **bibl.:** 6

**Introduction.** Scientific interest in studying the economic content of the production and economic potential of the region is due to the peculiarities of modern regional policy. Currently, the regions have relative economic independence in making management decisions, which has increased the responsibility of administrative bodies for the financial results of the state entity, as the lack of industrial production can eventually lead to depression in the region.

At the present stage of development of the national economy the intensification of the production potential of enterprises, industries and territorial complexes, its quantitative definition and practical use in the regulation of production relations is actualized.

The need for immediate solution of these problems stems from the requirements of objective economic laws. But so far no single methodological approach has been identified that reflects the content of this problem.

**Literature review.** Problems of functioning and development of production and economic potential were first revealed in the works of foreign scientists: F. Quesnay, A. Smit, K. Marx, A. Marshall, J. Schumpeter, P. Somuelsen and many others.



Among domestic regional scientists are O. Dovgal, A. Gavrilenko, O. Kolomytseva, M. Makarenko, M. Mylenky, V. Savchenko, and others.

In the scientific literature, scientists and practitioners differently delineate the boundaries of production and economic potential of the region. Thus, this problem is currently unsolved and requires further scientific research.

**Aims.** The purpose of the article is to study a set of elements of production and economic structure of the region in a market economy.

**Methods.** The methodological basis of the study was a systematic and abstract-logical approaches - in the study of theories, discussions, assumptions on the nature, structure, definition of production and economic potential and fixed capital, which allowed to determine the meaning and patterns of theoretical aspects of the problem.

**Results.** The structure of production and economic potential of the region is a set of connections and relationships that have developed in the production process, on which depends the sustainable development of the region. Elements of production and economic potential of the region are not only in close cooperation, but also divided as they are interdependent.

Production and economic potential of the region is not a mechanical connection, but a dynamic combination of interdependent elements, and the degree of their alternative does not remain constant, but varies depending on the economic situation, the level of development of production potential, the economic system of the region.

The author finds that the production potential of the economic system is represented by its objective ability to produce products, generate income based on resource balance of interconnected elements involved in the production process. In this case, the production potential is a total assessment of the maximum possible effectiveness of the use of resources by enterprises of industries in the region in terms of rational organization of production to the interaction of economic entities.

The more complex the structure of production potential as a holistic economic system, the more diverse the methods of influencing the economic processes of government.

Regarding the economy of the region, the analogue of the concept of "production and economic potential of the region" is the phrase "economic potential of the region" and "production potential of the region", which in our study act as factors of its development.

According to O. Dovgal, the production potential is a system of economic relations that have arisen between economic entities at the macro and micro levels to obtain the maximum possible economic result with the most efficient use of resources by enterprises, the current level of equipment and technology, advanced forms of production and labor, environmental factors (Dovgal, O., 2019).

According to M. Makarenko, production and economic potential is the ability of economic entities in market conditions to produce the optimal amount of competitive products with the efficient use of balanced resources, a high level of management and marketing from the standpoint of a reproductive approach (Makarenko, M., 2017).

The Economic Dictionary interprets the essence of production potential as follows: "Production potential is available and potential production opportunities, the

presence of factors of production, the provision of its defining types of resources" (Economic Glossary: Property, Privatization, Securities Market, 2003).

The author considers the production potential of the region as an integral part of the economic development of the region, as its condition and possible qualitative and quantitative changes determine the achievement of the necessary growth of production and increase the welfare of the population of the region.

All concepts have to some extent been studied and refined by foreign and domestic economists. From modern interpretations, the logic and methodology of these studies is based on the definition in which the economic potential of the region means the total ability of the region's economy, its industries, enterprises, farms to carry out production and economic activities, produce products, goods, services, meet public needs. to ensure the development of production and consumption.

Studies have shown that the main purpose of the production and economic condition of the region is to increase the level of socio-economic development, increase gross regional product.

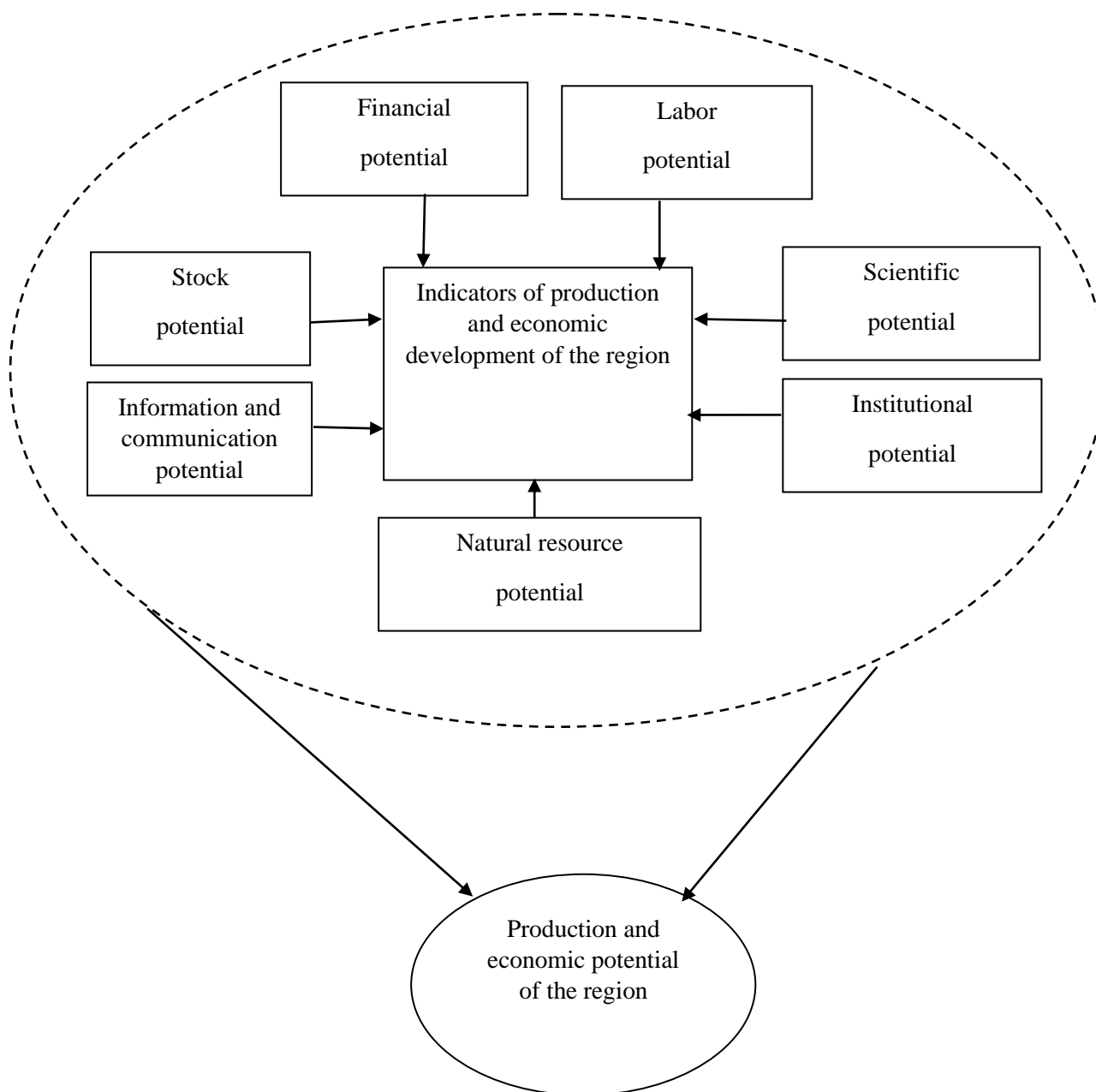
Thus application of an integrated indicator of an estimation of industrial and economic potential of region will allow to receive comparable and objective results of the analysis of industrial and economic development of region. Integral assessment of production and economic potential, expresses the essence of internal evaluation. It is determined based on the parameters that assess the internal structure of production capacity. These parameters are defined as dependent on external and internal factors and assess the level and condition of a particular element of production potential.

Researchers of problems of estimation of production and economic potential allocate various components in structure of aggregate branch potential. Analysis of scientific works and practical experience in assessing the production and economic potential, approaches to assessing its structure led to the need to develop a system of general and specific indicators that characterize the state of production and economic potential for seven structural blocks: stock, financial, labor, scientific, institutional and natural resources, as well as indicators of the information and communication component. The author's vision of the structure of production and economic potential of the region is presented in Fig. 1.

According to the author, this approach will identify market opportunities in the region and contribute to the realization of identified opportunities while maximizing the potential of enterprises, which is provided by fixing each block of tasks and available economic resources of the region.

When assessing the production and economic potential of the region in modern conditions, the exceptional importance of the stock potential, expressed in the form of fixed capital of enterprises, ie the material factors of regional economic development involved directly in the production process, is especially obvious. From this point of view, the modernization of stock potential in the economic structures of the region is a fundamental factor, and is of great economic importance and determines the rate of economic growth in the short and long term. And although the effective use of stock potential is only one of the conditions for ensuring a sustainable pace of socio-economic development, this condition is very important because the structure of

investment not only determines capital growth, but also forms the basis for development of both productive and non-productive spheres. This problem is especially evident in the regional context.



**Figure 1. The structure of production and economic potential of the region**

*Source: developed by authour*

However, paradoxically, the tools of practical management of the formation and use of stock potential in the economic activity of the enterprise has been developed so far quite unfounded.

In the unstable conditions of the economy, the fixed capital of economic entities (the main element of the stock potential) is obsolete, its technological and reproductive structure has deteriorated. Most of them do not have the funds to upgrade fixed assets, especially its active part, to the greatest extent requires timely renewal, taking into account not only physical but also moral deterioration.

Fixed capital refers to productive capital. The methodology of reproduction of productive capital is based on the logistical sequence of circulation and foreign trade turnover of industrial capital. As part of the individual reproduction of industrial capital carries out its range and productive capital.

The economic category of "fixed capital" belongs to a complex category, which includes such categories as material and moral depreciation, depreciation, reimbursement and renewal, circulation and turnover of capital.

Interpretation of the content of the category "fixed capital" is ambiguous among economists. Differences between the components of capital in the nature of turnover were noted by physiocrats (Quesnay, Turgot) (Petti, V., 2000). The capital invested in agriculture, they divided into "initial advances" and "annual advances".

Note that the concept of fixed capital was first introduced into the economy by A. Smith (Petti, V., 2000). A. Smith applied the category of fixed and working capital to all working capital, regardless of the industry in which it is used. However, working capital he mistakenly understood commodity and money capital, ie capital in its forms, which belong to the sphere of circulation. Fixed capital is generally non-current, and working capital is continuously in circulation.

In fact, fixed and working capital are two types of productive capital. They differ from each other in the ways in which their value is returned. The value of fixed capital is transferred in parts to the manufactured goods, and the value of working capital is fully included in this product.

D. Ricardo adhered to the positions of A. Smith on capital as a production stock, food stocks, raw materials and tools of production (Petti, V., 2000). The social nature of capital was not shown to them.

Marx made a significant contribution to the development of the theory of capital. He considers capital as a socio-economic category.

K. Marx considered the production process from a dialectical point of view. Under dialectics, he understood the doctrine of sustainable development in its most complete, profound and one-sided form, the doctrine of the relativity of human knowledge, which gives us a reflection of eternal development (Marks, K., 1955).

In modern economic theory there is still no unambiguous interpretation of the concept of capital, the process of its formation continues, and this, in turn, is reflected in the development of methods of economic analysis.

Most domestic authors identify the concept of "fixed capital" and "fixed assets". Some authors, giving a definition of fixed capital, do not identify these concepts, but do not give a clear definition of what elements should be attributed to fixed capital.

Given the lack of clear definition in the economic literature of the concept, we believe that the most complete meaning of this economic category reveals the following definition: fixed capital - part of the capital of the enterprise, which is invested in all types of non-current assets, including fixed assets, intangible assets, unfinished construction, long-term financial investments and other non-current assets in order to focus on the innovation and technical trajectory of development.

Unlike other elements of the production and economic potential of the region, the financial potential has a number of features. This indicator has a great influence

on the formation of other elements of production and economic potential. Financial resources, an important source of which is profit, are the main tool for the reproduction of all elements of production potential. Therefore, the analysis and evaluation of financial indicators as an element of production and economic potential should be carried out from the standpoint of providing a particular sector of the region with financial resources and their efficient use.

The quality of human capital in the region is expressed by the level of labor potential. Therefore, in the context of our study, the level and ways to increase labor potential are of interest based on the need for sustainable movement to the innovative vector of economic development of the region.

The next component in the assessment of the integrated indicator of production and economic potential of the region is the information and communication component (ICT), which includes a system of information and computing services, which has a great influence on the nature of the region.

In fact, due to ICT, information flows become an information resource of the region. It should be remembered that the management of the region is a constant cyclical process of making management decisions and initiating information flows. Therefore, for the long-term development of the region it is necessary to update and design the process of investing in ICT. Thus, ICT and the construction of information and computer services have a great influence on the nature of the functioning of individual enterprises, industries, industries, and the whole region. Regular circulation of information is necessary for the management of the region, which, in fact, ensures the process of using ICT.

A component of the production and economic potential of the region is also the scientific potential, as it is a set of resources that the industry has to carry out production and innovation activities. The scientific potential of the region is in the form of a complementary set of its intellectual and material resources that can contribute to the generation and dissemination of new knowledge, as well as the effective borrowing and assimilation of knowledge obtained from others (Esimov, C., 2015). The resource component takes into account only the number of employees engaged in scientific activities and their professional qualifications.

According to the author, in the system of components of production and economic potential for its assessment it is important to use the institutional potential. Note that the understanding of the category "institution" includes a set of heterogeneous economic phenomena: procedures and rules of conduct, sanctioned by law or custom; lawful or regulated norms that protect the interests of market participants; organizations and administrative (political) structures; institutions in the broadest sense of the word, including culture and mentality.

Assessment of production and economic potential is exclusively dependent on the impact of natural resource potential. In the process of economic development of the region there are quantitative and qualitative changes in the natural resource potential of the region. Preservation, expedient and complex use of this potential is one of the main tasks of rational nature management.

**Discussion.** Based on the above, the author considers it necessary to clarify and supplement the concept of "production and economic potential of the region." The author's definition of "production and economic potential" can be represented as a set of organically interconnected existing and potential production opportunities, characterized by systemic unity of resources, scale and condition of the technical base of the economic system, efficient functioning of socio-economic institutions and rational use of natural resources potential.

**Conclusion.** The proposed author's definition of "production and economic potential of the region" differs from the existing capacity and breadth of interpretation of the essence of production and economic potential, it reflects the structure of production potential which is characterized by the unity of the system and reflects the flow of its functioning. This objectively increases the attention to the development and use of methods for assessing production capacity. Note that the definition of a single aggregate indicator that takes into account the state, movement and efficiency of each of the elements of production capacity and allows to investigate the causal relationships in the state of production capacity in general, is associated with one of the important principles of assessing production potential.

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## FACTORS OF FORMATION OF INTELLECTUAL POTENTIAL OF REGIONAL ECONOMIC CLUSTERS

Svetlana Belous<sup>1</sup>, Grigory Melnichenko<sup>2</sup>

<sup>1</sup>Ph.D. (Economics), Associate Professor, Management and Economic Security Department, Bohdan Khmelnytsky National University of Cherkassy, Cherkassy, Ukraine, e-mail: [svitlanab302@gmail.com](mailto:svitlanab302@gmail.com), ORCID: <https://orcid.org/0000-0002-0303-7453>

<sup>2</sup>Ph.D. (Economics), Associate Professor, General Director, Research Institute State Enterprise «Catalysis and Ecology», Institute of Physical Chemistry. L.V. Pisarzhevsky, National Academy of Sciences of Ukraine, Kyiv, Ukraine, e-mail: [lyampochka@ukr.net](mailto:lyampochka@ukr.net), ORCID: <https://orcid.org/0000-0001-7430-6393>

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**Abstract.** The article considers the problems of managing the development of intellectual potential of regional economic clusters. In our work we studied the influence of regional factors on the development of intellectual potential of clusters, increase the efficiency of formation and use of intellectual potential of regional economic clusters, its adaptation to innovative changes. The methodological basis of the study is theoretical-empirical, retrospective, statistical approaches, which we used to determine the influence of various factors and indicators of the formation of intellectual potential of regional economic clusters. The article considers the formation of a cluster policy for the development of the region, identifies the main subjects of this policy, which allowed to provide the author's definition of the definition of «regional economic cluster». The intellectual environment of the regional economic cluster and its subjects is analyzed. It is determined that the intellectual potential of regional economic clusters and components of its subjects is formed under the influence of a number of factors: intellectual climate, conjuncture, policy and system in the region. Accordingly, the article provides a specific description of each presented factor with a specific definition of the impact of this factor on the intellectual potential of regional economic clusters.

**Keywords:** intellectual potential, cluster, factors, region, intellectual environment.

**JEL Classification:** O30, R58, R11

**Formulas:** 0; **fig.:** 3; **tabl.:** 0; **bibl.:** 9

**Introduction.** The problem of managing intellectual potential in the context of new economic relations and granting independence to the regions is quite new for public administration. It is obvious that the intellectual potential is manifested in the process of its use in the economic and social sectors of the region's economy. Intellectual potential is formed by individuals, organizations, industries and the region as a whole.

The most complete intellectual potential is manifested in promising organizational forms of management, which, in the first place, include innovation clusters. Clusters are the most adequate formations of macroeconomics for the formation and realization of intellectual potential, from the fundamental scientific idea to the practical implementation and operation. The clusters accumulate processes of scientific, design, educational nature, which contribute to the development of intellectual potential. The intellectual potential of regional economic clusters is a complex multilevel system. In its formation, the interests of many actors collide.

**Literature review.** The intellectual foundations of innovation processes were considered in the works of J. Schumpeter, P. Doyle, B. Santo, B. Twiss, and others. Regional economic clusters considered in their research E.A. Borodin, T.V. Myrolubna, B.C. Papkov, M. Porter, V.I. Samaruha, A.V. Scotch, A.R. Sulimani, V.P. Tretiak, T.V. Quiet, R.H. Khasanov and others.

However, the problem of managing the development of intellectual potential of regional economic clusters requires in-depth consideration. There is a need to study the impact of regional factors on the development of intellectual potential of clusters, increase the efficiency of formation and use of intellectual potential of regional economic clusters, its adaptation to innovative changes, which determined the choice of research topic.

**Aims.** The purpose of the scientific article is a theoretical study of the main factors and indicators of the formation of the intellectual potential of regional economic clusters.

**Methods.** The theoretical basis of the study is work in the field of clustering, intellectual potential, state regulation of regional development. The empirical basis of the study is represented by the materials of scientific works and analytical studies of the author. The methodological basis is theoretical and empirical, retrospective, statistical approaches. The information base of the work consists of legislative and normative documents, reference materials of official statistical bodies, public administration bodies of the region, data of periodicals, Internet sources.

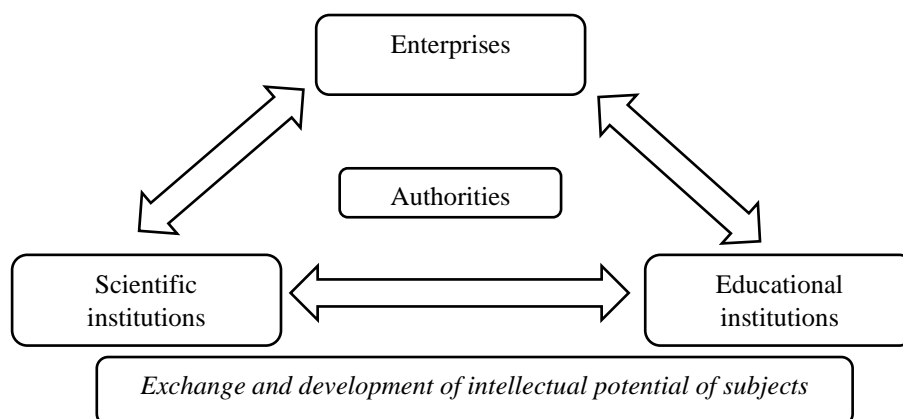
**Results.** The cluster policy of the region development contributes to the formation and use of the intellectual potential of the subjects, which initially have different intellectual potential of employees in its classical sense. The presence in the cluster of scientific institutions and educational organizations, which concentrates a large number of people with the highest levels of education, degrees and titles, as well as those who have the rights to discoveries and inventions, helps to combine potential and synergies objects.

The effect is manifested for all subjects as a result of combining theoretical knowledge with the possibility of their practical implementation. The cluster is a spontaneous or planned mutual enrichment of the intellectual potential of workers and production in general. Thus, in a cluster the financial problems connected with the rights to intellectual property and a possibility of its transfer for use by other subjects of a cluster are quite effectively solved (fig. 1).

Thus, in our opinion, the regional economic cluster is a set of enterprises and organizations united by a single strategy and goal within the program of socio-economic development of the region, which forms the total intellectual potential. Combining the intellectual potential of the main, auxiliary and service enterprises, as well as the state, allows you to form the total potential of the cluster and the most effective way to use and build it. It is the concentration of different organizations and enterprises allows to obtain a synergistic effect of the development of the intellectual potential of the cluster, as well as the efficiency and purposeful use of intellectual resources. The issue of competitiveness of the regions of Ukraine should be



considered through the prism of the intellectual potential of regional economic clusters.



**Figure 1. Subjects of cluster policy in the region**

*Source: developed by authors*

The development of intellectual potential is influenced by two components:

- management decisions made at all levels;
- the influence of situational factors.

The intellectual potential of regional economic clusters and components of its subjects is formed under the influence of a number of factors (Fig. 2).

The factors of the regional environment include the intellectual climate, the situation, politics and the system in the region. The regional environment forms motivating motives and restrictions on the purposes and criteria of development of intellectual potential at subjects.

The intellectual climate of the region, in our opinion, is determined by a set of conditions to ensure the attractiveness of the generation of new knowledge and resources. The intellectual climate is created by a combination of efforts of government agencies and institutions of intellectual development in the formation of preconditions for the activation and increase of intellectual potential of the subjects. The intellectual climate can be formed in the form of benefits provided at the state level.

Regional and local governments also play a significant role. At the same time, the efforts of other subjects of the intellectual process are important - the population, the business community, etc.

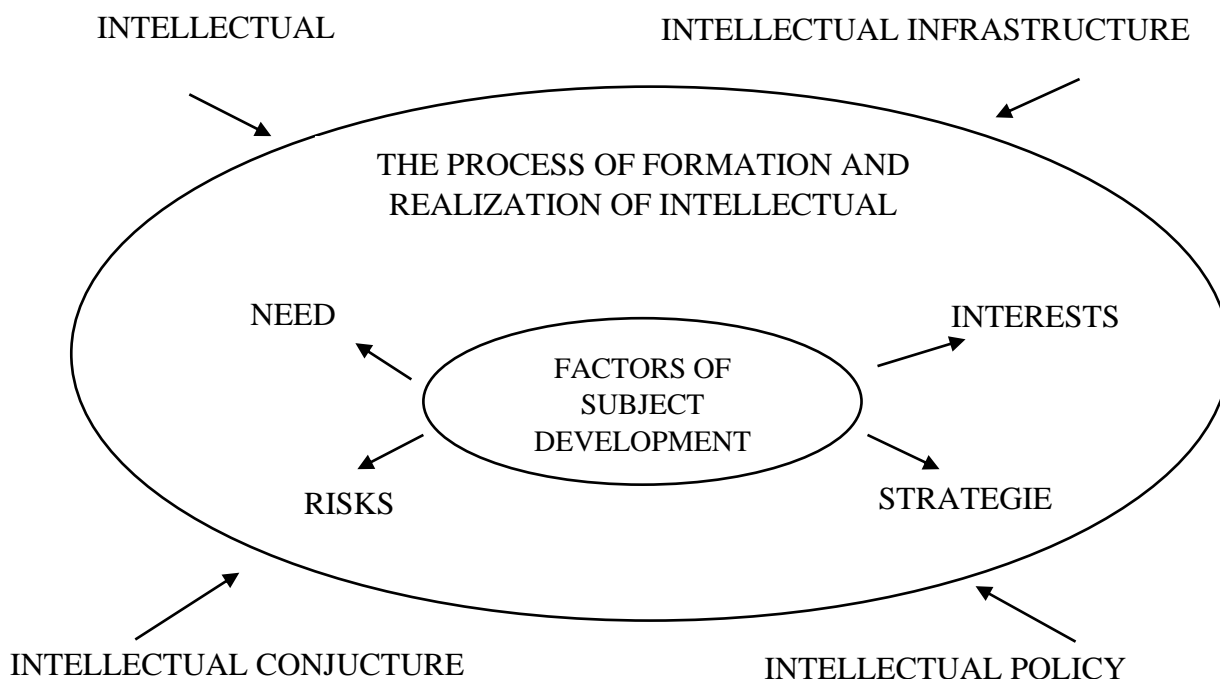
The intellectual situation of the cluster is determined by the traditions and trends of intellectual activity in the region, as well as the influence of systemic and situational factors of regional development. The intellectual situation of the cluster is also greatly influenced by global and interregional processes, scientific and technological progress.

First of all, it should be noted the formation of the information society, which has turned views on the growth of intellectual potential. Informatization has affected all processes, including the processes of growth of intellectual potential.

Intellectual policy is determined by the activities of state and local authorities, as well as the policy of the socio-economic system of the region. Intellectual policy in

the set of other priorities determines the direction of financing the components of intellectual capital. This is especially true of supporting infrastructure financing.

#### FACTORS OF THE REGIONAL ENVIRONMENTPublic authorities



**Figure 2. The intellectual environment of the regional economic cluster and its subjects**

*Source: developed by authours*

Intelligent infrastructure in the region unites all actors involved in the formation and implementation of intellectual potential.

Intellectual development infrastructure includes:

- educational infrastructure;
- scientific infrastructure;
- information infrastructure;
- social infrastructure;
- infrastructure for capacity realization (industry, etc.).

Factors of the subject's development include intellectual needs, interests, risks and strategies.

Intellectual needs are a reflection of the need for change, felt by actors in their vision of development problems, goals and criteria for functioning.

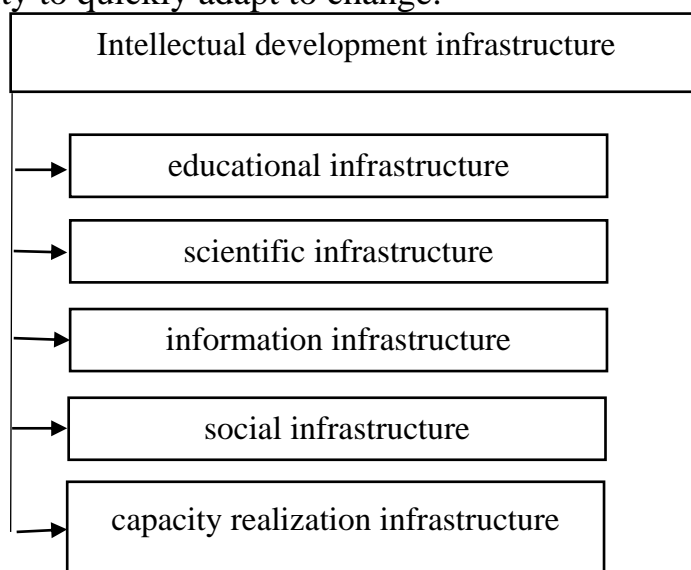
Intellectual needs are both individual for the subject and regional.

Intellectual interests are the initiation of actions of participants in the development of intellectual potential. In principle, interests can be both realized and not realized as a result of the intellectual process, which leads to a lack of intellectual potential.

Intellectual risks determine the possibility of formation and realization of intellectual potential by the subject.

They are determined by two factors:

- intellectual potential of the subject in this area, formed as a result of previous activities;
- skills and ability to quickly adapt to change.



**Figure 3. Infrastructure of intellectual development of the region**

*Source: developed by authours*

The higher the intellectual potential and skills of the system, the less internal intellectual risks. It should be noted that currently the risks of formation and realization of intellectual potential are given insufficient attention, which leads to a reassessment of intellectual capabilities both at the individual level and at the level of the enterprise, cluster and the region as a whole. Thus, the attempt to develop highly intelligent businesses is faced with a lack of human resources and their own research and development and the impossibility of attracting them from outside for a number of regions.

Intellectual strategies are the ultimate tool for implementing the intellectual policy of the cluster entity. They define the goals, objectives, measures, mechanisms, tools and resources of intellectual development. They also form the possibility of assessing the effectiveness of intellectual activity through a system of indicators for assessing the intellectual activity of the entity as a whole, as well as assessing the effectiveness of the use of intellectual potential of the cluster.

The development of the intellectual potential of regional economic clusters is also significantly influenced by the national character and socio-psychological characteristics of the population. Many authors in their research pointed to information and communication, emotional, ethical and other specific qualities that lead to the formation of the specifics of the intellectual potential of individuals and the region as a whole.

In practice, this affects the ability and effectiveness of the formation of project teams in the development of innovation. The combined influence of regional and subjective factors determines the effectiveness of the process of formation, implementation and development of intellectual potential. It should be noted that as a subject of the socio-economic system, which participates in the development of

intellectual potential, act as individuals and enterprises, industries, territories and the region as a whole.

All entities involved in the formation and implementation of intellectual potential have economic and managerial freedom. Therefore, the degree of need for capacity development and strategy for its development is formed and manifested in each entity differently.

**Discussion.** Based on the above, we can say that the intellectual potential has a specific nature and is manifested depending on its carrier. The presence of a subjective component is the predominant difference of intellectual potential from other potentials of the socio-economic system, for example, economic, innovative and so on. Intellectual potential is formed at the time of development of the subject and is manifested in the case of the need to use it. That is, the greater this need, the more effectively the intellectual potential is revealed (and increased).

**Conclusions.** Intellectual potential, like any other potential, is manifested in the process of internal and external interests in its formation and use. Interests in the course of processes of their realization turn into needs and cause motivation of the subject to growth of intellectual potential. The set of external and internal interests determines the boundaries and criteria for the formation and development of intellectual potential for each subject. Intellectual potential consists of structural, process and situational parts specific to each region.

The intellectual potential of the region and its constituent subjects is formed under the influence of a number of factors. Factors in the regional environment include the intellectual climate, conditions, policies and infrastructure in the region. The regional environment forms motivating motives and limitations on the purposes and criteria of development of intellectual potential at subjects. The factors of the subject include intellectual needs, interests, risks and strategies of the subjects.

**Author contributions.** The authors contributed equally.

**Disclosure statement.** The authors do not have any conflict of interest.

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# KEY INDICATORS OF EFFICIENCY OF INNOVATIVE ACTIVITY IN REGIONAL COMPANIES OF TOURISM INDUSTRY

Oksana Podvalnaya<sup>1</sup>

<sup>1</sup>Ph.D. (Economics), Associate Professor, Associate Professor, Agricultural Management Department, Vinnitsa National Agrarian University, Vinnitsa, Ukraine, e-mail: np070101@gmail.com, ORCID: <https://orcid.org/0000-0001-6767-7882>

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**Abstract.** The article explores the main methods and approaches to assessing the effectiveness of innovation in companies in the tourism industry. The purpose of the study is to analyze the main indicators of innovation efficiency in regional companies operating in the tourism sector. The theoretical and methodological basis of scientific work are general scientific principles, methods, provisions, highlighted in the works of scientists involved in solving problems of innovative development of tourism. The analysis of economic and organizational-legal mechanisms, the acquisition of which leads to an increase in the management of innovation in tourism. It was determined that within the framework of the acquisition of these mechanisms, the main task is to combine the efforts of all interested parties to ensure the synergistic effect of various actors. A number of specific indicators are presented: the integrated effect of all new products and technologies; profitability index for each new product; rate of return on tourism activities; payback period of the resources involved; with the help of which the effectiveness of the results of innovation in the tourism sector is assessed. A basic set of parameters is proposed for a system of indicators for assessing innovation in the tourism industry in the region.

**Keywords:** tourism industry, innovation, efficiency, economy, region.

**JEL Classification:** O31 L83

**Formulas:** 0; **fig.:** 0; **tabl.:** 1; **bibl.:** 5

**Introduction.** To assess the effectiveness of innovation, various approaches and methods are applied that need to be adapted to the characteristics of the tourism industry in the regions of Ukraine. As a result of a comparative analysis of various methods and tools, we came to the conclusion that the most applicable tool for describing efficiency is the integration of economic and legal mechanisms to improve the effectiveness of managing the results of innovation in the tourism industry. In modern conditions, the analysis of effectiveness is carried out not only regularly, but also comprehensively. This means that in the process of performance analysis, additional sources of information play a very important role, which make it possible to summarize information not only about the company's activities, but also about the regional industry market.

**Literature review.** Innovative development of enterprises, types of economic activity and territorial systems is the subject of research of many scientists. In particular, many Ukrainian studies (L. Gorbach, O. Davydova, V. Zaitseva, I. Kalganova, Yu. Konoval, Z. Peresunko, A. Tretyak, P. Khariv, L. Szymanowska-Dianich, etc.) and foreign (P. Drucker, B. Santo, J. Schumpeter, etc.) scientists.

Despite the fact that the problems of innovative development of the economy and its individual spheres in general are quite thoroughly studied, some problems need more detailed analysis, in particular on the formation of sufficient theoretical and methodological basis for research and development of organizational and economic mechanisms to stimulate innovative development of certain promising

economic activities. First of all, this applies to the service sector, in particular tourism, where innovation is not only dynamic, but also specific features of development, implementation and spatial organization.

**Aims.** The purpose of the study is to analyze the main indicators of innovation efficiency in regional companies operating in the tourism sector.

**Methods.** The theoretical and methodological basis of scientific work are general scientific principles, methods, provisions, highlighted in the works of scientists involved in solving problems of innovative development of tourism.

**Results.** From the point of view of increasing the efficiency of innovation management in tourism industry companies, the largest contribution can be made by the acquisition of economic and organizational-legal mechanisms presented in table 1.

**Table 1. Economic and organizational-legal mechanisms, the acquisition of which leads to an increase in the effectiveness of innovation management**

The name of the mechanism	Institutions attracted by the tourism industry company to implement the mechanism
Share in innovative projects	Industry market
Outsourcing	Innovative enterprises
Venture financing	Investors
Commercialization of new technologies	Industry market
Contrast-competitive mechanism	Industry market
Project management	Partners, temporary units
Valuation Activities	Consulting companies
Patent research	Innovative enterprises
Legal protection of the results of innovation	The state represented by executive authorities
Distribution of property rights on the results of innovation	Partners, customers, industry market
Strategic Product Range Planning	Potential listeners, industry market
Insurance	Financial market
Technology audit	Investors
Technology exchange	Industry market
Financial leasing	Financial market
Franchising	Financial market

*Source: developed by authour*

As you can see, the initiative and the main role in the implementation of various economic or legal mechanisms belongs to various stakeholders of the innovation process. Therefore, in the framework of the acquisition of these mechanisms, the main task is to combine the efforts of all interested parties to ensure the synergistic effect of various actors:

- the industry market, which acts as the initiator of the development of innovations and carries out their resource provision at the expense of development budgets, as well as stimulating the development of tourism companies in the region;
- investors acting as the main source of financial resources necessary to create competitive tourism products, new programs and logistics systems for the tourism process in the region based on the results of innovation;

- higher education institutions, which are the scientific, technical and industrial-technological base, ensuring the transformation of financial (investment) resources into innovations, and then into intellectual property and other products delivered to the relevant markets.

In accordance with the interests of these groups, intellectual capital management begins to play a special role in the process of managing innovation activity as a source of new knowledge and competencies.

As the studies showed, formally, this task can be reduced to assessing the effectiveness of each of the elements of the link “industry market - investor - tourism industry company”. The solution to this problem is relevant because the traditional combination: “the industry market is a tourism industry company” is standard and the organizational and economic mechanism of its functioning is quite developed. It is advisable to proceed from the fact that the inclusion of an additional component in this bundle - investors providing financing for the transformation of the created results of innovative activity into a tourism product, the implementation of which on the market will create an additional economic effect and lead to an increase in the functioning efficiency of each subject of this triad, in principle, recognize methodologically justified.

When researching the functioning of the “industry market - investor - tourism industry company” combination, it is necessary to take into account not only the diverse nature of the entities included in the combination, which determine the various ways to achieve their goals, but also their interests that do not coincide initially. Using the basic principles of game theory, it is proposed to solve this problem in three stages:

- solving the game of the traditional bundle: "industry market - a company in the tourism industry";
- solving a cooperative game in which, under equal conditions, a third player, an investor, is added for players such as the industry market and the tourism industry company;
- assessment of the increment in the effectiveness of each player of the “industry market - tourism industry company” combination and, on this basis, formulating conclusions on the advisability of including an investor as a third player.

Ultimately, this will allow us to determine the structure of the main mechanisms providing a positive increment in the functioning efficiency of each of the elements of the link “industry market - investor - tourism industry company”.

The effectiveness of new products and technologies, as a rule, is evaluated on the basis of their actual ability to save certain resources: labor, time, inventories and money - based on the unit of expected beneficial effect created by a new product or technology. The term “new product effectiveness” itself covers the entire gamut of problems of analyzing the results of innovation in a variety of aspects: the economic efficiency of the results; scientific and technical level of work; product social performance; environmental performance after the introduction of the product.

Recently, opinions have appeared that the integral effect of innovative activity contains the three most important components: socio-economic, scientific, technical

and environmental. These components have a certain unity, and envelop the mutual influence on each other. This means that the overall result obtained from the introduction and promotion of new products and technologies can be calculated as a combination of economic, social, technical or purely environmental results [1].

In a planned economy, when centralized decision-making methods prevailed throughout the country, the corresponding centralized, common for all economic entities approach to assessing the effectiveness of innovative activities also prevailed. This approach was based on the principle that everything that is beneficial for the state should be beneficial for the business entity [4].

This principle provided for a common global criterion for the effectiveness of innovation activity for all economic entities - the economic effect obtained at all stages and stages of creating an innovation, that is, from research and development to the introduction of a new product.

If we follow the classical canons of economic theory, according to which the activity of economic entities is based on freedom of choice, and the state's function is to regulate the interaction of various economic entities, we can conclude that it is advisable to distinguish at least two types of performance criteria [4].

Firstly, these are individual criteria for the effectiveness of business entities that, under the influence of the external environment, strive to obtain the maximum effect and ensure long-term sustainability.

Secondly, it is a global criterion for the effectiveness of the entire economic system, on which the state economic policy is based, aimed at ensuring the dynamic development of society as a whole.

Recognition of the presence of these heterogeneous and, at first glance, conflicting groups of criteria requires the development and adaptation of various methods for assessing the effectiveness of innovative activities, which, in accordance with the accepted classification, can be not only macro- but also microeconomic. In modern conditions of intensive development of the tourism industry, the introduction of information technology, the development of delivery vehicles, the problem of economic justification of the priorities of innovation is becoming particularly relevant. Such problems arise both at the level of individual companies in the tourism industry in the region, and at the top level of managing the national economy when allocating various resources to ensure environmental, social and other state programs [5].

An important distinguishing feature of companies in the tourism industry should be considered differences in the strategic goals that they pursue in the implementation of innovative activities. So, large tour operators, called to carry out the formation and general regulation of tourist flows, should obviously proceed from the strategic goals of the development of a destination or a whole destination. There is no significant difference with the tasks and goals that the relevant government bodies had previously solved. The main difference is the ways to achieve your goals [2].

If in the conditions of a command-administrative economy the plan was the main way of coordinating the directions of innovation activity, then in market conditions key players form a business environment for doing business for small



companies in the region, creating conditions and incentives for the economic growth of the tourism industry as a whole. Differences in the tasks that companies of the tourism industry of various sizes solve can manifest themselves not only in the difference in the criteria used to make decisions on the directions and scope of innovation, but also in methods for assessing the effectiveness of the results of this activity. In particular, the evaluation of the effectiveness of the results of innovation can be carried out using the following indicators:

- 1) the integrated effect of all new products and technologies;
- 2) profitability index for each new product;
- 3) the rate of return on tourism activities;
- 4) the payback period of the resources involved.

The main indicators for comparing new products and technologies with each other and choosing the highest priority for implementation are the coefficients of the integral effect.

The company of the tourism industry can interact with other actors of the industry market on a territorial scale either as a source of innovative ideas, or as sources of resources for innovative activities, or as an internal consultant for testing new products and technologies. In all of the listed participation options, the tourism industry company gains access to additional resources for the development of the innovation management system, as it can use the resources of other tourism industry companies as an experimental base.

Various units carry out their activities in accordance with the format and nature of the tasks facing them, and regardless of the nature of the unit, innovative activities can be carried out in various formats:

- regular participation in innovation (technology marketing, testing and customer surveys, commercialization);
- periodic or project participation in innovative activities (brainstorming, examination of products and technologies);
- one-time activities (self-testing, testing).

**Discussion.** That is, the format of participation and the degree of involvement make it possible to formulate a list and values of target indicators. Thus, when developing a system of key performance indicators, in our opinion, it is advisable to take into account a number of features that arise in the process of solving a specific problem in the tree of goals of the innovation strategy: the format of participation; work performed; basic authority; core competencies; responsibility for the result. The basic set of parameters for a system of indicators for assessing innovation in the tourism industry can be as follows:

1. Product development indicators: the number of proposed and implemented changes in the development of a product or technology for the period; fact and plan for the deadline for introducing new destinations in the product portfolio; fact and plan for the introduction of new products or technologies; the total number of new products for the period; number of products introduced on time; the number of proposals for the development of destinations completed in the high season; total

number of product development proposals; fact and plan for the schedule for introducing modernized products into the product portfolio;

2. Technology development indicators: the number of proposals for improving business processes; the number of implemented proposals for optimizing business processes; fact and plan for the implementation of business process optimization proposals; the number of adjustments to the technology modernization plan; the number of identified technologies for the period for destinations and products for the period; the total number of new technologies for leading products; number of updated technologies for leading products for the period;

3. Infrastructure development indicators: fact and plan for the commissioning of new infrastructure; fact and plan for the introduction of new sales and promotion systems (by product); the proportion of termination lines and infrastructure facilities introduced on time; fact and plan for the development of new technologies for the operation of infrastructure facilities; the share of projects for the modernization of facilities completed late with respect to the commissioning schedule;

4. Indicators of marketing and risk management: fact and plan to mitigate risks; tourist satisfaction with a new product; the proportion of proposals for the development of promotion technologies implemented according to plan-; the share of business process optimization projects completed on time.

**Conclusions.** Thus, the use of the totality of indicators allows not only to improve the quality of planning of the main works within the framework of innovation, to distribute responsibility among key tasks, but also to increase the degree of implementation of all activities of the innovation strategy. This leads to increased competitiveness of the tourism industry company in the regions, increases the effectiveness of innovation and reduces the cost of commercializing the results of innovation.

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# OPERATIONS OF THE UKRAINIAN ENERGY MARKET IN TERMS OF ACCESSING FOREIGN MARKETS – WAYS OF IMPROVEMENT

**Dmytro Tkach<sup>1</sup>**

<sup>1</sup>Postgraduate student, «KROK» University, Kyiv, Ukraine, e-mail: tkach\_k@ukr.net, ORCID: <https://orcid.org/0000-0009-1856-5523>

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**Abstract.** Socio-economic stability of any society, quality assurance and improvement of life of its population largely depend on the reliability and efficiency of the country's energy market. Ukraine's energy sector has sufficient electricity and a well-developed network to supply electricity to consumers, but the current significant problems are due to outdated technologies, depreciation of fixed assets, imperfect management, non-transparent legal framework and others leading to a crisis. Thus, the urgent issue of reforming the energy market of Ukraine in order to create a full and competitive environment, incentives for investment, improvement of financial and economic indicators is particularly relevant. An important aspect in this regard is also to determine the prospects of the Ukrainian energy market. The purpose of the article is to develop ways to improve the operations of the Ukrainian energy market in terms of entering foreign markets. The author used the methods of static and logical comparison, systematization and generalization, which made it possible to achieve the goal of the study. To achieve the goal set in the article, ways to improve the activities of the energy market of Ukraine in terms of access to foreign markets were developed. The article studies and systematizes the basic requirements for the production, transportation and consumption of products of the energy market of Ukraine in accordance with international standards.

**Keywords:** small business, region, socio-economic development, entrepreneurship, sustainable development, state support.

**JEL classification:** F47, L94, P18

**Formulas:** 0; **fig.:** 0; **tabl.:** 0; **bibl.:** 11

**Introduction.** Socio-economic stability of any society, quality assurance and improvement of life of its population largely depend on the reliability and efficiency of the country's energy market. Ukraine's energy sector has sufficient electricity and a well-developed network to supply electricity to consumers, but the current significant problems are due to outdated technologies, depreciation of fixed assets, imperfect management, non-transparent legal framework and others leading to a crisis. Thus, the urgent issue of reforming the energy market of Ukraine in order to create a full and competitive environment, incentives for investment, improvement of financial and economic indicators is particularly relevant. An important aspect in this regard is also to determine the prospects of the Ukrainian energy market.

**Literature review.** The scientific works of Zerkalov D., Kuznetsova I., Kuznetsova I., Gitelman L., Papkova B., O. Sukhodoliya, V. Tochilin, A. are devoted to the study of the functioning of energy systems, the reasons for their formation, technological features of electricity as a commodity that determine the features of energy companies. Tukenov, V. Fortov, I. Franchuk, V. Tsaplin and others. However, at the present stage of development of the electricity sector in Ukraine as a whole and its individual enterprises in times of profound structural changes, in our opinion, this requires in-depth study.

**Aims.** The purpose of the article is to develop ways to improve the operations of the Ukrainian energy market in terms of entering foreign markets.

**Methods.** The author used the methods of static and logical comparison, systematization and generalization, which made it possible to achieve the goal of the study.

**Results.** “According to the Ministry of Energy and Coal Mining of Ukraine data, Ukraine managed to increase its power exports by 46.5%, reaching 3.4 billion kW h, in the first six months of 2019 as compared against the equivalent period in 2018. The issues with procuring anthracite for coal-based power generation operations did not prevent Ukraine from building up its electric power exports. Based on expert estimates, the world will reach the peak electric power output based on coal consumption in 2026. The coal demand in 2040 will be -15% against 2018 figures. The major destinations for Ukrainian power export in 2019 included Hungary (52.9% of all deliveries), Moldova (22%), Poland (19.5%), Slovakia (3.2%) and Romania (2.4%). According to the State Fiscal Service, the 7-month exports of electricity yielded \$160 million of proceeds for Ukrainian companies.”[1]

Ukraine has a regulatory framework in place enabling the domestic power market to access foreign markets. “The primary document regulating those activities is the Law of Ukraine “On the Electric Power Industry” as amended on March 19, 2009 by Law #1164-vi. It is this legislature that specifies the particularities of electric power energy export in Ukraine.”[2]

Pursuant to the above legislature power suppliers purchase the required energy capacity for export in the wholesale electric power market of Ukraine. Further, to transfer the power abroad, they need to be able to use Ukraine’s cross-border power grids. Export quotas are obtained through the auction process.

Auction sales are effected by Ukrenergo National Power Company, for a maximum period of 1 year, and it is this company that arranges electric power transportation via Ukrainian electric networks. Pursuant to the auction process approved by the National Energy and Utilities Regulatory Commission (NKRE), auction sales are generally held monthly, subject to the availability of relevant transfer capabilities in the cross-border electric grids of Ukraine.

Auction participants must hold a permit for electric power transmission without obligations to any specific entity, must be members of the Ukrainian wholesale power market and must not have any debts related to the electric power purchase in the wholesale market. A company offering the highest price wins the auction.

If, during two consecutive months, the winning bidder uses less than 70% during 30 days on the average of the awarded commercial capability of Ukraine’s cross-border electrical networks for power transmission, the capability is returned to auction.

“Subject to the laws of Ukraine, electric power exporters must meet the following formal requirements:

1. Be a resident of Ukraine.
2. Hold a license quota for at least the annual volume of power exports.
3. Have a contract with Energorynok State Enterprise (DPE) for the procurement of required electric power capacity.

4. Have a contract with Ukrenergo NPC allowing access to the transfer capabilities of cross-border electrical networks, after winning the public auction.
5. Have a contract with a foreign power buyer.
6. Be a registered participant (member) of the Ukrainian wholesale electric power market.
7. Not have outstanding obligations regarding electric power in Ukraine and outstanding tax liabilities in Ukraine.
8. Purchase at least 70% of the electric power nominations, with daily and monthly checks of the consumption schedule.
9. Have sufficient funds in accounts to make advance payments under the contracts with Ukrenergo NPC and DPE” [2].

“In June Ukrenergo signed the “Agreement on the Conditions for the Future Interconnection of the Power System of Ukraine and Moldova with the Power System of Continental Europe” with the European Network of Transmission System Operators for Electricity (ENTSO-E). The Agreement is to remain in force until 2025, by which time Ukraine must connect to the networks of 34 European countries complying with their standards. And the necessary changes concern not only the power system’s technical specifications but the playing rules in the Ukrainian market as well. The Agreement inaugurated completion of the first phase of the project for Ukraine’s accession to the European electricity system – Kyiv had submitted the relevant application back in 2005” [3]. Pursuant to that document, Kyiv undertook to align Ukrainian electric grids with the European requirements. This ambitious goal was reflected in the Energy Strategy of Ukraine for 2035 and in the Law on Electricity Market. Put to practice, this means that Ukraine must adjust the automatic frequency and capacity regulation mechanisms of its power system to conform to European rules.

To achieve this, it is necessary for the Ukrainian system to withdraw from the interconnected electricity network of Russia, Belorussia and Moldova. Concurrently, European partners will be tracking the main system parameters for about one year. It is difficult to forecast the outcomes of the checks since electric power production is not stable during 24 hours; there are periods when consumers do not collect the whole volume or, on the contrary, require more. Unfortunately, Ukraine does not have sufficient internal capacities to ensure effective balancing of the electric power; pumped storage power plants (PSPPs) could improve the situation but their number is inadequate. The construction of Dniester PSPP, one of the world’s largest pumped storage hydropowers, is still in progress. Its main functions include regulation of the Ukrainian power system frequency and load patterns and creation of emergency power reserves. Obviously, combined heat and power plants (CHP) can be also used to adjust the basic electric network indicators but they are quite expensive to operate.

The next step could be building up the power line transmission capacity in Western Ukraine, due to direct current link installation on the Hungarian border. “There are currently three 750 kW lines, three 400 kW lines and three 220 kW lines extending to Poland, Hungary, Slovakia and Romania.

Ukrenergo's calculations revealed that around one billion euros are required to synchronize the Ukrainian energy system with European networks" [4].

At the same time, Ukraine has been transferring electric power to Europe via "Burshtyn Island" from early 2000s. This became possible after the withdrawal from the united Ukrainian networks and synchronization with the European power system. The Island includes Burshtyn TPP, Kalush CHP and Tereblia-Rikhska HPP whose combined capacity is 2500 MWth. "Over the period of January-September 2018 Ukraine increased its power exports by 47.6% (reaching 4,181 billion kW h) in comparison with the equivalent period in 2019.

Thus, electricity exports from Burshtyn TPP in the direction of Hungary, Slovakia and Romania grew by 19.6% (by 407.8 million kW h), achieving 2,488 billion kW h. Electricity sales to Poland dropped by 3.5% (by 26 million kW h), to the level of 723.2 million kW h. Power exports to Moldova amounted to 970 million kW h against 3.7 million kW h in the nine months of 2017" [5].

"On August 3, 2017 the Consortium of international companies EDF Trading, Westinghouse, Polenergia International submitted to the Ministry of Energy and Coal Industry of Ukraine the feasibility study for the Energy Bridge Ukraine — European Union project.

This is the first proposal of public-private partnership of this kind, not only in the energy sector of Ukraine but at the international state level as well. The proposed project opens up new horizons both for the energy sector and for increasing the geopolitical importance of Ukraine in Central Europe" [6].

Ukrenergo NPC, as the Ukrainian transmission system operator, made an agreement for collaboration on the synchronization project with ENTSO-E — the European transmission system operators organization which is assigned the functions of the energy market regulator according to the Third Energy Package.

So how will the above agreement affect the ways of improving the operations of the domestic power market in terms of accessing foreign markets?

**Discussion.** What are the events associated with the synchronization of Ukrainian and EU power systems?

One should seek the answers in the future cooperation with the consortium of companies EDF Trading, Westinghouse, Polenergia International. This international association is proposing to implement a number of investments, first of all in the upgrading and reconstruction of the 750 kV Rzeszów–Khmelnyskyi powerline using the public-private interaction model. The investments would create potential for the export of 1000 MW of electric power, which is generated by Energoatom at the second unit of Khmelnyskyi Nuclear Power Plant, to Europe.

The important point is that the consortium plans to stay in Ukraine for a long time, and for this reason proposes to synchronize exports from the Khmelnyskyi Nuclear Power Plant generating unit with the funding of the infrastructure of Energoatom National Nuclear Energy Generating Company of Ukraine, with a view to enhancing its power capacities which in its turn would improve the electric power generation efficiency.

“Furthermore, the currency assets Energoatom will receive from the electricity export under the long-term contract will be used to complete the third unit construction and begin the fourth unit of Khmelnytskyi NPP. This concept was approved by Order #671-p as of June 15, 2015 “On the Energy Bridge Ukraine — European Union Pilot Project” issued by the Cabinet of Ministers of Ukraine” [7].

The appeal of the consortium’s proposal is that it does not require government guarantees and does not draw on budget costs. Energoatom National Nuclear Energy Generating Company of Ukraine will get the opportunity, for the first time since its establishment, to enter foreign financial markets, creating the potential for upgrading and technological diversification, and that would provide conditions for competing adequately with companies operating in the external markets. The long-term contract for the overseas electricity transmission will secure lending assets for Energoatom from foreign banks.

The inflow of foreign capital to the Ukrainian power industry, in its turn, will promote further growth of the country’s economy, creation of new jobs and development of regions where the nuclear power stations are located.

Entry of European Union private companies to the energy sector of Ukraine and planning of investment schemes involving electric power transfers as payment for the invested funds are a way to create a supportive environment that will stimulate the overall economic growth. The country’s energy capacities have great potential and, provided that an environment friendly to foreign investments is assured, this economic sector could be one of the most effective ones in what concerns international business activities.

“According to market experts’ estimates, the power prices in EU countries in the next 20 years will be increasing by an average of 1% annually, ranging 36-50 euro/MWh. And considering the current price for the electricity of nuclear plants in Ukraine, which is 16.3 euro/MWh, its ability to compete in the EU market is evident even in view of the investment aspect” [8].

“The 750 kV Rzeszów–Khmelnytskyi powerline was decommissioned in 1993 when the power systems of Poland and the European Union were synchronized. This valuable asset was not used for 24 years. Restoring the operation of the 750 kV power line, the Energy Bridge Ukraine — European Union Project is the first phase of the project aimed at synchronizing the energy systems of Ukraine and the EU” [9].

This way, Ukraine will take the first step to free itself of the Russian energy monopoly on the international scene. Unfortunately, Kyiv had failed to disengage from Russia’ tight embrace in the energy sector for 26 years – since July 1, 1991 when the Warsaw Pact expired, and even today Moscow imposes its rules in this economic sector which is so important for Ukraine.

The same applies to Baltic States which are also in the IPS/UPS energy system meaning that they are directly influenced by Russia. And the same is valid for Moldova.

Therefore, the Energy Bridge Ukraine — European Union Project will enable Energoatom to access the Central and Eastern European energy markets and establish new-level collaborations with the European power system, gaining an opportunity to

transfer electric power to the Baltics and securing a key element for the energy hub creation in the CEE.

Considering that Ukraine has excess electricity generation capacities while European countries need great amounts thereof, the expedited project implementation is an urgent task set before the Ukrainian foreign economy policy makers. It is safe to forecast that thanks to this project Poland, Slovakia, Romania and Hungary will be receiving Ukrainian electricity in the nearest future, and that is the highroad to the European market.

There are plans to sign in 2022 a long-term contract for electric power transmission via European electric grids, in order to export the power from Khmelnytskyi NPP Unit #2.

To implement the project, the Ministry of Energy and Coal Mining of Ukraine, as the country's government representative, needs to sign an agreement with foreign private companies.

Furthermore, a long-term contract for electric power transmission from Khmelnytskyi NPP Unit #2 should be made between Energoatom National Nuclear Energy Generating Company of Ukraine and a private company.

In view of the above, further design and construction of Khmelnytskyi NPP Units #3 and #4 are highly relevant. Verkhovna Rada of Ukraine needs to adopt the corresponding law to enable that.

The Government of Ukraine began cooperating with one of the UK's largest banks, Barclays, regarding a loan to complete construction of Khmelnytskyi NPP Units #3 and #4 in 2020-2022. What is interesting about those arrangements is that the loan will be secured against electric energy supply to Europe.

The commissioning of the fourth Khmelnytskyi NPP unit is scheduled for 2026, and this is when the Energy Bridge project will be completed.

The establishment of an energy bridge between Ukraine and the EU caught the interest of many companies operating in the power markets of Europe, Asia and USA. Consortiums are also taking an interest and are willing to participate in the construction of Khmelnytskyi NPP Units #3 and #4, and to provide equipment and advanced technologies. There are a fair number of companies inquiring to sell electricity to EU countries on a continuous basis.

For the Energy Bridge project implementation the "1+2" definition was used, meaning in practice that the funds received from power exports in the foreign markets are used to finish the construction of two new power generating units.

In a situation when Ukraine shows a tendency towards electric power use reduction, entry to foreign markets is an extremely important task for the Ukrainian energy sector.

The following figures confirm the above. Ukraine's power balance for 2019 included plans to decrease the power generation by nuclear power stations to 82 million kWh which is 6 million kWh less than in 2015. In 2018, in the winter period when the electricity consumption rises significantly, Ukrainian nuclear power stations operated with balance limitations reaching almost 1.7 GW.



This project is also appealing because it does not involve great expenses to ensure the exports from Khmelnytskyi NPP's second unit, while the funds gained will enable the commissioning of the third and fourth units of the plant. Speaking of which, the 3<sup>rd</sup> power generating unit is completed 73% and the 4<sup>th</sup> — 28%.

There is an ongoing active search for investors and equipment suppliers to finish the construction. Korea Hydro & Nuclear Power and China National Nuclear Corporation are greatly interested in the project and willing to participate in the generating units erection: APR-1400 (Korea) and HPR-1000 (China). In addition, there is a proposal for the WWER reactor by Skoda.

“Representatives of China National Nuclear Corporation recently announced their proposals in Kyiv, at the headquarters of Energoatom. They came to offer their participation in the completion of #3 and #4 units at Khmelnytskyi NPP using the so-called “1+1” formula, i.e. the third unit would be built in keeping with the WWER technology, and the fourth would be completed with the Chinese technology. Hualong would be the reactor type used.” The Chinese company representatives also talked about the potentially high level of Ukrainian localization involved in the unit construction and about the company's readiness to provide 85% funding of the project cost.”[10]

“Significant company events in terms of Ukraine's energy sector access to the international markets and evidence of the positive power industry trends include the following:

- resumption of the operations of the United Energy System (UES) of Ukraine concurrently with the UES of Russia (2001);
- commencement of operations at Burshtyn Island TPP concurrently with the European energy association (currently ENTSO-E) (2002);
- to enable full integration of Ukraine's UES into the European power systems, an application was submitted to the ENTSO-E Commission for inclusion of Ukraine's and Moldova's energy systems to ENTSO-E as a single control block (2006), and measures to prepare for the energy systems integration were designed and are being implemented (starting 2008);
- large-scale cooperation with global financial organizations (starting 2005) to secure investments for the most resource-intensive and long-term projects for the upgrading and capital development of the company's energy facilities.

There is no doubt that apart from the equipment upgrading which is essential for the electric power quality, transmission reliability and environmental safety, the following steps also evidence that the company's vector is towards bringing the electricity quality parameters in line with the European standards:

- creation of an automated electric power metering system for the Ukrainian UES facilities based on Ukrenergo NPC resources;
- receipt of the international certificate on the conformity of the operational and engineering management of Ukraine's UES and of the electric power transmission via mains systems and cross-border electricity networks to the international standard ISO9001:2008” [11].

**Conclusion.** To achieve the goal set in the article, ways to improve the activities of the energy market of Ukraine in terms of access to foreign markets were developed. The article studies and systematizes the basic requirements for the production, transportation and consumption of products of the energy market of Ukraine in accordance with international standards.

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# ECONOMIC SECURITY AND PRINCIPLES OF SELF-ORGANIZATION: CHINA'S EXPERIENCE

**Tatiana Yegorova-Gudkova<sup>1</sup>, Panj Li<sup>2</sup>**

<sup>1</sup>Ph.D. (Economics), Associate Professor, Associate Professor of Economic-Law Department, Odessa Mechnikov's National University, Odessa, Ukraine, e-mail: tatiana\_yeg@rambler.ru, ORCID: <https://orcid.org/0000-0001-7869-8777>

<sup>2</sup>Magister's Student of Economic-Law Department, Odessa Mechnikov's National University, Odessa, Ukraine

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**Abstract.** The article proposes to analyze the theme of self-organization of China's economy and examining the issues of security of the economy of the state from the point of view of the systematic and self-organizational approaches. The main scientific tried to explaining the reasons for the growth of the shadow economy. R. Coase and his followers, the shadowing of the economy is linked to the costs of using the market mechanism or transactional costs.. H.de Soto. the main reason for the emergence of mass shadow economic activity should be considered to be an inefficient legal regime, not the "failures of the market" but the "failures of the state" are the main threat to the national economy. Tries to consider the mechanism of self-organizational development for ensuring economic security, which is a complex concept that presupposes the protection of the most important elements of the economic system and self-sufficiency in the occurrence of destabilizing internal and external factors that threaten it, rhythm of it's functioning. Investigation of security issues of the state's economy should be based on transdisciplinary approach and use Nature's like models. Also it should be methods of theory of system and theory of synergetic considered on the mechanism of self-organizational. The economic system must be open, non-equilibrium, nonlinear and emergent. Nonlinearity describes its behavior by nonlinear multifactor equations, with small changes in the system parameters its state and properties change abruptly. Accordingly, first, the formulation of a diversified structure of energy imports, and second, the development, improvement and implementation of energy-saving technologies domestically.

The cybernetic approach of self-organization dominates the Chinese economy, state intervention is actively present in economic relations, sometimes over-regulation in one area and under-regulation in the other sphere adversely affect the stability of the economic system. Designing of the system of economic security of the state (as a special case of designing a sustainable system based on the principles of self-organization) we should comply with the law of structural harmony of the systems, the attractor of the golden ratio or be carried out on the basis of a recursive series of golden sections: 0.618 ...; 0.682 ...; 0.725 ...; 0.755 ... 1.0 as the nodes of the measure and involves the transitions of integrated measures of system from one node to another.

**Keywords:** economic security of state, transdisciplinary approach, self-organization, China's economy, law of measure or golden section and its derivatives.

**JEL Classification:** B41, C19, H56

**Formulas:** 0; **fig.:** 10; **tabl.:** 0; **bibl.:** 17

**Introduction.** Creating economic security is one of the most important national priorities of any country. The concept of economic security has an alternative to the concept of economic threats, to which economic crime directly relates. Economic crime arises under conditions of being able to compete with the legal economy in the production of the most profitable goods and services and reflects the disadvantages of the legal economy.

The experience of transformational economies shows that organized crime has intensified since the beginning of the transformation. One of the mechanisms of

survival and development of economic crime is corruption, through which economic crime penetrates public and public authorities. The algorithm of interaction between governmental organizations and organized crime is the basis of conflict of interest and is to provide its parameters for each of the parties to the conflict. The expertise of the Western powers and domestic experience in combating economic crime shows that only criminal justice measures are insufficient in the current context. Thus, the relevance of the search for new ideas in order to create conditions for economic security becomes a priority area of state economic policy. In this aspect, the idea of designing economic security, its security measures and the impact on economic crime is a necessary requirement of the present time.

Economic security is the ability and opportunity for a country's economy to develop in the face of conflict, uncertainty, and risks regarding the conditions of existing reality. From the point of view of classification on external and internal factors - the necessary level of economic security of the country can be provided first of all by internal systemic factors that shape its integrity and adaptability to changes [1].

The tasks of creating a security environment for a country are based on its national interests. At the same time, the main national interests include "foreign policy interests of the state related to ensuring its security and integrity as a determined socio-economic, political, national-historical and cultural community, with protection of the economic and political independence of the state", incl. the core is the notion of integrity, independence and security.

The task of ensuring the necessary level of economic security is multilevel. At least three levels can be distinguished - the individual, the state and the world economic system. According to the conditions of a particular country, it has the levels of enterprises (firms), industry, region of the country and so on.

The concepts of economic security threat must also be structured accordingly:

- threats to the economic security of citizens;
- security threats to the market subsystem;
- security threats to the subsystem of the state.

Thus, the economic security of the country has three components, which are the subjects of economic security. Identifying the nature of the threats posed by an economic security issue is key to defining the very concept of economic security. The threat results from the destruction of the object or damage to the object [2].

Threats can have different sources of origin, for example, the relationship of countries in the field of international economic relations, the spontaneous impact of the world economy; internal crises and imbalances.

**Literature Review.** In understanding national economic security issues, the most important concept proposed by new institutionalists is related to the problems of the shadow economy. The main scientific discovery is a fundamentally new approach to explaining the reasons for the growth of the shadow economy. According to the work of R. Coase and his followers, the shadowing of the economy is linked to the costs that the new institutionalists call transactional. The doctrine of transaction costs in the new institutional economy is fundamental, fundamental and important. New

institutionalists believe that it is important to take into account not only the costs of human interaction with nature (ie, transformational ones), but also the costs of using a market mechanism [4; 7]. It is in order to avoid high transaction costs that the process of forming the shadow sector of the economy begins.

Let us analyze the system of economic security of China and the ways of providing it from the standpoint of self-organization methodology. Chinese scientist Zhang Yong gave a brief definition of "economic security": "For developing countries such as China, economic security is best defined as the ability to ensure a gradual rise in the living standards of the entire population through national economic development while maintaining economic independence [5; 13].

So, to understand the problems of national economic security is assumed the concept of a shadow economy, its representative - Peruvian economist Hernando de Soto. In his view, the main reason for the emergence of mass shadow economic activity should be considered to be an inefficient legal regime, when the prosperity of the enterprise depends more and less on the effectiveness of the legal regime and the legal costs imposed on it. An entrepreneur who is more successful is the one who is better at manipulating ties with officials, that is, the shadow sector.

Therefore, not the "failures of the market" but the "failures of the state" are the main threat to the national economy [6; 7].

Thus, for the more developed countries in the modern world, the most relevant approach is D.M. Keynes, where active state regulation will play a role as an assistant to the "free hand", for others, including China, the approach of new institutionalism and E. de Soto, where on the one hand the market procedure should be made "transparent", on the other hand, the free market participants should observe the rule of conduct so as not to increase transaction costs and thus to reduce efficiency.

The system of economic security includes: technological and industrial security, financial security, energy security, food security, environmental security, information security, etc. The following is a detailed description of the organizational structure of economic security, and an analysis of its constituent elements that will be directly addressed by us in this article:

1. Technological and industrial safety. In the broad sense, it is explored as the ability of the industry of the country in the event of a breach of external relations with other countries (sources of production of raw materials and fuel for the production and marketing of finished products) of the world or the emergence of internal socio-economic shocks to quickly neutralize and compensate for their negative consequences, to sustainably expand the process reproduction, thus meeting public needs. It is closely linked to both material and social factors of production. In the narrow - the state of competitive industrial capacity of the national economy, and the position of domestic goods and services in the world markets, due to the scientific and technical potential of the country.

2. Financial security. Financial security refers to the state of financial institutions, the harmonious development of a set of financial relationships and processes, which ensures full protection of economic systems. This is the most important element and factor of economic security, which determine the state of

sustainable development of the country's financial system and the ability to withstand external threats.

The importance of financial security is also due to the fact that in the 21st century, confrontation and struggle between states are represented in the form of a "war without gunpowder", the peculiarity of which is that, as a measure of expressing the intention to protect national interests and plus claims against new ones, not by introducing traditional combat methods and actions, but by unconventional ones, such as information, economic, financial, which at times prove more destructive.

From the standpoint of this approach, the main criterion for war is not the means, but the results achieved, comparable to those usually expected in the event of a victorious end to a traditional war [9].

3. Food security, assumes that the economy of the country is provided with food in the amounts necessary for the effective functioning of the national economy. Food security must ensure the sustainable production of basic foodstuffs and their accessibility to the public. At the heart of food security is the realization of the capacity and capacity of their own provision (physical and economic availability), the reservation of a certain proportion of food stocks by purchasing on the world market (physical and economic availability), and most importantly - the quality of food resources.

4. Energy security. In the energy component of the economic security of the state, it is envisaged to ensure the stability of physical supplies of energy resources for domestic consumption, and the ability of the national economy to adapt to an unforeseen increase in world prices for them, or in the worst case, self-sufficiency within a certain period.

**Aims.** The aims of this article are to consider the transdisciplinary approach, Law of Measure as Golden Section and its derivatives and the main - mechanism of self-organizational development for ensuring economic security, which is a complex concept that presupposes the protection of the most important elements of the economic system and self-sufficiency in the occurrence of destabilizing internal and external factors that threaten it, rhythm of it's functioning..

According to above we intend to investigate the system of economic security and its structural parts: technological and industrial security, financial security, energy security, food security, environmental security, information security, etc. The following is a detailed description of the organizational structure of economic security, and an analysis of its constituent elements that will be directly addressed by us in this article:

**Methods.** Due to the fact that until recently, much attention was paid to the science of natural sciences, based on mechanical and mathematical views, in the field of socio-economic research was also dominated mainly by the classical methodology, characterized by a deterministic causal relationship between the factor of the event and its result.

However, this view is currently undergoing a systemic crisis. For example, the principle of perfect equilibrium is based on the general theory of economics, but this

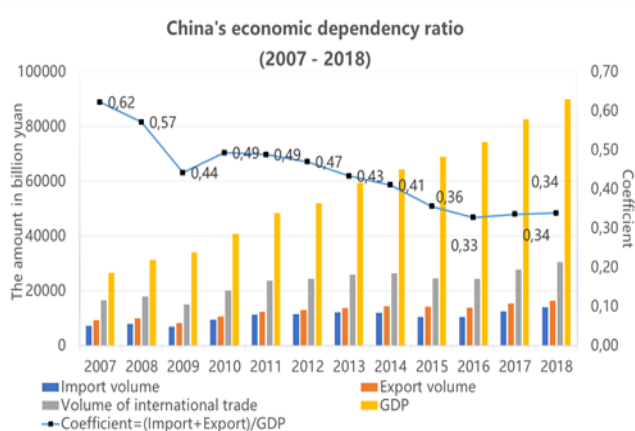
does not always happen. In areas such as financial markets, monetary circulation and credit, economic systems can remain unbalanced indefinitely.

Thus, the interpretation of the economic security of the state requires the application of a new view, to which the theory of self-organization, which proposes to carry out research taking into account the chaotic, nonlinearity of the system, is relevant.

The authors confine to the study of security issues of the state's economy from the point of view of a systematic approach, attempts to consider the mechanism of self-organizational development for economic security, which is a complex concept that presupposes the protection of the most important elements of the economic system and self-sufficiency in the occurrence of destabilizing internal and external factors-threatening its normal rhythm of functioning [3].

**Results.** The economic system must be open, non-equilibrium, nonlinear and emergent. Nonlinearity describes its behavior by nonlinear multifactor equations, with small changes in the system parameters its state and properties change abruptly.

Accordingly, first, the formulation of a diversified structure of energy imports, and second, the development, improvement and implementation of energy-saving technologies domestically. The solution to this problem at the state level is quite urgent as it gives the opportunity to prevent threats related to energy deficiency in the national economy. The openness and disequilibrium of China's technological production system are reflected in the economic dependence of the sectoral and sectoral structure of the economy. Consider the sectoral structure of China's economy and are reflected in the indicator of economic dependence and sectoral structure of the economy. China's economic dependence is usually calculated in the form of a factor, which is the ratio of the amount of imports and exports to the amount of GDP in monetary terms over the observed periods. The sectoral structure of the economy and its relationship with the stage of socio-economic development: each country of the world goes through three stages of development: agrarian, industrial and post-industrial stage. We present the data in Figures 1-6.



**Figure 1. China's economic dependency ratio composition (2007 – 2018)**

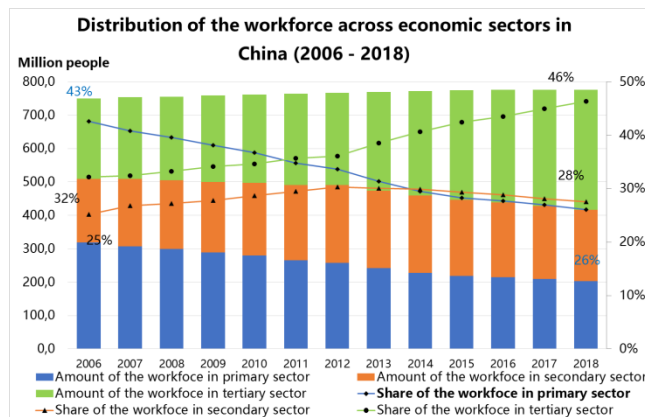
Source: developed by [10, 13,14, 15, 16]



**Figure 2. China's GDP sector (2006 - 2018)**

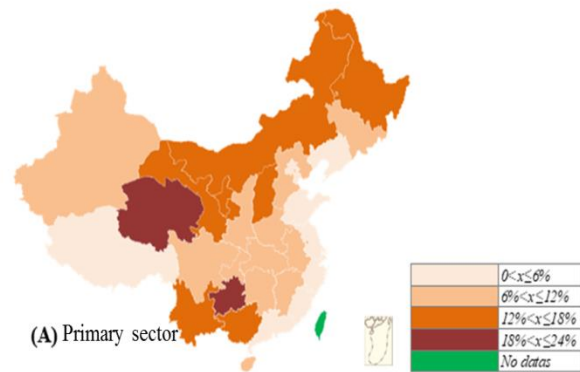
Source: developed by [10, 13,14, 15,16]





**Figure 3. Distribution of the workforce across economic sector in China (2006-2008)**

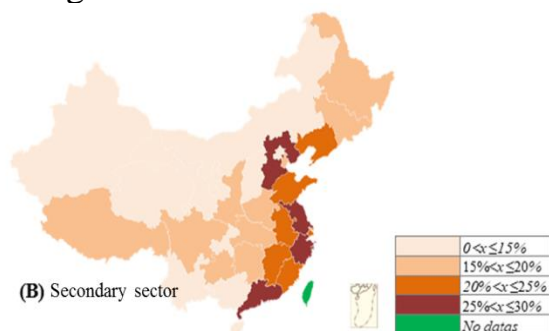
Source: developed by [10, 13,14, 15.16]



**Figure 4. Adverse conditions for the development of the 2<sup>nd</sup> and 3<sup>rd</sup> sector of the economy; one of the poorest region of the country**

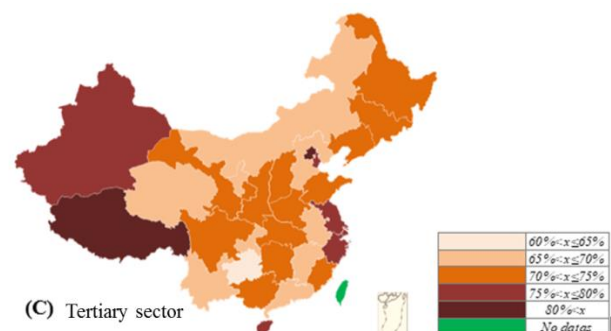
Source: developed by [10, 13,14, 15.16]

Distribution of legal entities across economic sectors among different provinces and regions:



**Figure 5. Distribution of legal entities across secondary economic sectors among different provinces and regions**

Source: developed by [10, 13,14, 15.16]



**Figure 6. Distribution of legal entities across tertiary economic sectors among different provinces and regions**

Source: developed by [10, 13,14, 15.16]

The technological and production component of economic security is determined by the state of the scientific and technical potential of the state's production capacity, which guarantees the competitiveness of the goods and services of national enterprises in the world market, as well as ensures independent development in the shortest possible time of innovations and innovations, on the basis of a rational and effective sectoral structure.

Having achieved technological and industrial security, the state, as a rule, has the ability of the national economy to worsen foreign economic or internal socio-economic situations to quickly compensate for their negative consequences, to sustainably provide extended reproduction, and thus meet public needs.

The financial component. State of the financial, including monetary, banking, monetary, fiscal, and other systems characterized by resistance to internal and external negative influences.



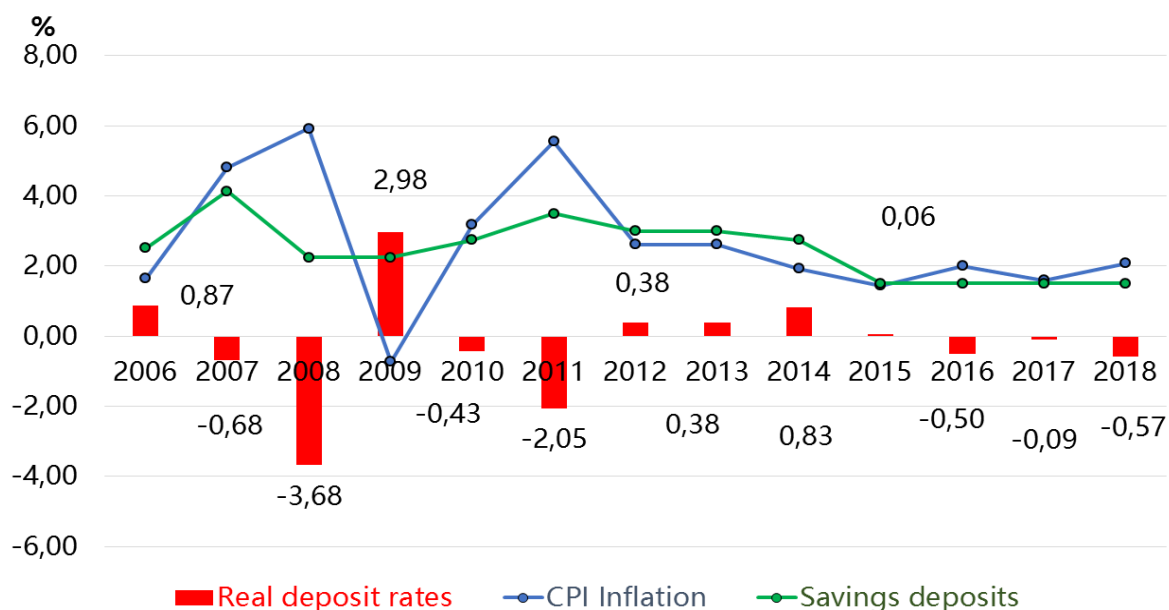
From the standpoint of self-organization theory, it creates the conditions for the emergence of an attractor in the financial system, near which the internal structuring, stabilizing factors hold up over the destructive and destabilizing factors.

The study of China's financial security in this paper will be seen from the perspective of the shadow banking sector. These are financial institutions that provide the same range of services as banks, but for some reason are not subject to banking regulation by government agencies.

The problem with the peer-to-peer lending platform (Peer-to-Peer P2P Loan) in China is particularly complicating its financial sustainability.

Possible reasons include tight financial constraints and inflation. Is a way to lend money to unrelated persons or parties without the involvement of a traditional financial intermediary; loans are provided online on the websites of special credit institutions.

A negative example is the scandal with the largest platform of the time, Ezubao, which turned out to be a financial pyramid and, with the help of the latter, was summed up by the company a sum of money of \$7.3 billion at 900 thousand investors in 2017.



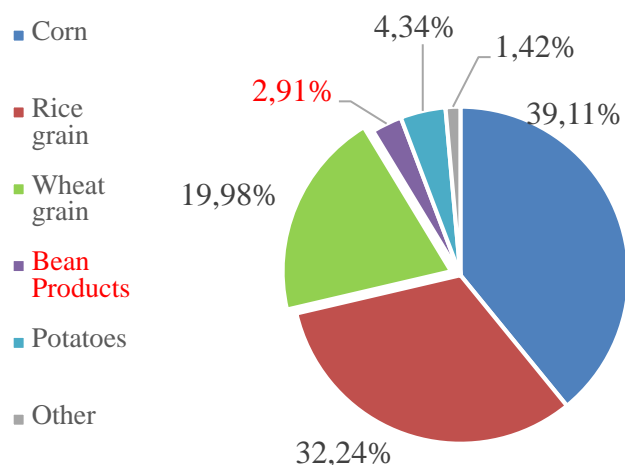
**Figure 7. Real deposit rate and CPI Inflation of China (2006 – 2018)**

Source: developed by [10, 13, 14, 15, 16]

*Food and energy security.* Physical accessibility, affordability and quality of food production. Self-sufficiency, quantity of domestic production, quantity of production per unit area (kg / hectare), structure of food consumption, area of arable land, level of mechanization of agricultural, etc.

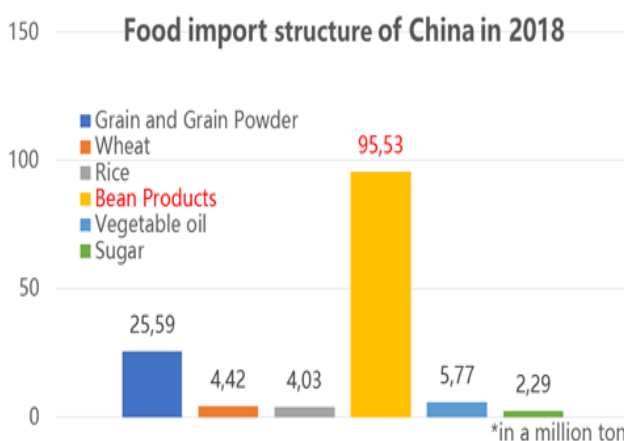
The White Paper of the State Council of the Government of the People's Republic of China "China's Food Security" writes that "from a medium and long-term perspective, China's need to increase food production remains at an intense high level."

"The question of China's food security has always been, is, and will forever be the sword of Damocles over the Chinese people's head" [16].



**Figure 8. China's food production structure in 2018**

Source: developed by [10, 13,14, 15, 16]

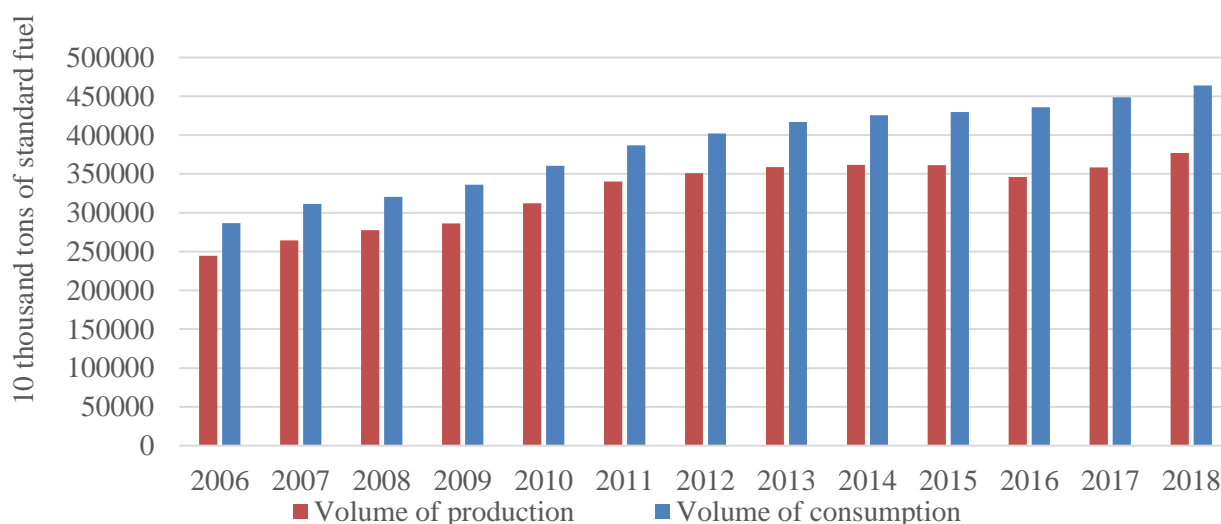


**Figure 9. Food import structure of China in 2018**

Source: developed by [10, 13,14, 15, 16]

1. The dependence of Chinese legumes on foreign supplies exceeds 80%. The huge need for legumes as feed materials, which is a necessary product for the development of livestock.

2. In turn, the need for China's livestock development is determined by the rapidly increasing need for meat products. Impact of the trade war with the US - rising prices for legumes - rising prices for meat - rising prices for other products.



**Figure 10. Quantity of energy production & consumption of China (2006 - 2018)**

Source: developed by [10, 13, 14, 15, 16]

*Energy security* threats are events that could adversely affect the physical and economic availability of energy resources and the level of their efficiency.

There is a large imbalance between China's domestic production and energy consumption, which is characterized by a shortage of energy resources and a high dependence of these resources on other countries.

**Discussion.** Due to the globalization of the world economic crisis and other problems of humanity's civilization, scientists have to revise the proposed and developed theories, and even more so to gradually adopt the ideas of nonlinearity of socio-economic sciences, and move on to a new direction of their development. The latest achievement in this field is the work of American economist Richard Thaler, who was awarded the 2017 Nobel Prize in Economics for his contribution to the study of behavioral economics. His scientific work examines the influence of social and emotional factors on economic decision-making by individuals and institutions, and the impact of this influence on markets.

The current state of traditional economic theory is characterized by many well-known researchers as a systemic crisis: "Thanks to the mathematization of economic theory, it has produced a number of general results that actually indicate the incompleteness or inadequacy of axiomatics of underlying models, which entails the lack of answers to the most important questions" [12].

It is the understanding that the economy as a dynamic and complex system is not always in a state of equilibrium, the complexity of its objects and the causes of the crisis in it are insufficiently studied that market participants in the general case do not fit the ideal and rational model of economic behavior and equilibrium served as a prerequisite and the starting point of applying the theory of self-organization as a new paradigm for the interpretation of economic science. The general theory of systems and the theory of self-organization, common to which the systematic approach stands, represent one of the directions of the modern sciences and are oriented to the discovery of new theoretical knowledge with the idea of holistic, system objects.

The Road to Economic Self-Organization: Practice in China. Reform and openness: towards the concept and recognition of the complexity, openness and nonlinearity of the economic system. The recognition by political conservatives of the effectiveness of the market mechanism was expressed by the process of knowing the complexity, openness and non-linearity of the economic system;

The first step of the reform took place in agriculture, and the transition to a "household contract liability system", which gave responsibility for agricultural production to individual households, was completed. Prior to this, the authorities did not allow the peasants to enter into economic activity on their own. The impetus for the development of this system is the signing of a secret contract by 18 peasants with local staff in 1978 on the independent distribution of land to farmers for agriculture. Symptoms of self-organization Special Economic Zone (since 1980), Techno-Economic Development Zone (since 1984), Open Economic Zone (since 1985), Free Trade Zone (since 2013), and Cluster: Effect of Synergy and Self-Management. Together with the reform process in the agrarian sector, the attention of state institutions turned to the transformation of the industry. However, due to the lack of liberal economic policies (including monetary and credit policies), the planned free trade area (2013) in Shanghai has not reached its intended goals.

The economic characteristics of special economic zones are presented in the form of the following principles:

- Attraction and use of foreign capital;

- Development of joint venture Chinese-foreign capital, as well as fully foreign-owned company;
- Production in these areas is primarily export oriented;
- Relatively liberal economic policies, preferential investment and credit conditions.

**Conclusions.** The cybernetic approach of self-organization dominates the Chinese economy, state intervention is actively present in economic relations, sometimes over-regulation in one area and under-regulation in the other sphere adversely affect the stability of the economic system [15; 16].

The analysis of statistical data, charts and heat maps (cartography) shows the structural risk of China's economic security, the role of state coordination and assistance in the development of stabilizing economy factors to shape the conditions for self-organization.

Designing of the system of economic security of the state (as a special case of designing a sustainable system based on the principles of self-organization) we should comply with the law of structural harmony of the systems, the attractor of the golden ratio or be carried out on the basis of a recursive series of golden sections: 0.618 ...; 0.682 ...; 0.725 ...; 0.755 ..... 1.0 as the nodes of the measure and involves the transitions of integrated measures of system from one node to another [8; 12].

The components of the design methodology for a holistic, sustainable and self-organizing economic system of economic security based on Law of Measure are following:

1. Assessment of the status of the economic system (for example, the state economic security system).
2. Assessment of the structural and functional state of the system.
3. Assessment of the level of vertical business integration by industry and economic sectors;
4. Assessment of the level of banking up to coenose's approach
5. Assessment of the share of value added in GDP;
6. Comparison of the evaluation results with attractors representing a recursive series of golden sections: 0.500 ...; 0.618 ...; 0.682 ...; 0.725.
7. Monitoring the reliability and viability of the system.
8. Investigation of the problem of system redundancy.
9. Entropy testing of the system (calculation of information entropy)
10. Formulation of the project restructuring (reengineering) system
11. Implementation of the project.
12. Assessment of the designed system for structural and functional correspondence to the golden section attractors [11; 12].

The more proportions of the Golden Section and its derivatives will be contained by the projected system, the higher will be its level of self-organization and stability in the conditions of external and internal disturbances.

Moreover, it will comply with Natural systems and principles of Nature like management.

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## CHAPTER 2

# DEVELOPMENT OF FINANCE, ACCOUNTING AND AUDITING

## PRIORITIES FOR IMPROVING THE HIGHER EDUCATION FUNDING SYSTEM IN UKRAINE

**Iryna Tarasenko<sup>1</sup>, Antonina Verhun<sup>2</sup>, Julia Bondarchuk<sup>3</sup>, Oleksiy Tarasenko<sup>4</sup>**

<sup>1</sup>Doctor of Science (Economics), Professor, Kyiv National University of Technologies and Design, Kyiv, Ukraine, e-mail: irataras@ukr.net, ORCID: <https://orcid.org/0000-0003-3626-4377>

<sup>2</sup>Ph.D. (Economics), Associate Professor, Kyiv National University of Technologies and Design, Kyiv, Ukraine, e-mail: vergun.am@knuutd.com.ua, ORCID: <https://orcid.org/0000-0002-2825-9511>

<sup>3</sup>Ph.D. (Philology), Associate Professor, Kyiv National University of Technologies and Design, Kyiv, Ukraine, e-mail: bondarchuk\_julia28@ukr.net, ORCID: <https://orcid.org/0000-0002-4851-8701>

<sup>4</sup>Postgraduate Student, Kyiv National University of Technologies and Design, Kyiv, Ukraine

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**Abstract.** The article examines the issue of improving the system of financing higher education in Ukraine. The study has been conducted both on the basis of the experience of developed countries and taking into account the peculiarities for financing the educational environment in Ukraine. The main purpose of the study is to manage the financial support of higher education in order to achieve positive dynamics of its development to fully meet the needs of the population in quality and affordable education, as well as the needs of the business environment in qualified professionals. The article reveals the priorities for improving the higher education funding system, analyzes foreign experience in the distribution of financial resources between universities, identifies the main problems, risks and areas of education in Ukraine. The main measures aimed at overcoming the problems in higher education financing have been analyzed. In particular, the most relevant tools for developing partnerships between the state and business structures have been studied. It has been established that the use of foreign experience in diversifying sources of funding institutions of higher education is of a strategic nature and will contribute to the full satisfaction of the population's needs in quality and affordable education, as well as the business environment needs in qualified professionals.

**Keywords:** higher education, financing of higher education, educational crediting, higher education development.

**JEL Classification:** I20, I21, I28

**Formulas:** 0; **fig.:** 0; **tabl.:** 0; **bibl.:** 29

**Introduction.** The issues of financing the educational sphere and attracting additional sources in modern conditions are among the key tasks of the education system, which, given its role in human capital formation and impact on economic and social progress, needs increasing attention from the state and society. The formation of a management system in higher education at the level of international standards, in particular the development of the funding system in accordance with modern requirements are the factors that will solve most of the existing problems in this area. In this regard, funding issues need to be addressed not only at the level of individual IHEs, but also at the level of the higher education system as a whole, considering them as an organizational component of the process of reforming the education sector. All these measures should be aimed at increasing the competitiveness of Ukrainian universities, which are becoming active participants in market relations

both nationally and internationally. At the same time, in the process of implementing the main measures in the context of higher education development, it is necessary to identify the most priority tasks, the solution of which should take place only with the participation and under the control of the state.

**Literature review.** The mechanism formation of financing the scientific and educational activities of the Free Economic Zone and the system of higher education in general has been studied by such scientists as: Balyihin G.A., Romanov P.V. & Chebotarevskiy Yu.V. (2003), Zakharevich G.O. (2011), Kasych A.O. & Tsyhan V.A. (2013), Pidgorny A.Z. (2017), Sbrueva A.A. (2015), Seliverstova T.P. (2009), Shevchenko L.S. (2018) etc. The analysis of the scientific literature allows us to conclude that the experience gained in the world's developed countries on the formation of financing mechanisms should be a guide for countries with transformational economies, including Ukraine. The differences between the existing mechanisms of financing higher education have been explained by the specifics of macro-, meso- and microeconomic conditions of educational systems and determine the choice of entities (individuals, economic entities, non-governmental organizations, state, international organizations), stakeholders (students, teachers), employers, society as a whole) and objects of financing (students, individual projects or researches, IHEs).

**Aims.** The aim of the article is to create a modern mechanism for managing financial support for higher education in order to achieve positive dynamics of its development to fully meet the needs of the population in quality and affordable education, as well as the needs of the business environment in qualified professionals.

**Methods.** The author used the methods of static and logical comparison, systematization and generalization, which made it possible to achieve the goal of the study.

**Results.** According to the study results of national problems of HE funding and sources of financial resources (Butska O.Iu., 2011; Shevchenko L.S., 2010; Iglina N.A. & Nabiev R.A., 2016), *the priorities for improving the education funding system* in Ukraine in the context of economic security (ES) and competitiveness (C) of higher education (HE) as a system include:

- ensuring the effective allocation of financial resources for educational expenditures from the state and local budgets in amounts sufficient for the development of IHEs, taking into account the state of material and technical and laboratory base, the possibility of reproducing the potential of academic staff and science development;
- strengthening the control and systematic analysis of the targeted use of funds for education;
- improving methods for determining the amount of education funding and development of funding standards taking into account the minimum social standards of mandatory financial support for the education development;
- improving the mechanism of funding education in Ukraine, taking into account international experience, the transition to multi-channel funding, taking decisive

measures to increase and diversify sources of funding for HE and optimize their structure;

- improving scientific, methodical and informational support of the educational process, creating the conditions for conducting fundamental and applied research in IHEs, which will act as an additional source of funding for higher education and help increase the competitiveness level of Ukrainian IHEs;

- developing the system of educational crediting, which will help to ensure: accessibility of educational credit for the general population; stimulating effective demand in the market of educational services; increasing the amount of financial resources in IHEs; attracting financial resources in the field of long-term educational lending.

It should be noted that the financing of HE in Ukraine is carried out using two main funds: general (state budget) and special (extra-budgetary funds). The directions of funds distribution for education from the national and local budgets are determined by the provisions of the Laws of Ukraine “On Higher Education” and “On Education”. In accordance with the norms defined by the Law of Ukraine “On Higher Education”, financing of IHE activities may be carried out with the involvement of legally permitted sources, which form a special fund, the funds of which can be used only for statutory IHEs. The size of these funds and the ratio between their volumes are influenced by a large number of factors: the economic situation in the country, which depends on the possibility of financing the IHE development from budgetary resources, the number of contract students, funding for science, grant programs, IHE ownership, management efficiency.

The analysis of foreign experience in the distribution of financial resources between universities shows the use of three main models of financing education: *formula based; project based and contract based*. The essence of the formula based distribution of financial resources involves taking into account the established criteria for distribution: quantitative indicators (number of students and AS); the number of university graduates who received diplomas of a certain level, etc. The project based model of financing provides the analysis of budget estimates of universities (mainly in the field of research), which are provided to the relevant government agencies. The contract based model provides the signing of relevant (bilateral) contracts between universities and the state to coordinate the relevant educational and (or) research services, indicating their planned and actual scope. It should be noted that in 30% of cases, these models are combined and used simultaneously.

Based on the analysis of the main provisions of the national strategy for the development of education in Ukraine for the period up to 2021 and summarizing the results presented in the expert analytical report “Reform of higher education in Ukraine: implementation of the relevant law in 2014-2016 (Shadow Report)” is part of the project implemented by the Laboratory of Legislative Initiatives under the USAID “COUNCIL: Accountability, Accountability, Democratic Parliamentary Representation” Program, identifies the main problems, risks and directions of education development in Ukraine, including:



*problems in the field of financing higher education in Ukraine:* low level of financial and economic support of IHE; weak motivation of society and business to invest in education; the presence of the facts of inefficient use of financial and material resources in the education system, misuse of the premises of IHEs in the presence of a shortage of funds within the higher education system; imperfection of the regulatory framework, which would allow to expand the financial autonomy of IHEs;

*risks that complicate the implementation of the goals and objectives of the National Strategy for Education Development in Ukraine:* economic instability, limited resources to ensure the systematic implementation of all tasks and measures provided by the NSED; stratification of society according to the financial situation of families; deteriorating demographic situation; non-acceptance of new reforms by a part of society; unwillingness of a certain part of educators to innovate; insufficient preparation of education management bodies to comprehensively solve new tasks, to ensure coordination of all services and institutions;

*strategic directions and tasks in the field of education financing, defined by the National Strategy for Education Development in Ukraine for the period up to 2021:* updating the regulatory framework of the education system in accordance with the requirements of the time; creation of a modern material and technical base of the education system; development of an effective mechanism for financial and economic support of education, proper remuneration of teaching and academic staff.

It should be noted that the lack of HE funding causes many economic and social problems, which include: arrears of individual IHEs for social benefits and utilities, weakened public lending to students, cessation of funding for housing improvement of academic staff, insufficient funding for research sphere, inhibition of innovative programs for the development of the higher education system. In addition, the need to preserve and develop the material and educational base determines the dependence of IHE on the funds received as tuition fees for contract students, which negatively affects the quality of training and, consequently, the competitiveness of IHE (Kulikov P.M., 2009). At the same time, the most important condition for solving the existing problems in the field of financing higher education is the resumption of Ukrainian economy growth.

*The main measures aimed at overcoming the problems in the field of higher education funding,* which failed to implement or which are partially implemented, according to the conclusions made in (Nikolaiev Ye. & Dluhopolskyi O., 2016) are: expanding the financial autonomy of IHEs, which will help increase the efficiency of the use of available funds (for example, the Law of Ukraine “On Higher Education” provides separate steps, but the only financial innovation implemented in the study period is the permission granted by IHEs to place their own funds in accounts with state banks instead of State Treasury); implementation of the project of the Ministry of Education and Science of Ukraine to change the system of public funding of IHEs, which provide the transition from “state funding training request” to “state IHE funding” in order to eliminate the link between parameters “amount of state funding of IHEs — number of students — number of teachers”, which significantly harms

the quality of education; improving the system of scholarships for students, because at the time of preparation of the analytical report (Nikolaiev Ye. & Dluhopolskyi O., 2016), constructive solutions to this issue have not been offered yet.

In general, as noted in (Nikolaiev Ye. & Dluhopolskyi O., 2016) the period 2014-2016 should be characterized as a “declaration of future intentions to solve the financial problems of Ukrainian higher education”. The implementation of tasks aimed at improving the mechanism of financing IHEs in modern conditions requires active support from the state, which necessitates a change in the principles of formation of public financial services in the field of higher education and science. At the same time, there is an increase in the importance not only of educational and scientific components, but also the economic efficiency of IHEs, as in market conditions HE is considered to be “an educational service”, which emphasizes the payment of its nature without reducing social significance.

The situation at the market of educational services in Ukraine is characterized by a high level of competition, which is due to the insecurity of supply by effective demand. Competitive struggle in the formation of the contingent of students motivates the IHE to take measures to improve the quality of educational and related services, which contributes to the IHE development. However, most IHE in Ukraine, lacking the financial resources needed to improve the quality of educational services, are forced to maintain the competitiveness level in the market of educational services by reducing the cost of education, which naturally reduces the quality of education and thus hinders the strategic goals of reforming the higher education system. To overcome this contradiction, the Ministry of Education and Science of Ukraine has developed a draft Resolution “Procedure for the distribution of expenditures of the general fund of the state budget between institutions of higher education for training on the terms of the state order and ensuring the operation of their practice bases” (Kulikov P.M., 2009). However, it should be noted that this document, although aimed at encouraging IHEs to improve their performance depending on the level achieved by the criteria of stable activity, scale of activity and quality indicators of activity, at the same time provides the amount of “tuition fees for persons receiving higher education at the expense of individuals and legal entities at a level not less than the amount of basic funding per reduced student, multiplied by the coefficient of specialty and indices of level and form” (Kulikov P.M., 2009). This may lead to a significant increase in tuition fees, at which these services will become inaccessible to a significant number of Ukrainian citizens, and, consequently, the principle of access to higher education for different categories of citizens will not be ensured.

This necessitates the development of a set of measures aimed at overcoming both internal systemic problems that exist in higher education and the negative impact of external factors, including the instability of the political situation, social shocks and exacerbation of the financial and economic crisis, which resulted in deteriorating investment. Climate change, negative demographic processes and other crises in the country that are critical to the development of the national higher education system and its economic security. In view of this, the diversification of sources of funding higher education is an objective necessity in terms of reducing the

opportunities for budget funding of free education and, as a consequence, opportunities to increase AS wages, research expenditures, budget funding and providing soft loans for housing construction for educational staff (Shevchenko L.S., 2010).

The analysis of both foreign experience and Ukrainian practice shows that in conditions when the right to education of a limited category of citizens (recognized as requiring state support) is provided at the expense of budget funds, forms of attracting financial resources from other sources become important.

**Discussion.** Solving the problem of diversification of funding sources for IHEs requires the use, subject to adaptation, models of financing education, tested by foreign universities. Some of their elements can be used in the national system of HE financing. Thus, in Ukraine there is experience in business support of science development: with the support of Rinat Akhmetov Foundation on the basis of the National University “Kyiv-Mohyla Academy” together with the Autonomous University of Barcelona (Spain) three educational projects “Digital Future Journalism”, “Digital Media for Universities”, “Doctoral mass communications programs”. In addition, leading Ukrainian universities regularly cooperate with foreign partners from countries such as Slovakia, the Czech Republic, France, Finland, Germany, Great Britain, Greece, Belarus, Kazakhstan, the USA, Austria, the Netherlands, Spain, Portugal, Italy, Turkey, Romania, Poland, Belgium, Japan, the EU, India, Canada, China, Latvia in the process of implementing such educational programs as ERASMUS; SOCRATES; GRUNDTVIG; TEMPUS; EUROCORES. Each of these projects has a certain amount of funding and is aimed at achieving certain goals, namely: promoting the mobility of students and teachers to ensure possible cooperation is one of the tasks of the program ERASMUS +; popularization and implementation of the basic principles of continuing education are the tasks of the program SOCRATES; development of all forms of non-specialized and continuing education for various categories of the adult population is envisaged within the program GRUNDTVIG; promoting the creation of new jobs and the creation of a European Higher Education Area are the main objectives of the program TEMPUS; the program EUROCORES is aimed at conducting joint research, dissemination of knowledge and planning of complex research tasks in various fields of science at the European level and worldwide. In addition to these programs, Ukrainian universities also participate in different programs such as: named after Jean Monnet, named after Marie Curie, named after Fulbright, DAAD programs, Chevening, etc (Holovko A.Ia., 2016, p. 572).

*The state targeted educational subsidies*, as a tool for the implementation of state enterprise in the field of education, is determined by the necessity to meet the needs of the public (non-market) sector of the economy in professional staff. Subsidiary programs in the vast majority are aimed at reimbursing the costs of IHE students to pay for the use of housing (Salo A.V., 2017). The use of this approach involves the preservation of traditional institutions, namely: state procurement, targeted admission, financial planning of budget expenditures on the basis of normative indicators of training costs for one specialist. A prerequisite for receiving

such subsidies is the existence of an agreement under which students are required to perform for a specified number of years in enterprises and institutions of the non-market sector of the economy, when state or local government in agreement with IHE determines the graduates' working place. Thus, the contract regulates the relationship between the student, the state and the education institution. The amount of the subsidy for social and household needs is determined at the level of the subsistence level in the region where the IHE is located. If all the provisions of the contract are fulfilled, including working in the direction of the number of years established after the contract after graduation, the IHE graduate is released from the obligation to return the funds subsidized for training to the budget. Such a system requires from IHE personalized analytical accounting of recipients of state subsidies.

An effective means of improving the efficiency of enterprises, institutions and organizations of state ownership, whose functions include meeting public needs, is the development of partnerships between the state and business structures, which is reflected in the concept of public-private partnership (PPP). The modern *concept of public-private partnership* has been formed as a special system of relations between business and the state in solving strategically important tasks of the country's development in the context of globalization in order to create resource and financial conditions for IHE, efficiency and investment attractiveness, competitiveness and the high level of education quality (Dzhandosova R.D., 2007, p. 88). J. Keynes wrote about the role of the state in regulating economic processes in his work "General Theory of Employment, Interest and Money" (Keynes Dzh.M., 2007), emphasizing that "in many cases the ideal measure to control and organize is somewhere between the individual and the modern state". Thus, J. Keynes formulated the idea of the need to create a mechanism that would combine elements of public administration and business opportunities.

**Conclusion.** The analysis of the advantages provided by the interaction of the state and business through the application of the PPP mechanism allows us to conclude that it is expedient to use it in the implementation of strategic projects of a priority nature. Such advantages include promoting the acceleration of socioeconomic development of the country; the possibility of reducing the expenditure side of the state budget; public sector reform; increasing the number of implemented projects with a high level of efficiency; reduction of costs and achievement of synergetic effect as a result of interaction of the state and business; improving the quality of educational services and, as a result, the level of training of freelance graduates; reduction of corruption and other illegal practices at all stages of the PPP project. Such projects must comply with the socioeconomic policy of the state and be part of the sectoral strategy.

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# USE OF WORLD EXPERIENCE IN INCREASING INVESTMENT ATTRACTIVENESS OF UKRAINE REGIONS

Klaus Lagler<sup>1</sup>

<sup>1</sup>Head of the business consulting department, Targit GmbH, Vienna, Austria, e-mail: [nastikpavlova0503@gmail.com](mailto:nastikpavlova0503@gmail.com), ORCID: <https://orcid.org/0000-0002-1209-5225>

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**Abstract.** The article is devoted to the research of the issues of using the world experience of increasing investment attractiveness and its adaptation for the regions of Ukraine. The purpose of the study is to use world experience to increase the investment attractiveness of the regions of Ukraine. In scientific articles in the research methods of scientific cognition, comparison, generalization and comparison were used, which allowed to make effective conclusions on the basis of the conducted researches. The experience of formation and development of investment attractiveness of the territory of such European countries as Poland, France, England, Scotland, Ireland, Germany, Sweden is considered. The advantages of these countries in achieving positive results in the development of the investment sphere have been established. The experience of the USA and China is studied, as in terms of economic indicators these countries have a positive experience in forming the investment attractiveness of the territory. The results of generalization of positive world experience in promoting the investment attractiveness of the territory in tabular form are presented. The expediency of using certain elements of the mechanism of public-private partnership of Sweden, Canada, the USA at development of the mechanism of maintenance of investment attractiveness of regions of Ukraine is proved.

**Keywords:** investments, investment attractiveness, world experience, region, state regulation.

**JEL Classification:** E22, R11

**Formulas:** 0; **fig.:** 0; **tabl.:** 1; **bibl.:** 11

**Introduction.** An effective condition for the development of any socio-economic system is the availability of investment as a more important source of economic growth of the state. The problems of Ukrainian society, which are primarily related to the political and economic crisis, as well as military action in eastern Ukraine, create significant obstacles in the process of attracting investment. Ukraine and its regions, having a significant natural resource potential and thus providing high-quality human capital, still face difficulties in attracting investment. The lever to change this situation can be to ensure and stimulate the investment attractiveness of the economy of the territory.

Intensification of investment activities of economic entities allows them to create conditions for innovation, optimization of production processes and production, building and upgrading production capacity, expanding existing and conquering new markets, the implementation of strategic objectives and more. To this end, there is a question aimed at increasing the investment attractiveness of Ukraine and its regions, the implementation of which provides a basis for solving socio-economic problems of the country and creates prospects for its development.

**Literature review.** The works of foreign classics of economic theory L. Smith, D. Ricardo, J. Keynes, D. Mill, P. Samuelsson, L. Marshall, J. Schumpeter are devoted to the study of theoretical and methodological aspects of the problem of



increasing the investment attractiveness of territories at the national and regional levels. K. Campbell et al.

The fundamental foundations of theoretical and methodological and applied research in ensuring the investment attractiveness of territories were laid and later developed by such domestic scientists as I. Blank, L. Gorbatyuk, A. Zagorodniy, P. Zachepylo, I. Ivashchuk, I. Krupka, T. Mayorova, M. Melnyk, A. Peresada, A. Peshko, I. Sazonets, V. Strunina, V. Fedorova and others.

However, despite the existing rather powerful tools to increase the investment attractiveness of territories, the development of a unified methodology for its evaluation and the development of a mechanism of stimulation in modern conditions of development of specific territorial entities are quite relevant and timely. Thus, the study of world experience in increasing the investment attractiveness of the territory allows to identify and propose the most successful projects in the regions of Ukraine.

**Aims.** The purpose of the study is to use world experience to increase the investment attractiveness of the regions of Ukraine.

**Methods.** In scientific articles in the research methods of scientific cognition, comparison, generalization and comparison were used, which allowed to make effective conclusions on the basis of the conducted researches.

**Results.** The study of the experience of formation and development of investment attractiveness of regions is due to the fact that some countries in a short period of time have achieved positive results in the development of investment in the territory of the territory World Bank, Institutional Investor, Euro money, Business Environment Risk Index (BERI), Moody's Investor Service, «The Economist», «Fortune», «Euromoney» and other sources.

The study of the Polish experience is timely and useful for the Ukrainian economy. Note that the management system of Polish regional policy has three levels, ie, implementation takes place at the national, regional and local levels. The same management structure in Ukraine. The regional level of Poland is represented by the administration in the voivodships. Voivodeships, in turn, implement management functions through the implementation of regional development programs, monitoring of the socio-economic situation in the region, infrastructure development, etc. The local level provides for change management, through local governments, by ensuring the effective functioning of regional production and social infrastructure (local transport, utilities, health care, primary education, culture, etc.) (Shevchenko, N.I., 2010). In the context of investment attractiveness, it should be noted that local governments have independence in regulating investment activities. Investments are managed by the State Council for Territorial Development. This allows to increase the level of investment attractiveness of the regions of Poland and promotes the activation of investment resources, which at the same time attracts investors, as well as has a positive impact on the development of strategic directions of the regions.

The territorial structure of France also has three levels (as Ukraine and Poland), namely the region, department, commune. France's investment activities are regulated by the National Bank and the Ministry of Economy, Finance and Budget. Separately,



the Ministry of Economy, Finance and Budget has a Treasury Foreign Investment Service (Office D3), which is responsible for declaring foreign investment, collecting data on investors and their investment goals (Shevchenko, N.I., 2010). Due to the decentralization of power, French local communities have great powers, including in investment processes, as evidenced by the vast majority of taxes to local budgets, as well as unlimited freedom to use investment loans. In addition to local authorities, investment is taken care of by institutions such as the National Agency for the Establishment of New Enterprises, the National Agency for Research Promotion and the Agency for Economic Development.

The formed investment potential of the regions of France contributes to the creation of greater opportunities for the development of the territory, increasing investment attractiveness, which in turn allows to form an effective regional policy taking into account the coherence of the interests of all investment entities.

The experience of England is positive for the regions of Ukraine, because at the present stage of development they face the problem of the land market and foreign investment in this sector. The fact is that English law has the Law "On Industry" dated 1975, which states that "... the government may prohibit the purchase by foreign investors of important manufacturing enterprises, if it is contrary to the interests of the state..." (Euro money's Country Risk Rankings, 2017). The creation of such restrictive measures will help support national interests, achieve the set goals and allow Ukraine to resolve debates about foreign investors who may become landowners in the future, create additional jobs, a healthy competitive environment, and replenish local budgets through taxes.

In addition, in England, in order to intensify investment activities, the European Investment Bank provides soft loans on favorable terms up to 50% of fixed capital investments. Regional agencies and development corporations play an important role in shaping the effective investment policy of the British regions. For example, the Scottish and Welsh Development Agencies, the London Dock Development Corporation and the River Meiser. These agencies provide objectivity, thoroughness in the study of regional problems, assess the benefits of the regions and develop measures to balance investments in regional development, which in turn contributes to their further prosperity (Euro money's Country Risk Rankings, 2017).

Scotland's experience in improving the investment climate is linked to the development of economic clustering processes. The creation of integrated enterprises and training for them is carried out through the creation of networks of local companies (the Local Enterprise Companies - LECs), which coordinate the formation of economic infrastructure, including administrative, accounting, real estate services, marketing, investment programs, land protection (Main economic indicators from Organization for economic cooperation and development, 2012).

A feature of the functioning of investment policy in Ireland is the intensification of the development of specific industries. According to the European Business Association, as of December 2019, more than two-thirds of Ireland's industrial output is produced by foreign firms. Foreign investment has allowed to achieve high rates of

economic growth (European Business Association: Investment Attractiveness Index of Ukraine, 2019).

As a positive experience of investment attractiveness consider Germany. Despite the fact that Germany has a difference in territorial organization and its subordination, the essence of which is the functioning of the German regions as separate states that have sovereignty and are not legally subordinate to the federation. The powers of the federation give them the opportunity to perform a wide range of management functions, which are enshrined in law, Art. 109 of the Constitution of Germany. Each region has its own constitution, democratically elected territorial parliament (landtag), territorial administration - the government. Each region has its own legislation, which does not contradict the federal, as well as its own citizenship, but the main thing is the citizenship of Germany. There is a federal constitutional court to resolve possible conflicts between the center and the regions. Thus there is a dual division of power.

In addition, it has been established that in Germany there are no regulatory restrictions on the movement of foreign capital, the volume and nature of foreign exchange transactions, as well as on the financing of foreign companies in the local debt capital market. The regulation of foreign investments is carried out on the basis of the Law "On Foreign Economic Relations" of 1961 and the Law "On Loans" subsidized in 1976 (Zoltán Kalcsú, 2019).

Increasing the investment attractiveness of the territory in Sweden was due to investment in education and science. In the second half of the last century, the government paid special attention to the training of engineers. The availability of qualified engineers has largely determined the growth of Swedish companies, industry and the economy as a whole. An important role was also played by a focused public procurement strategy that boosted demand and encouraged companies to invest more in research and development (R&D, in our R&D terminology). The so-called "development pairs" were formed in the country, which included the leading company in the industry and the relevant ministry (state agency) (Balassa B., 1965). Their active interaction contributed to the formation of industrial clusters, which still function successfully today.

In addition, a very important factor in the sustainable investment attractiveness of Sweden was the state policy for the development of innovation. Thus, due to the intensification of the actions of public authorities and the Agency for Economic Cooperation and Development (OECD) for the period from 1981 to 2001, Sweden moved from fifth place in the ranking of countries investing in research and technological development (r & d) to second position. Importantly, 75% of investments were made by private companies, not the state.

Thanks to the coordinated actions of the Ministry of Education, Research and Culture and the Ministry of Industry, a Strategy, Innovative Sweden (Innovative Sverige) was developed in 2004, outlining the main directions of the government's innovation activities, which are still relevant today (Komaromi, 2018):

- 1) development of knowledge base for innovation development;
- 2) development of innovative entrepreneurship;

- 3) government contributions to the innovation sphere;
- 4) development of people in an innovative environment.

This approach allowed to form the investment attractiveness of the territory, which had a positive impact on the quality of life and economic development of the state as a whole.

A similar vector in the direction of formation of investment attractiveness in Canada. During 2009-2019, the Government of Canada focused on providing benefits to research and development companies. The program of tax benefits for research and experimental development provides companies with a direct and complete write-off of most costs, as well as tax credits of 20 - 35% (Index rating of investment attractiveness of countries, 2020).

After analyzing the experience of the United States, it was found that the creation of favorable investment attractiveness of the states is defined as one of the key areas of activity of territorial authorities, where special attention is paid to economic and organizational support of foreign investment. As of 2018-2019, there were about 10,000 economic development programs at the local government level, which provide broad non-financial benefits for foreign investors. As part of activities to stimulate the economic development of local governments, 25 states have created about 1,500 so-called business zones, in which foreign investors enjoy wide benefits. All government methods of creating investment attractiveness states can be divided into the following groups (Rostow W.W.):

- direct financial incentives (granting loans, grants, loans and credits by state governments);
- fiscal measures (introduction of various taxes on business activities);
- tax benefits and special methods (tax deductions, discounts, and tax credits).

From a methodological point of view, the formation of investment attractiveness of the states is based on an integrated approach, which involves focusing on the interrelated changes of different groups of investment conditions (institutional, financial, infrastructural). The practical implementation of an integrated approach is primarily related to the testing of the mechanism of public-private partnership, which allows to improve investment attractiveness through:

- creation of structural elements of the new economy based on the integration of business organizations of the real and financial sectors of the economy, on the one hand, and research structures of higher education, on the other;
- pooling the financial resources of the state and private investors and directing them, above all, to the development of the innovative component of the territories (Born horst Fabian, 2013).

The Chinese government has decided to make attracting foreign investment a priority in economic policy. To this end, the first "special economic zones" were established in China (in the provinces of Guangdong and Fuyang). These zones differed not only in the liberal tax regime, but also in significantly easing administrative barriers to starting a new business. Hong Kong and Taiwanese investments in the Chinese economy have also played an important role in the success of economic zones.

Examining China's investment strategies for the last period (2009-2019), we can conclude that the country's investment policy is based on a gradualist approach, which involves a gradual, step-by-step, but large-scale capture of commodity markets for further growth of the national economy.

The results of generalization of positive world experience in promoting the investment attractiveness of the territory are shown in Table 1.

**Discussion.** The study of the experience of formation and development of investment attractiveness of such European countries as Poland, France, England, Scotland, Ireland, Germany, Sweden is due to the fact that they have achieved positive results in the investment sphere, thereby improving the socio-economic development of the country. As the United States and China are leaders in economic indicators, and have the most powerful economies in the world, their experience was generalized.

**Conclusion.** According to the results of the study, investment processes in most countries are managed on the ground (in the regions), and the responsibility rests with various agencies, whose activities are coordinated by the state, and in some cases not coordinated at all.

It is proved that some elements of the mechanism of public-private partnership of Sweden, Canada, USA should be used in developing the mechanism of investment attractiveness of the regions of Ukraine, as it (mechanism) contributes to the creation of structural elements of the new economy. development of the innovative component of a separate territory.

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Table 1

**The results of generalization of positive world experience in promoting the investment attractiveness of the territory**

№	Country	Institutionalization of the management process investment attractiveness of the regions	It is recommended to borrow
1	Poland	Local governments have independence in regulating investment activities. Investments are handled by the Polish Information and Investment Agency on behalf of the government. Revenues from investment activities of the regions remain in local budgets.	Investment incentives for investors: tax benefits, cash grants for investment and job creation. "Investment Support Programs of the Polish Economy 2011-2020" for investments in: automotive, aviation, electronic, biotechnology sectors, as well as in the sectors of food industry, research and development. Special economic zones are exempt from income tax and real estate rent.
2	France	Local governments have unlimited powers in investment processes. In addition to local authorities, investment is handled by the National Agency for the Establishment of New Enterprises, the National Agency for Research Promotion, and the country's Economic Development Agency.	Clustering of economic space. Using the experience of innovation in strategic sectors: sustainable development of the carbon-free and renewable energy sector, the creation of fourth-generation nuclear reactors, long-term urban development and transport development.
3	England	Regional agencies and development corporations play an important role in shaping the effective investment policy of the British regions.	The main provisions of the Law "On Industry" for the settlement of land issues. Providing loans to investors on preferential terms up to 50% of fixed capital investments.
4	Scotland	The National Economic Council ensures the implementation of investment policy at the state level. It reports to the Regional Economic Council and the Council of Regional Ministers, which perform the function of monitoring the decisions taken in each region to ensure compliance with national priorities.	Clustering of economic space. Training for integrated enterprise specialists. Creating a network of local companies for the development of economic infrastructure of the territory, including administrative, accounting assistance, real estate services, marketing, development of investment programs, land protection.
5	Ireland	Investment control is controlled by the Industrial Development Agency of Ireland.	Attracting foreign investment on the basis of tax policy (setting preferential tax rates), constantly informing foreign investors about changes in the economic sphere, attracting investments in high-tech industries, opening branches, industries and headquarters of leading global corporations.
6	Germany	The investment sector of the German economy has a high specificity due to the special role of banks in it, so investment activity is controlled by the German Federal Office for the Supervision of Credit Institutions. Regulation of investment activity is carried out on the basis of the Law "On External Economic Relations" and the Law "On Loans".	In Germany, there are no regulatory restrictions on the movement of foreign capital, the volume and nature of foreign exchange transactions, as well as on the financing of foreign companies in the local debt capital market. However, this idea should be implemented a little later, when the Ukrainian government manages to fight corruption and foreign investment reaches the level of Germany.

№	Country	Institutionalization of the management process investment attractiveness of the regions	It is recommended to borrow
7	Sweden	Foreign investment is regulated in accordance with the Swedish Foreign Affiliates Act, which requires any owner to register with the Environmental Protection Agency, the Tax Agency and, in the case of foreign residence, the Swedish Migration Service. To facilitate the inflow of foreign investment, the Swedish government has set up a Swedish Investment and Export Promotion Team, as well as a Foreign Credit Council.	The mechanism of investment infusions in education and science. Features of formation of industrial clusters. The main provisions of state policy for the development of innovation.
8	Canada	On the basis of the Parliamentary Law on Export Development in Canada, the Export Development Corporation was established, which reports to Parliament and its activities are managed by the Ministry of International Trade of Canada. The main functions for attracting investments are assigned to the Investment Bureau.	Mechanism for providing benefits to companies conducting research and development. The main provisions of the Program of tax benefits for research and experimental development.
9	USA	Regulation of foreign investment is carried out within the general regulation of foreign economic activity in accordance with the Comprehensive Law on Trade and Competition. This law gives, in particular, the right of the President of the United States to prohibit or stop mergers, the acquisition of assets, if there are grounds to believe that there is a threat to national security. Each state has special international trade units that attract foreign capital. Also, each state has its own business zone, which has benefits for investors.	Borrow economic and organizational support to attract foreign investment, namely: direct financial incentives (loans, grants, loans and credits by state governments); fiscal measures (introduction of various taxes on business activities); tax benefits and special methods (tax deductions, discounts, and tax credits). Borrow the methodological basis, namely a comprehensive approach that provides a focus on interrelated changes in different groups of conditions of investment activity (institutional, financial, infrastructural). Use the components of the mechanism of public-private partnership.
10	China	The Asian model of public investment policy is based on the close relationship between the state and private investors. At the state level, the functions of investment attractiveness management are assigned to the Ministry of Industry and Trade. At the regional level, the State Investment Corporation of China.	Commercialization of the use of foreign exchange reserves. The state-owned Chinese Investment Corporation, whose capital is formed by transferring \$ 200 billion to it. from the country's foreign exchange reserves, and the capitalization mechanism provides for the issuance by the Ministry of Finance of the PRC of a special ten-year bond loan of 1.55 trillion. yuan and the use of these funds to repurchase the specified part of the national currency reserves.

## CHAPTER 3

### MODERN MANAGEMENT TECHNOLOGIES

#### ROLE, PLACE AND CONCEPTUAL PRINCIPLES OF HUMAN RESOURCES MANAGEMENT OF THE ENTERPRISE

**Volodymyr Panchenko<sup>1</sup>**

<sup>1</sup>*Doctor of Science (Economics), Professor, Central Ukrainian State Pedagogical University named after V. Vynnychenko, Kropyvnytskyi, Ukraine, op\_panchenko@ukr.net, ORCID: <https://orcid.org/0000-0002-4927-0330>*

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**Abstract.** The manuscript is devoted to solving a scientific task related to the development of theoretical and methodological basis and applied fundamentals on evaluation and decision making in the enterprise's personnel security system (EPSS). The methodology of evaluation of management of EPSS is developed, which includes: theoretical bases for personnel safety evaluation; system of personnel risks of the enterprise; the clustering of the indicators of personnel security evaluation of the enterprise on various grounds and allows to fix the points of the break, the moments of the onset of emotional burnout or, conversely, the career growth of the individual worker, which eventually creates conditions, and first of all, to prevent threats to the enterprise by its staff. Developed and justified a dynamic decision-making model in the EPSS using the method of analyzing hierarchies based on the principles of identity and decomposition, allows you to choose the best alternative to the multi-criteria management model of the specified system, to calculate the static and dynamic indicators of a potential candidate and the main employee, to track the development dynamics individual employee in the enterprise, and the structural unit or organization as a whole, as well as to establish and adjust the requirements for potential candidates for employment, ultimately allows to improve the level of EPSS. The content of the main categories has been improved («personnel security», «personnel security system», «personnel security system management», «personnel security subjects», «personnel security threats», «enterprises personnel security evaluation indicators», «enterprises personnel security evaluation methodology»), which, unlike the existing ones, formed by combining the theoretical and methodological foundations of management and personnel security of an enterprise, provide a unified approach to the evaluation and adoption solutions in the EPSS.

**Keywords:** economic security of enterprises, personnel security, threats, enterprise management, evaluation methodology, integral indicator, intellectual modeling of decision-making, opposition to insiders.

**JEL Classification:** J01, J50

**Formulas:** 0; **fig.:** 1; **tabl.:** 1; **bibl.:** 19

**Introduction.** Personnel security management is central among other elements of the economic security system of modern enterprises, covering the full range of measures aimed at preventing and eliminating risks and threats, as well as their negative consequences associated with the work and behavior of staff. In Ukraine, among the main threats to the economic security of enterprises, experts call corruption (60%), the transfer of cash (30%) and financial fraud with reporting (26%). Forecasting and timely identification of possible abuses by staff requires the development of an appropriate methodological framework for evaluating their actions to make effective management decisions.

The analysis of scientific works of domestic and foreign authors gave grounds to claim that quite often ensuring economic security of enterprises is equated with confrontation of influence of various threats, and also with protection against various economic crimes (theft, fraud, forgery, arson, unfair competition and industrial espionage). etc.), but this concept is much broader and needs to be thoroughly studied.

**Literature review.** Works of foreign and domestic scientists, in particular: G. Azoev, V. Belov, A. Polyansky, V. Gavrish, V. Deruzhinsky, E. Solovyov, A. Shavaev, D. Kovalev, T. Sukhorukov, V. Zabrodsky, V. Shlykova, G. Minaeva, V. Tambovtseva, E. Oleynikova, V. Mak-Mak, V. Yarochkina, A. Ponomarenko, S. Grunin, G. Kozachenko, V. Franchuk, I. Migus and many others.

Despite the considerable amount of research, many issues related to the assessment of the personnel security system and the adoption of appropriate management decisions based on its results remain open for further development.

**Aims.** The purpose of the article is to develop theoretical and methodological and applied principles for evaluating and making decisions in the personnel security system of the enterprise.

**Methods.** A number of general and special methods were used in the work, namely: methods of induction and deduction – during the study of the concepts of «personnel security», «threats to personnel security»; observation and generalization – to establish the place of personnel security among other components of economic security of the enterprise; causal method – in the process of assessing the state of personnel security of enterprises.

**Results.** In modern economic conditions, enterprises and organizations independently develop and implement their economic policy, organizing production and marketing, forming current assets and repaying liabilities, which leads to the need to ensure economic security of their activities and requires the creation of its own personnel security management system.

The initial concept of economic security from the standpoint of object-oriented approach was proposed in the early 90s of the twentieth century. And was seen as creating conditions for the preservation of trade secrets in the management system of economic security of the enterprise.

For example, D. Kovalev and T. Sukhorukova define the concept of «economic security of the enterprise» as «protection of its activities from the negative effects of the environment, as well as the ability to quickly eliminate various threats or adapt to existing conditions that do not adversely affect its activities» [1, p. 48].

A similar opinion is held by V. Shlykov, who considers the economic security of the enterprise as «... a state of protection of vital interests of the enterprise from real and potential sources of danger or economic threats» [2, p. 33]. However, it is difficult to agree with the approach proposed by V. Shlykov [3], because in his interpretation of this concept the vision of the prospects of enterprise development is lost, as it is identical to the concept of adaptation of the enterprise, which is not correct. In addition, the attempt to determine the economic security of the enterprise



in such a context creates the appearance that the enterprise and the threats to its activities are separate phenomena, not related to each other in essence.

Considering the essence of the concept of «economic security of the enterprise (organization)», G. Minaev notes that this term should be understood as «protection of vital interests of the organization from threats in the economic sphere» [4, p. 359].

A similar opinion is expressed by TM Sokolenko, who gives this interpretation of the term «economic security» – is «a state in which the strategic potential of the firm is close to the limits of adaptability, and the threat of loss of economic security increases as the degree of adaptability of strategic potential to the border zone». That is, if the strategic potential of the firm in its current form has exhausted the possibility of adapting to the instability of the external environment within the mission, it can be argued that the economic security of the firm, which may manifest itself in the form of loss of competitive status or significant deterioration company image [5].

A detailed definition of the system of economic security of economic entities is provided by L.G. Shemayeva, who notes that the «system of economic security of the enterprise» is an organized set of interconnected elements of external and internal security of economic entities, such as: special bodies and services, facilities, scientific approaches, regulatory framework, policy, strategy, concept, principles, functions, tasks, methods and tools aimed at ensuring the implementation of strategic and tactical interests of the business entity, as well as protection of these interests from external and internal threats [6, p. 15]. At the same time, the classical definition of any system, as a rule, does not contain the concretization of its elements, so in this case, excessive detail may be a defect in understanding the essence of the concept under study.

Scientists AA Kirichenko and Yu.G. Kim emphasize that the system of economic security of the enterprise is a set of organizational and managerial, technological, technical, preventive and marketing measures aimed at quantitative and qualitative implementation of protection of the interests of the enterprise from external and internal threats [7, p. 54]. However, not only the interests of the enterprise need protection, but also the interests of persons directly related to this enterprise – its owners, management staff, ordinary employees, etc.

According to I. Shevchenko, the system of economic security is a set of interrelated actions of organizational-economic, legal, functional nature, aimed at ensuring the security of the enterprise; the state of protection of its vital objects from real and potential sources of danger or threats with a clearly defined and specific goal and objectives of the economic security system in relation to the specific conditions of the enterprise [8, p. 178].

Thus, most of the analyzed definitions of the economic security system of the entity emphasizes the complexity and multifaceted nature of the concept, but does not take into account the fact that it is important to find the right balance between probable losses in violation of economic interests and allowable costs to prevent or minimize such losses.

Thus, a large number of scholars approach the understanding of the economic security system in terms of positioning it as a set of measures, ie are supporters of an

integrated approach. At the same time, not all researchers in their definitions specify what measures are in question, and what is the ultimate goal of successful implementation of these measures, ie what task should be solved by an effective system of economic security of a modern enterprise.

V.M. Andrienko notes that «the system of economic security of the business entity» is a set of elements, namely parts of its financial, material, labor, information support, which in the process of its interaction within the achievement of the goal of the enterprise, in a changing environment and probable manifestations of internal threats to the system, allow it to maintain and increase or effectively use its own and borrowed resources and realize economic interests [9].

Thus, the term «economic security system of the enterprise» is appropriate to understand a set of interrelated management actions aimed at ensuring the stable operation of the enterprise by neutralizing internal and external threats to its activities.

The list of basic principles of functioning of the economic security system and their brief characteristics are given in table 1.

We describe the principles of functioning of the system of economic security of enterprises:

1. The principle of system – provides for the creation of such a system of economic security in the enterprise, which will ensure its protection in general, including its property, personnel, information, various areas of activity from internal and external threats.

2. The principle of timeliness – stipulates that the system of economic security should be built in such a way as to be able to identify various threats at an early stage, take measures to prevent their harmful effects and damage to the enterprise.

3. The principle of legality – provides that all actions to ensure economic security should be based on applicable law and not contradict it.

4. The principle of continuity – provides that the system of economic security must operate constantly, protecting the interests of the enterprise in terms of risk and counteraction to intruders.

5. The principle of economic feasibility – provides that the system of economic security should be built in such a way that the cost of its provision was economically feasible, optimal and did not exceed the level at which the economic meaning of its use is lost.

6. The principle of planning – involves organization in the functioning of the security system, requiring each participant in the process to act consistently, clearly perform their duties and solve the tasks facing him. Security activities are organized on the basis of a single plan, set out in a comprehensive program and specific plans for individual areas and subtypes of security.

7. The principle of interaction – provides that to ensure the safety of the business entity, it is necessary that the efforts of persons involved in this process, units, services were coordinated. All actors involved in this process must interact with each other, as the success of the case, the end result and the achievement of the goal depends on the coordination of actions of all participants in the process.

**Table 1. Basic principles of functioning of the system of economic security of economic entities**

№	Name of the principle	The content of the principle
1.	Legality and observance of human and civil rights and freedoms	Security measures are developed on the basis of and within the framework of current regulations
2.	Priorities of preventive measures	Timely identification of trends and preconditions that contribute to the development of threats
3.	Priorities for the protection of individual rights in the security process	Ensuring the protection of the rights of persons exposed to danger in the process of ensuring the security of the facility
4.	Privacy	Ensuring the confidentiality of information on the implementation of measures to ensure the security of the facility
5.	Cooperation	Cooperation with law enforcement and regulatory agencies, security services of other facilities, etc.
6.	Integrated use of forces and means	All available resources and funds are used to ensure economic security
7.	Competence	Employees must address safety issues at a professional level
8.	Economic feasibility	The costs of economic security should not exceed the optimal level at which the economic meaning of their application is lost
9.	Planned basis of activity	Security activities should be based on a comprehensive security program, in particular by its types and bringing to work plans of relevant units
10.	Systematic	Taking into account all factors that affect the economic security of the entity
11.	Integration into the overall objectives of the entity	Focus on the strategic goals of the business entity, work on the overall result in close coordination with other departments
12.	The principle of potential connectivity	Assumes the presence of potential opportunities in the formation of temporary independent systems in the system complex due to the intersection of strategic interests of the subjects
13.	The principle of synergism	Provides a compatible cooperative effect of system interaction
14.	Active influence	Active influence on relations in interaction with the subjects of the external environment
15.	Subjectivity	Consideration of the external environment through the prism of economic interests of the subjects of interaction
18.	Reflections	Consideration of the business entity as a reflective system, the implementation of self-assessment and evaluation of reflective ideas of the subjects of interaction on the development of the situation
19.	Compromise	Coordination of economic interests of the business entity in strategic interaction with the subjects of the external environment

Sources: compiled personally by the author on the basis [10, 11, 12, 13, 14, 15]

The principle of cooperation involves the establishment of close business contacts and coordination with external organizations (law enforcement agencies, public authorities and non-governmental security agencies), able to provide the necessary assistance in ensuring the economic security of the enterprise.

8. The principle of competence – implies that the issue of economic security is not a side issue, but vital. As a result of deliberate actions of criminals, unfair competitors, risky decisions by employees of the institution, significant damage can

be caused, so the issue of economic security should be dealt with by professionals who know the nature of the problem, can assess the situation and make the right decision.

9. The principle of combining publicity and confidentiality – provides that the system of basic measures to ensure economic security should be known to all employees of the enterprise, and its requirements must be met. This will allow to identify and prevent potential and real dangers and threats in a timely manner.

The main purpose of ensuring the economic security of the enterprise or business entity is to achieve maximum stability, as well as to create a basis and prospects for growth to meet business goals, regardless of objective and subjective threatening factors (negative actions, risk factors).

Personnel security is one of the most important components of the economic security system (along with others – financial, force, information, technical and technological, legal, environmental and others).

The purpose of personnel security is specified in the tasks, which are determined depending on three factors: depending on the levels of management of the organization, depending on the types of threats and depending on the risk groups.

Depending on the levels of management of the organization, the tasks of personnel security are related to the fact that as part of economic security, personnel security is implemented first at the level of strategy, and then specified in programs and methods (personnel security system of the enterprise). At the strategic level, the personnel policy of the enterprise is determined, its connection with the general strategy of enterprise development is established, the main directions of work of the personnel management service are determined. The task at this stage is to identify the problems of the enterprise, to develop their solutions, to develop certain rules and regulations that are mandatory for the whole enterprise, which contribute to staff security.

Methods of ensuring personnel policy should be involved in the processes of human resource planning, information, financial policy, staff development and evaluation.

The personnel security strategy, personnel policy and the general strategy of the enterprise as a whole must be clearly formulated and understood by the personnel management employee.

Based on the study, the main tasks of the personnel security management system were systematized, in particular:

- formation of requirements to employees of the enterprise in the context of ensuring economic security;
- development of appropriate regulatory documentation for personnel management staff;
- development of regulatory documentation for other employees of the enterprise in the interests of personnel security;
- detection, prevention and termination of undesirable actions by the personnel of the enterprise that may cause harm to the interests of the enterprise;

– carrying out measures aimed at preventing persons from holding official positions, abusing which they may harm the enterprise by their actions.

**Discussion.** In modern theory of economic security today there is no single defined system of personnel security management, clearly and logically structured structure and a defined mechanism that does not allow in practice to effectively use available resources and ensure a sufficient level of personnel security through one-sided perception. In practice, most businesses eliminate economic security measures and reduce them only to physical protection of the territory and protection.

The subjects of the personnel security management system of the enterprise are individuals, legal entities, departments, services, institutions, organizations directly involved in the security system. In this regard, it is appropriate to divide the subjects into two subgroups:

1) external, which include public authorities, law enforcement agencies, security services of other economic entities, non-governmental security agencies, persons who do not have business relations with the enterprise;

2) internal, which include the security service of the enterprise, personnel service, legal department, structural units, personnel of the enterprise.

Like any economic system, the personnel security management system of the enterprise operates within the legal and legislative field, which is an essential condition for its effective operation. Regulatory and legal support of personnel security consists of the main legislative acts, normative legal documents, internal provisions and regulations, which should be classified in the following areas:

1) international ISO safety standards:

- ISO 15408 "General criteria for assessing the security of information technology";
- ISO 27001 "Information Security Management System";
- ISO 31000: 2009 "Risk Management";

2) legislative and regulatory documentation:

- Constitution of Ukraine;
- Commercial Code of Ukraine;
- Criminal Code of Ukraine;
- Civil Code of Ukraine;
- Code of Labor Laws;
- Law of Ukraine "On Information";
- Law of Ukraine "On information protection in automated systems";
- Law of Ukraine "On protection against unfair competition";

3) normative documents of internal regulation:

- statute;
- job descriptions;
- employment contract;
- obligation not to disclose trade secrets and confidential information;
- provisions on trade secrets;
- provisions on protection of trade secrets;
- nomenclature of officials and employees who have access to trade secrets;

- list of information that is a trade secret of the enterprise;
- internal work schedule of the enterprise;
- provisions on labor discipline;
- provisions on official record keeping;
- provisions on conducting official investigations.

The functions on the basis of which the mechanism of personnel security management of the enterprise operates, consist in:

- search, classification and systematization of typical threats associated with the causes of destructive and destabilizing processes in personnel security;
- optimization of the ratio of the motivational mechanism and the system of penalties and liability;
- organization of a system of analytical work to ensure the staffing and formation of professional staff of the enterprise or business entity;
- ensuring the protection of all components of personnel security;
- conducting explanatory work among the staff and acquainting them with the responsibility for their corruption, bribery, extortion;
- ensuring control over compliance with laws and regulations on abuse of office, delinquency and bribery among staff;
- organization of educational and introductory lectures, seminars, trainings with a system of measures to ensure personnel security at the enterprise and acquaintance with the category of trade secrets.

The formation of the mechanism of personnel security management allowed to form its optimal structure, to include the most necessary components, to reflect strategic connections, which instead allowed to illustrate a comprehensive approach to its construction.

Such a model can ensure the efficient functioning of the personnel component of economic security, without material and financial losses, while increasing equity and operating in accordance with a single corporate concept (Fig. 2).

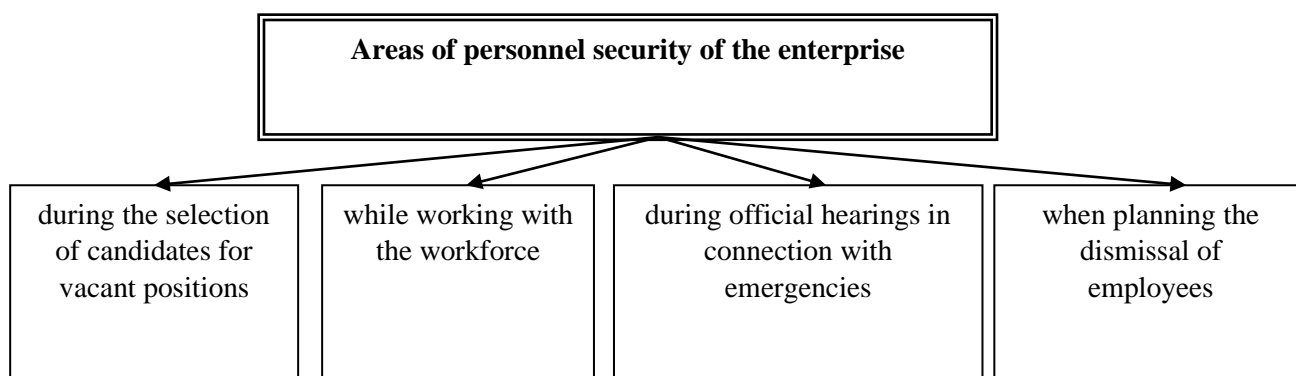
The tasks of the personnel security management system of the enterprise are:

- personnel security audit;
- identification of threats to personnel security of the enterprise;
- selection, verification and study of candidates for work at the enterprise;
- identification of falsified documents when hiring;
- development of a package of documents to protect the economic interests of the enterprise (documents are signed when concluding employment contracts with employees and legally establish the rights, duties and responsibilities of employees for the period of non-disclosure of confidential information, reimbursement of internal training, prevention of conflicts of interest, return of material, money and documents);
- assessment of job suitability, career prospects, personal potential, moral guidelines and propensity in employee behavior;
- collection of data on job candidates for management decisions on acceptance or rejection;

- collection and analysis of data on employees to make decisions on admission to confidential documents or participation in important projects;
- participation in official investigations into the behavior of employees that cause damage to the security of the enterprise;
- participation in the legal support of labor disputes related to the violation of measures or other contractual obligations.

The personnel security management system of the enterprise, being an integral part of the company's economic security, is aimed at such work with staff, at establishing such labor and ethical relations, which can be defined as "break-even". All this activity is not a separate area in the functions of the personnel manager, but only organically included in it (Fig. 1).

From the point of view of safety in the approach to labor interaction each candidate for a vacancy, each worker of the enterprise should be considered every minute as a source of risk, a source of potential threat.



**Figure 1. Areas of personnel security of the enterprise**

*Source: compiled personally by the author*

During the selection of candidates for vacant positions:

- verification of the accuracy of the provided personal data;
- inspection of an individual for the presence of criminal offenses and administrative offenses;
- checking the candidate for medical contraindications to the proposed work;
- collection of characteristic information about the person at the previous place of work, service, training, professional competence, which is declared by the candidate;
- selection of candidates for financially responsible positions;
- psychological testing of employees when appointed to key positions.

When working with the staff of the enterprise or business entity:

- assessment of job suitability, career prospects, personal potential, moral guidelines and inclinations in employee behavior;
- rational placement of personnel, formation of psychologically stable teams;
- development of professional certification of staff, aimed at neutralizing the risks associated with professional incompetence of employees;
- settlement of conflict situations within the enterprise;

- development of programs to prevent material damage resulting from theft, fraud and other internal abuses by staff;
- development of the program of measures of corporate policy of the enterprise.

Thus, personnel security of enterprises is a new element of modern enterprise management, without the implementation of which it is impossible to ensure the reliability of staff and sustainable development of enterprises. Personnel security is one of the most important components of the system of economic security of enterprises, and its provision requires the development of an appropriate mechanism.

**Conclusions.** According to the results of the research, the analysis of the categorical apparatus in the field of personnel security was carried out, the place of personnel security in the system of economic security of enterprises was determined, the system of personnel security of the enterprise was characterized.

Based on the study, the main elements of the system of economic security of enterprises were systematized, which include: the object (financial resources, information, staff, property, legal support, etc.); subject (there are those persons, divisions, services, bodies, departments, institutions that are directly involved in ensuring its security); functional components (financial, financial and economic, corporate, technical and technological, technological, production, innovation, market, resource, property, power, physical protection, intellectual and personnel, intellectual, personnel, political and legal, legal, information, information and analytical, information-psychological, interface, ecological); the mechanism of functioning and methods of assessing the state of the system.

A system of personnel security is proposed, which will help to solve some of the general problems in terms of its theoretical justification and provide a qualitative description of all existing facilities, while being in the process of constant growth without material and financial losses. The objects of personnel security in this case should include: managers, shareholders, partners, staff and freelancers, financial resources, hardware and software, objects of copyright and related rights, all material resources of the business entity, to which there is free and limited access of personnel, protected information, information resources of limited use and freely distributable information resources. To the subjects: individuals, legal entities, divisions, services, institutions, organizations directly involved in the security system.

**Author contributions.** The authors contributed equally.

**Disclosure statement.** The authors do not have any conflict of interest.

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## LEGAL BASIS OF ENSURING CYBER SECURITY OF UKRAINE: PROBLEMS AND WAYS OF ELIMINATING

Zinaida Zhyvko<sup>1</sup>, Taras Rudyi<sup>2</sup>, Volodymyr Senyk<sup>3</sup>, Liliia Kucharska<sup>4</sup>

<sup>1</sup>Doctor of Science (Economics), Professor, Department of Management, Lviv State University of Internal Affairs, Lviv, Ukraine, e-mail: professor2007@ukr.net, ORCID: <https://orcid.org/0000-0002-4045-669X>

<sup>2</sup>Ph.D. (Technical sciences), Associate Professor, Associate Professor of Department of Informatics, Lviv State University of Internal Affairs, Lviv, Ukraine, e-mail: tarasrudyy@gmail.com, ORCID: <https://orcid.org/0000-0002-4106-4313>

<sup>3</sup>Ph.D. (Technical sciences), Associate Professor, Head of Department of Informatics, Lviv State University of Internal Affairs, Lviv, Ukraine, e-mail: v.v.senyk@gmail.com, ORCID: <https://orcid.org/0000-0002-0428-6443>

<sup>4</sup>postgraduate, Lviv State University of Internal Affairs, Lviv, Ukraine, e-mail: liliia\_kukharska@ukr.net, ORCID: <https://orcid.org/0000-0002-8957-6983>

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**Abstract.** In the study we tested the analysis of modern data on cyber security in Ukraine, we highlighted the main aspects of the regulatory and legal support of the national information security. Identified key reported measures to counteract threats to state information security in the whole and in each individual type and the lack of practical implementation these activities. Found, that at the legislative level had been adopted only two documents on cyber security: Law of Ukraine on “Fundamentals of National Security of Ukraine”, and the Decree of the President of Ukraine № 47/2017 of February 25, 2017 about des approved the Doctrine of Information Security of Ukraine. In these documents cyber security is given priority in the security system. Determined the main problems of ensuring the cyber security: ineffective regulatory and legal support and system of governance; the lack unified strategy of cyber security; low level of government management in cyber defense; temporal inconsistency of state regulation in information area and development of a legal system for the regulation in protection of critical infrastructure seams; the lack of transactional approach to the state cyber security governance by the state part; no requirement for security system(SIS); employment outdated standards. Offered the replacement of technical security information documents (TS ID), more effective and modern basic standards, establish industry standards for information security system (ISS). Amend the Law of Ukraine “Information security and telecommunication system” and provide a new approach of the method for confirming compliance of information system of information security requirements by establishing criteria for compliance; conduct regular audits to ensure compliance with the requirements and proper functioning of the security management process; conduct proven system of security information.

For further development we propose to provide new approach of the method for confirming compliance of information system of information security requirements by establishing criteria for compliance. The purpose of such event is to legislate the requirements of the standards of the family of information security management system (ISMS) for certain categories of information, which is protected by the legislation of Ukraine.

**Keywords:** information security, cyber security, standards, information and telecommunication systems, computer systems, certification, security management.

**JEL Classification:** E58, G18, G29

**Formulas:** 0; **fig.:** 0; **tabl.:** 1; **bibl.:** 9

**Introduction.** Ukraine’s path in developing its cyber security needs fundamental and urgent changes. It’s not just the leaders’ point of view of cyber defense. The need for change is confirmed by attacks on critical infrastructure, many other incidents that in recent years have created Ukraine’s dubious reputation as one

of the main cyber-ranges (Yankovsky, 2019).

According to the formal features in Ukraine, there is a State policy in the field of information and cyberspace development, all the Presidents call for the development and formation of an information society in Ukraine. There are the laws of Ukraine: Law of Ukraine on “National Security” No 2469-VIII of June 21, 2018, Law of Ukraine “About the basic principles of ensuring cyber security of Ukraine No.2163-VIII of October 5, 2017”; the Decree of the President of Ukraine No. 47/2017 of February 25, 2017 approved the Doctrine of Information Security of Ukraine; the Resolution of the Cabinet of Ministers of Ukraine “Some questions of documentation of management activity” of January 17, 2018 No. 55; the Government approved “The concept of the development of the digital economy and society of Ukraine for 2018-2020” of January, 17, 2018 No.67- 2018; there are the Ministry of Internal Affairs, the Ministry of Justice, but it’s impossible to see the real, positive results of presidential appeals, laws and ministries.

The legislation is an important component in ensuring information security (IS) and cybersecurity of the state, but it is time to move from words to action, given that the main fault of the current security legislation is its passive nature - declares only the need to ensure IS, cybersecurity and combating cybercrime at the level of doctrines, decrees, decisions, etc. That is, the “direction” to be followed in the absence of legal, financial and human support and without any responsibility of officials is set (Analytical note. National Institute of Strategic Studies, 2011).

Security of information and cyberspace, introduction of digitalization of management processes, guarantee of security and sustainable functioning of national critical infrastructure, information systems should become not only components of state policy in the field of cyberspace development and formation of information society in Ukraine, but also inclusion of these factors in political priorities (Rudy, T., Senyk, V., Rudy, A.& Senyk, S., 2018).

**Literature review.** Significant contribution to the solution of these problems at the theoretical level was made by such scientists as: V.L. Buryachok, V.O. Khoroshko, V.B. Tolubko, A.I. Marushchak, M.V. Hutsalyuk, K.V. Pestov, V.V. Kravchuk. The personalities of organizational and legal antidotes to cybercrime are devoted to the work of V.A. Lipkana, O.D. Dovganya, T.Yu. Tkachuk, V.S. Demedyuk, I.V. Krasnytsky.

Considering the results of the analysis of the literature sources of clear and understandable legal and regulatory documents and the organizational and legal measures to ensure the national system of cyber security, the information space of the state is not protected. We completely share the opinion of prof. Hrytsiuk Y.I. that there are no effective and efficient measures to prevent and counter cyber threats, and the existing ones are unsystematic and, as a result, useless.

Many of these publications concern the author’s vision of the problems in the system of cybersecurity that cannot be solved without the introduction of new laws, regulations and new policies of the State in the sphere of digital security, that is, without considering information relations from the point of view of the object of the legal regulation (Rudy T., Senyk V., Rudy A. & Senyk S., 2018).

At the same time, despite the significant number of scientific publications on information-free issues, the rapid development of information technology (IT) the emergence of new ways and means of making cybercrime usable in the information field necessitates further research on the subject.

**Aims.** The purpose of the study, within the framework of this publication, is to analyze the reasons for the poor information and cyber security of the State in general and the problems of the inefficient legal and regulatory framework in particular, a number of systemic problems in the field of cybersecurity, which are becoming increasingly difficult to ignore.

That is, one of the main problems remains the inefficient regulatory framework and, above all, the lack of regulation of the information management system, should ensure the dynamics of the processes of legal provision of information and cyber security in Ukraine (Leonov & Serohin, 2019).

This state of affairs should lead to a profound change in the attitude of our state to the security of our own information and cyberspace, and hence to the information security (IS), its processing and the cyber-environment, in which this information circulates, the identification of targets, that is, prior to the adoption of information and cyber security measures.

**Methods.** In the study, scientists used methods of theoretical analysis and content analysis, monographic method, method of systematization to identify and specify the author's position within the studied issues. When preparing conclusions and recommendations based on the results of the study, the method of generalization was used.

**Results.** Outline of the main points. At the international and national levels, cybercrime is one of the most pressing challenges facing law enforcement agencies in all States today. There is still no systematic approach to countering cybercrime in the light of the current challenges and threats to information security (Kostenko, 2019).

Today, the first and only legislative acts in the field of combating cybercrime, as a strategic position at the highest political level is the Law of Ukraine on "Fundamentals of National Security of Ukraine", and the Decree of the President of Ukraine No.47/2017 of February 25, 2017 about des approved the Doctrine of Information Security of Ukraine of December 29, 2016. They have legislated the place of cybersecurity as a priority for government agencies and the government.

Subparagraph 2 of paragraph 3 of Article 8 of the Law stipulates that the functioning of the national cybersecurity system is ensured by creating a regulatory and terminological framework in the field of cybersecurity, harmonization of regulations in the field of electronic communications, information protection, information security and cybersecurity in accordance with international standards of the European Union and NATO (Leonov & Serohin, 2019).

It was expected that these documents would form the basis for the development in the short term of an effective, up-to-date legal and regulatory framework and a number of other legal and regulatory acts, which should play a key role in ensuring information and cybersecurity in Ukraine. However, despite the continued aggression

of the Russian Federation, the arrival of the new Government, unfortunately we have remained in the same place, there has been no progress in this important area.

*1. Ineffective regulatory framework and management system.* The current legislation of Ukraine still lacks scientific justification for conceptual definitions and formulations concerning information relations, and sometimes their complete absence. To date, there is no legislative definition of the basic term “information security”, although this terminology is used in some laws.

The terminology used in the field of information technology demonstrates the lack of unity and ambiguous interpretations of many concepts, including key concepts (this also applies to section XVI of the Ukrainian Criminal Code, under which cybercrime is investigated in Ukraine). This is a serious impediment to both law-making in the information field and in law enforcement, as well as an indication of the lack of a systematic response to these problems.

The Law of Ukraine “About the basic principles of providing cyber security of Ukraine” defines the term “cybercrime”. This term is not at all in line with the Criminal Code of Ukraine (CCU), which contains a separate section XVI “Criminal offenses related to the use of electronic computing machines (computers), system and computer network and telecommunication networks”, where the term is used “computer crime”.

It is worth noting that the widespread use of so-called “communicators” and “smartphones”, which combine the characteristics of mobile telephones and computers, has made cybercrime widespread, the content of which covers the whole spectrum of socially dangerous activities in the field of information technology (IT) (Leonov & Serohin, 2019).

Valid today are the normative definitions of the computing machine and the electronic computing machine that do not allow for the interpretation of modern terms and concepts of the IT sphere that correspond to their physical meaning or are too limited.

The authors share the idea set out in strengthening the response to cybercrime, including its organized forms, which includes (Hutsalyuk, 2019): considering the severe consequences that may result from the commission of cybercrime, initiate the strengthening of sanctions for the commission of offences under articles 361, 361-1, 361-2, 362, 363 and 363-1 of the Criminal Code of Ukraine; by supplementing these articles with the relevant parts, which will make it possible to transfer them to the category of serious crimes, increase criminal responsibility for their commission and expand the list of covert investigative (search) persons activities that can be undertaken to disrupt or document; strengthen public-private partnerships to counter cybercrime, including in the preparation of legal instruments in this area.

That is, the development and public discussion of amendments and additions to the Criminal and Administrative Law, in particular the expansion of Section XVI, is now a topical issue “Criminal offenses related to the use of electronic computing machines (computers), system and computer network and telecommunication networks” (Tarasyuk, 2019).

In Ukraine, unfortunately, there are no official state statistics that objectively reproduce information on cybercrime (reports on the commission of cybercrime are dispersed among various law enforcement agencies) which has a negative impact on precautionary measures that are fragmented, causing difficulties in counteracting and combating this type of socially dangerous act (Leonov & Serohin, 2019).

Thus, one of the main problems remains the inefficient legal and regulatory framework and, most importantly, the lack of regulation of the information management system, should ensure the dynamics of the processes of legal provision of information and cyber security in Ukraine.

However, it must be borne in mind that an important feature of the functioning of a State's information space is its high dynamism and the volatility of threats to IS. This makes it impossible to establish an effective legal and institutional framework for IS for a period of more than 3-5 years, and for a real period of up to 2 years.

Therefore, at least every two years, existing legislation in this area requires adjustments to meet new challenges and threats, as well as changes in the geopolitical security environment, which is simply ignored in our state.

Account must also be taken of the fact that the development of information technology (IT), telecommunications systems, is taking place faster than the legal acts regulating them.

*2. Transforming governance in cyber security.* Ukraine's cyberspace is very vulnerable because there is no single unified cyber security strategy. The main cybersecurity challenges to be developed and implemented at the state level are as follows:

- protect cyberspace sovereignty and basic cybersecurity;
- critical infrastructure protection;
- development and implementation of digitization of public administration processes and on-line culture;
- countering cybercrime, espionage and terrorism;
- development of cyber-governance;
- strengthening international cooperation through the implementation in national legislation of individual legal acts adopted in the EU and NATO countries in the field of information protection, which are recognized at the state level by all countries.

All cyber security initiatives should be developed into a single transformation cyber security program. Such an approach is based on the development of a legal system for cyber security in Ukraine, which should be implemented in the normative legal support of current processes and expectations.

In order for the cyber security system to operate at the minimum necessary level, amendments to existing legislation are required, including the Law of Ukraine "On personal data protection", the Law "Fundamentals of National Security of Ukraine", etc.

Regulators in Ukraine are clearly lagging behind in developing a legal framework to regulate the security of critical infrastructure, as well as in providing content and regulations for framework laws on cyber security and cyber defense. The

development and adoption of a number of normative documents are relevant, in particular:

- requirements for cyber protection of critical infrastructure and assessment of cyber threats;
- audit of the state cybersecurity system (Kotlyarov, 2018).

The role of the state in the development of domestic cyber security also requires transformation. Obviously, this should not be a control function (as it is now), but rather a facilitative (organization of the process of collective problem solving) and assistance in solving cyber security problems (Kotlyarov, 2018).

In general, cyber security management in Ukraine at the state level is not effective. The national cybersecurity system is mainly limited to law enforcement. Private business and cyber speed are hardly involved in important issues.

As noted above, the lack of a transformational approach to national cyber security governance by the state implies the existence of an organization that will take over the management of the implementation of the cybersecurity program, and regular monitoring of the implementation process. That is, the regular monitoring of the program should be the responsibility of the non-governmental entity mandated to introduce cyber security reforms.

State structures limited to the current requirements of legislation and regulations will not be able to carry out such a transformation.

Another equally important issue is the lack of preparedness to respond to cyber incidents at the State level. Law enforcement agencies are still not organized for new waves of cyberattacks and do not have sufficiently trained professionals on their staff. There is also a lack of centralized management of cyber incident response forces at the state level.

In addition, it would be highly undesirable and possibly harmful for a State to follow a path in which the adoption of appropriate cyber protection requirements would require the approval of a draft technical regulation by a state institution. A second negative scenario in this process could be the references to procedures for the certification of integrated information security systems (IIS) (Kotlyarov, 2018).

*3. Problems of certification of systems for security information.* Let's try to clear the air a little bit. Ukraine has current law "Criminal offenses related to the use of electronic computing machines (computers), system and computer network and telecommunication networks" and has developed a series of regulatory documents for the system of technical protection of information, the main ones being the RD TSI 2.5-004-99 "Criteria for assessing the security of computer systems against unauthorized access". This document is used in the design and implementation of an integrated comprehensive information protection system (CIPS) for public information resources, as well as a special information system (SIS) in which information with limited access is processed, the requirement for the protection of which is determined by law.

At present, due to the lack of by-laws, the requirements for the protection of the special information system are hardly specified. The current provision of the Act "On the Protection of Information in Information and Telecommunications Systems" (art.

7), according to which State information resources or information with limited access, the requirement for the protection of which is established by law must be processed in the system using an integrated system of information protection with confirmed compliance.

That is, all systems are subject to this rule SI in SIS, their information infrastructure, requires compliance with the old standard of CIPS RD TSI 2.5-004-99.

The concept, internal structure and implementation model of the II SS do not meet the modern requirements for information security in the SIS, and the fact that this rule has not yet been removed from the legislation in force has been strongly criticized [3]. This is in line with current legislation, but with a very controversial approach, given the fundamental shortcomings and obsolescence of the concept of CIPS.

Moreover, they oblige public authorities, critical infrastructure and private companies that wish to provide services to public authorities (e.g., Internet service providers) to introduce CIPS. In addition to being obsolete, it has proven ineffective over the years (Dovgan & Tkachuk, 2019).

The immediate step is to replace the RD with a more effective and up-to-date basic standard and to introduce industry standards for SI systems.

This is not a new and creative proposal. We are looking for targets of low international standards, which registered themselves in the most developed countries of the world and the verified information. That is, there is a need for a transition to international security standards, which were previously consolidated.

This requires the adaptation of the new International Standard on Information Security Management Systems, or - to develop and develop its own, which new security standards for law enforcement services are unacceptable from time constraints and should be necessary.

Unlike the worldwide series ISO IEC 27000, which focuses on information security management, the information security criterion in RD TSI.

It is necessary to amend the Law of Ukraine "On the Protection of Information in Information and Telecommunications Systems" and to envisage a new approach to the way of confirming the compliance of the information system with the requirements for the protection of information by establishing appropriate criteria. The aim of such an exercise is to adopt in Ukraine the requirements of the standards of the Information Security Management System (ISMS) family of systems for individual categories of information, the protection of which is ensured by the legislation of Ukraine.

Certification of standards also requires regular audits to ensure compliance and proper functioning of the security management process. This narrows the gap that now exists between the various pieces of legislation and legislation, helps to convince regulators, and the organization constantly complies with the requirements of the legislation.

Certification according to the series ISO / IEC 270XX standard is carried out by certification bodies accredited by national accreditation organizations. In Ukraine, the National Accreditation Agency of Ukraine (NAAU) is such a state organization.



In accordance with paragraph 2 of the second part of Article 11 of the Law of Ukraine “On standardization”, the decree of the Cabinet of Ministers of Ukraine No. 1163 dd. 26.11.2014 “On defining the state-owned enterprise to act as a National Standards Body”, and pursuant to the Program of Work on National Standardization for 2019, national standards have been adopted, harmonized are European and international standards, the method of confirmation with effect from November 1, 2019 (Table 1).

**Table 1. Ukrainian State Standards for Certification of Information Security Systems**

№	ISO / IEC	Explanation
1.	DSTU ISO/IEC 27000:2016 (ISO/IEC 27000:2018, IDT)	Information technology — Security techniques — Information security management systems — Overview and vocabulary - to replace DSTU ISO/IEC 27000:2017 (ISO/IEC 27000:2016, IDT)
2.	DSTU ISO/IEC 27001:2005 (ISO/IEC 27001:2013; Cor 1:2014, IDT) /Amendment N 2:2019 (ISO/IEC 27001:2013/Cor 2:2015, IDT)	Information technology — Security techniques — Information security management systems — Requirements
3.	DSTU ISO/IEC 27002:2015 (ISO/IEC 27002:2013; Cor 1:2014, IDT) / Amendment N 2:2019 ISO/IEC 27002:2013/Cor 2:2015, IDT)	Information technology — Security techniques — Code of practice for information security controls
4.	DSTU ISO/IEC 27005:2018 (ISO/IEC 27005:2018, IDT)	Information technology — Security techniques — Information security risk management - to replace DSTU ISO/IEC 27005:2015 (ISO/IEC 27005:2011, IDT)
5.	DSTU ISO/IEC TS 27008:2019 (ISO/IEC TS 27008:2019, IDT)	Information technology — Security techniques — Guidelines for the assessment of information security controls -to replace DSTU ISO/IEC TR 27008:2018 (ISO/IEC TR 27008:2011, IDT)
6.	ДСТУ ISO/IEC 27011:2018 (ISO/IEC 27011:2016, IDT) / Amendment N 1:2019 (ISO/IEC 27011:2016/Cor 1:2018, IDT)	Information technology — Security techniques — Code of practice for Information security controls based on ISO/IEC 27002 for telecommunications organizations

Source: offered by the authors

**Discussion.** A separate problem area is SI system audits. In the ND coordinate system, only State-accredited organizations are authorized to carry out an audit. International IS and IT audit certificates are not yet recognized, which negatively affects audit quality.

Therefore, in order to comply with the legislation of Ukraine in the sphere of information security, it is advisable to introduce and, having passed a preliminary audit by a third party, to certify the ISMB in accordance with the requirements of ISO / IEC 27001. Since it is this standard that incorporates the world's best practices and methodologies, its implementation is used and recognized worldwide is the key to the system, to keeping the processes up to date and effective.

**Conclusion.** In accordance with the goal in the article was done as follows:

1. On the basis of the analysis, we believe that the existing legal framework, which, among other things, does not cover the full range of current threats to the cyber security of the state, should be substantially supplemented.

At the institutional and legal level, cyber security needs to be clearly identified and new, modern legal tools to counter these threats provided in a timely manner.

2. We propose to amend the Law of Ukraine "On the Protection of Information in Information and Telecommunications Systems" and to envisage a new approach to the method of confirmation of the compliance of the information system with the requirements for the protection of information by establishing appropriate criteria. The aim of this measure is to establish by law the requirements of the standards of the Information Security Management System (ISMS) family of systems for individual categories of information, the protection of which is ensured by the legislation of Ukraine.

**Author contributions.** The authors contributed equally.

**Disclosure statement.** The authors do not have any conflict of interest.

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# IMPACT OF THE STATE REGULATION OVER INVESTMENT PROCESSES IN THE CONSTRUCTION SECTOR: FOREIGN EXPERIENCE AND POSSIBILITY TO THE UKRAINE

Vasyl Dmitrenko<sup>1</sup>, Yury Prav<sup>2</sup>

<sup>1</sup>Ph.D. (Economics), Professor, Cherkasy Institute of Fire Safety named after the Heroes of Chernobyl, Cherkasy, Ukraine, dmytrenko@ukr.net, ORCID : <https://orcid.org/0000-0003-1860-418X>

<sup>2</sup>Ph.D. (Economics), Associate Professor of the Public Administration Department of the Educational and Scientific Institute of International Relations and Social Sciences, Interregional Academy of Personnel Management, Kyiv, Ukraine, e-mail: vseгда\_prav@ukr.net

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**Abstract.** The article examines the main areas of investment in the development of enterprises in the construction industry, which are used in different countries. The most developed countries such as the United States, Britain, Germany, France and China have been studied. Methods and tools of state regulation of the process of attracting investment in construction have been studied. The government of Great Britain is a supporter of attracting foreign direct investment to the country, which is accompanied by the introduction of advanced foreign technology and an increase in the number of jobs. German provides equal business conditions to foreign and national investors. German law does not impose any restrictions on the import and export of foreign capital, on the participation of foreigners in the capital of companies that are established or on the holding of senior positions by foreigners in such companies. The attitude of France to foreign investment is generally friendly although the government's position towards it is changing from time to time. Investment of foreign capital is not allowed, or it is limited only in certain sectors of the economy like subsoil exploration, mining or pharmaceutical industry. The main priorities of the USA investment policy are to attract investment to the country, as well as to stimulate foreign investment in order to create additional jobs and economic recovery. Thanks to foreign investment, China the issue of employment is solved, the transition to high-tech production is carried out, the economy is transitioning to a market format and becomes integrated into the world economy. The experience of attracting investment from foreign countries can be useful for the Ukrainian government.

**Keywords:** economic security, security management, enterprises in the construction industry, government management.

**JEL Classification:** E22, F50, R20

**Formulas:** 0; **fig.:** 0; **tabl.:** 0; **bibl.:** 10

**Introduction.** The state regulation of investment activity in Ukraine is an important component of the economic management system and a tool for implementing the investment policy of the state. Its main goal is to create conditions for dynamic, balanced social and economic development of Ukraine. Currently the construction industry is one of the most important areas of public administration in terms of its social orientation and investment capacity. Investment processes in the construction sector ensure the reproduction of fixed assets of individual economic entities, sectors of the national economy as a whole through new construction, expansion, reconstruction and technical re-equipment of existing enterprises. In the process of carrying out the production activities of construction companies, investment resources are transformed into fixed assets, and through participation in investment processes, the potential of the construction industry is realized in general. Reasoning for ways to attract investment, form effective mechanisms for the state

regulation of investment activities in construction are among the important areas of research on investment issues.

**Literature review.** Scientists pay sufficient attention to the risks when investing in construction. The nature of investment risk was investigated in the works of the following scientists including Gaidis N.M., Dashko I.M., Emelyanov O.Y., Kret I.Z., Zayarna N.M., Lytvyn Z., Moiseenko I.P., Nepomnyashchy O.M., Reverchuk S.K., Reverchuk N.Y., Yablonska A.V. However, despite a significant number of scientific publications in the field of investment risk, there is no single state classification mechanism for investment risk management because investment risks differ by place of their origin, by a set of external and internal factors that affect the extent they emerge and so on.

**Aims.** The objective of the article is to single out and characterize factors of the state regulation over investment processes in the construction sector in foreign countries and to reason the specifics of their adaptation for the Ukrainian economy.

**Methods.** In the study, scientists used methods of theoretical analysis and content analysis, monographic method, method of systematization to identify and specify the author's position within the studied issues. When preparing conclusions and recommendations based on the results of the study, the method of generalization was used.

**Results.** A market economy operates on the basis of a free choice of priorities and investment directions. The construction industry will require an acute need in investment until there is economic motivation of investors and the financial benefits of investing in construction.

Sustainable development of the construction sector requires continuous improvement of applied approaches, taking into account both regional practice and foreign experience. Analysis of the experience of foreign countries in the state regulation and stimulation of investment activity in construction will help to develop a new, effective mechanisms for implementing the state policy in the field of housing, industrial and infrastructure construction, establishing and expanding international cooperation in construction, creating opportunities for investment in housing and industrial construction, including the foreign one.

We will consider foreign practice of the state regulation over investment and construction processes, which are relevant to borrowing or improvement in Ukraine, in such developed countries as the United States, Britain, Germany, France and in the largest country with the economy in transition which is China.

The government of Great Britain [1; 2] is a supporter of attracting foreign direct investment to the country, which is accompanied by the introduction of advanced foreign technology and an increase in the number of jobs. The country has one of the most attractive investment regimes among developed countries.

Bilateral agreements between the United Kingdom and other countries on promoting and encouraging trade and investment and similar agreements operating within the European Union play a significant role in attracting foreign capital to the country.

The basic legislative act regulating investment activities in the country is *The Financial Services and Markets Act 2000* as amended.

The mechanism of currency control promotes the inflow of foreign investment in the UK. However, foreign firms set up to import and realization of the products on the London market that are created outside the "sterling area" must be financed solely at the expense of their own funds. However, if the company that is being established is of serious interest to the British economy, foreign investors can receive British loans to develop their business.

A clear and fairly simple system of business registration is introduced on the territory of the country, so that foreign investors are free to choose different objects for their investment.

A system of financial benefits, unified to domestic and foreign companies has been developed by the British government and it applies to investors.

The British investment activities are regulated by special bodies, most of which are independent self-regulatory organizations and authorized exchanges, and the state only provides the relevant regulatory framework. In particular, mutual investment trusts and open-ended investment companies effectively combine small investments into large ones.

A factor limiting the activities of foreign investors is the current system of taxation and currency restrictions. Recently there has been a tendency in the UK to take a more differentiated approaches to the assessment of investment expansion plans by individual foreign firms and to link them to specific commitments. The takeover of domestic firms by foreign capital is considered undesirable.

Foreign investments play a much more important role in the German economy [1; 3; 4; 5] than in other European countries. The country provides equal business conditions to foreign and national investors. German law does not impose any restrictions on the import and export of foreign capital, on the participation of foreigners in the capital of companies that are established or on the holding of senior positions by foreigners in such companies. The country has a large number of enterprises with foreign participation, which actively use the scientific and technical achievements of the parent companies located abroad.

The *Law on Credit Institutions*, the *Investment Companies Act* regulate investment activities in the country. Investment companies are subject to control by The Federal Financial Supervisory Authority.

The direction of foreign investment is regulated by the taxation system.

The concept of "a social task", which corresponds to the concept of "a target program" is used in the practice of regional investment. Target rules for "Improving the regional economic structure" have been developed in the new (eastern) federal states. They helped stimulate investment by providing subsidies for infrastructure development from the federal and land budgets, as well as from the European Regional Development Fund.

The attitude of France [1; 3; 6] to foreign investment is generally friendly although the government's position towards it is changing from time to time.

Investment of foreign capital is not allowed or it is limited only in certain sectors of the economy like subsoil exploration, mining or pharmaceutical industry.

Relations in the investment sphere are regulated by the Code of Financial and Monetary System. No special permit is required to invest in France and to foreign countries from France. At the same time, the procedures provide for the submission of a declaration to the Ministry of Economy and Finance.

A foreign company is subject to the national regime of paying taxes, obtaining loans and various benefits. There are no restrictions on the transfer of funds of foreign investors from the country.

With the general liberal attitude to foreign investment, France introduces a number of restrictions on the rights of non-residents. First of all, this applies to foreign investment in certain industries like oil production, refining and import. In addition, foreign investors are not allowed to hold management positions in the companies engaged in these activities.

There are currency controls, as well as special controls directly related to currency restrictions on foreign loans, domestic and foreign direct investment in France.

In 1977, France adopted a circular on France's direct investment abroad and foreign direct investment in the country, which limits the excessive influence of foreign capital.

Relations between the state and the regions are built on a contractual basis within the national planning system. Each region concludes planned contracts with the state, which bind both parties to a specific investment program. Then they are included in the national plan of the state as a priority. At the same time, additional funds are allocated to the most problematic regions. The implementation of such a policy is carried out in a form of restructuring the economy of the regions. To this end, with the help of investment grants provided by the state, aid is provided to improve regional infrastructure and create jobs in priority sectors of the economy.

The main priorities of the American [1; 3; 4; 7] investment policy are to attract investment to the United States, as well as to stimulate foreign investment in order to create additional jobs and economic recovery. In this regard, the main priority of the federal government, state and municipal authorities is the maximum support of potential investors and the creation of effective incentives for investment.

Relations in the investment sphere at the federal level are regulated by *The Foreign Investment and National Security Public Act* No. 110-49 of 2007 and relevant sectoral laws.

Regulation of investment activities is carried out at two levels, ie at the federal and at the state levels. General rules are established at the federal level stating that foreign investors must follow in the US market. The local governments of each US state adopt laws, regulating acts regarding business and entrepreneurship conditions for foreign investors on their territory. The federal government does not play an active role in determining goals of economic development of a particular region of the United States.

The USA government provides a level playing field for foreign and domestic investors. Foreign investors are free to invest in most sectors of the US economy, as well as withdraw shareholder capital and profits. The country has created the most effective system of investor protection, which consists of three lines of defence, including the state, self-regulatory organizations of brokers and brokers themselves. This is probably one of the reasons why the stock market of this country is very efficient.

The state takes an active part in investment processes. The state accounts for more than 20% of the gross investment in the US economy, 12% of which is on investments from the federal budget. The state's influence on investment activities is exercised through such financial instruments as preferential income tax rates, accelerated depreciation policy, preferential bank lending, innovation grants, and so on.

The United States is purposefully developing international cooperation in the investment sphere. In 2013, actions were actively taken to create a Transatlantic Free Trade Area (TAFTA), or the Transatlantic Trade and Investment Partnership (TTIP) as a free trade area between the United States and the European Union.

The government of China [1; 8], having begun to carry out economic reforms since 1978, pays great attention to attracting foreign capital to the country. Thanks to foreign investment, the issue of employment is solved, the transition to high-tech production is carried out, the economy is transitioning to a market format and becomes integrated into the world economy.

According to the current law, there are the following forms of investment in China, namely equity joint ventures, cooperative joint ventures, companies with 100% foreign capital, stock market operations.

In addition, the People's Republic of China has a regime of differentiation of foreign investment into the following categories, ie encouraged, those underway, limited, prohibited.

To ensure a favorable investment climate, the government established administrative and economic entities with preferential regimes, namely, special economic zones, zones of economic and technological development, free trade zones, zones of near-border economic cooperation, zones of scientific and technological development. In total, according to the latest data, more than 200 zones of preferential economic regime have been formed on the territory of the People's Republic of China. There are technology parks in some developed regions that accumulate investment flows to China. It is also allowed to create new enterprises on preferential terms based on the old ones, which are recognized as unprofitable and subject to disbandment.

Liberalization of Chinese investment legislation is taking place not only through the application of a special regime for foreign investors, but also through improved business conditions for domestic enterprises.

Lending to the China's economy is carried out through the banking system. The main types of lending are commercial and political lending. When it comes to commercial lending, interest rates on loans, as well as lending directions are formed

on the basis of market principles. Political lending is designed to play a role of a main tool for implementing the state economic policy. To this end, three state-owned development banks have been established in China. The main source of funds for political lending is the state budget. To finance the most important structural projects in the economy, created mainly on a sectoral basis, budget funds and various forms of savings of citizens who are under the responsibility of the state are actively used [3; 9].

Analysis of housing financing systems in developed countries (the USA, England, Germany, France) shows that they are based on a variety of specialized financial institutions like construction and savings, mortgage companies, investment banks, credit unions, as well as several financial technologies including construction savings, mortgage lending, a certain combination of them both, public and private financing, as well as various mixed forms of public and private financing. In these countries, the state also has effective market instruments for the state regulation over investment processes through the markets of pledged, secondary loans using the state (or semi-state) financial institutions.

In the US, the process of providing mortgage loans by credit institutions to purchase housing by borrowers takes place in the primary market, and mortgage loans granted by a lender are sold to an investor in the secondary mortgage market (they are refinanced by them). The proceeds are put back into circulation (granting new loans) by mortgage companies, and their profit consists of fees for loans granted and payments for their service. This model assumes the presence of a developed secondary mortgage market, which sells already issued mortgages. The model is attractive because it solves the problem of long-term financial resources. Construction and savings banks create the basis of the primary market of residential mortgage system in Germany and France. The nature of financial assistance for construction savings is that the future developer of housing accumulates a certain amount of money in the deposit account for several years under agreement with a construction bank. Subject to fulfillment terms of the agreement, in addition to the accumulated deposit and interest thereon, the depositor is entitled to receive a bank loan in an amount approximately equal to the amount of the accumulated deposit. Combining of three sources of money, ie of the developer's own deposit, a bank loan and the state assistance (premiums) allows the developer not only to start but also to complete a construction project. The construction savings system is autonomous, ie it does not require external borrowing. This distinctive feature is achieved by the fact that the time of using money, for example, of a participant A by other participants is equivalent to the time during which the latter uses other people's money himself.

The independence of the system from the financial market makes it possible to issue loans to participants at a rate below the market one, while government subsidies allow target savings to successfully compete with market instruments. The state realizes its own interests through the system of construction savings, namely forms a private housing stock, primary and secondary housing markets, reduces allocations for the operation and repair of public housing, solves the major social problem of housing [10].



The building society system is successfully operating in the UK. The mechanism of their work is somewhat similar to the activities in Germany, but it is not necessary to be a depositor of a construction company to obtain a housing loan. Recently as a result of the liberalization of British banking legislation, functions of these companies are becoming more similar to those of commercial banks. The competition of the above entities leads to their convergence and reduction of credit rates [1].

Summarizing the above, it should be noted that the activities of foreign investors in foreign countries are regulated by national law. There are no special laws or codes for foreign investment, only some administrative regulations have been developed, as well as related articles of certain laws. The legislation is mainly aimed at liberalizing the investment regime and providing foreign investors with no less favorable conditions than domestic ones; guarantees for the transfer of profits, and a full compensation in case of expropriation of their property; opportunities to resolve disputes between a foreign investor and the host country that receives investments.

**Conclusions.** In general, the policy of foreign countries in the investment sphere pursues the main goals as follows:

- directing investments to restructure the economy to increase its efficiency;
- turnover of savings in investments of the real sector of the economy;
- formation of an efficient and controlled capital market;
- reduction and insurance of investment risks;
- improving the investment climate for domestic and foreign capital.

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