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**MODERNIZATION OF SOCIO-ECONOMIC  
DEVELOPMENT OF UKRAINE:  
CHALLENGES AND PROSPECTS**

**Collective monograph**



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The monograph studies the main provisions of modernization of the socio-economic development of Ukraine. Aspects of the development of the country’s economic system taking into account socio-economic relations at different levels are considered. General issues of the world economy and international economic relations, business economics and management, innovative and investment activity, accounting, analysis and audit, marketing etc. are considered.

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## **GOOD GOVERNANCE APPROACHES OF THE CAPITALIZATION OF NATURAL RESOURCES IN INNOVATION FORMS OF ECONOMY**

**Klynovyi D. V.**

### **Introduction**

Today in our country it is difficult to find a person who would never asked himself: why domestic economy is so inefficient? Is our country rich or poor? Still, herewith, each one usually has his own convenient answer that mostly refers to nature. In particular, because of limited scope of resources. People involved in different branches of business and public administration often complain about the lack of numerous mineral and energy resources – natural gas, oil, fresh water, environmental issues including limitations connected with land and forest etc. This concerns also to science, which allegedly failed to provide convincing answers ensuring positive development trends.

But it's necessary to take a step forward and perceive such a position as one's own, evaluate it critically in order to reveal the essence of what happens indeed and, in the end, concentrate on the prospects, understanding that we also are a part of nature. Such approach becomes scientifically acceptable, as far as it is manifesting systemic thinking and logic, and leads to deep understanding that, actually, just a person should take responsibility for the condition of the economy and the state. The key to successful transformation of Ukraine's natural resource management systems is the development of the experience of these countries and the application of effective and modern economic models of management – Good Governance, Public-Private Partnership, Corporate Social Responsibility, adapted to our national specifics.

Thus, the answer to the question whether Ukraine is rich or poor, lies in adequate overall economic assessment of natural resources and their successful implementation into full-fledged capital by all means and tools of the modern economy of the XXI century. The Rio 2012 resolutions are an important international documents that emphasizes that the institutionalization of the economic process and other modern economic

tools in management of natural resources are main prerequisites for the continued sustainable development of society.

### **1. Modern economic models for the use of natural wealth**

It is necessary to use modern approaches of natural capital management, which are based on accounting of natural capital wealth and capitalization of natural resources now. Thus, some researchers, such as L. Larush persists on making some essential adjustments to the economic theory of natural capital and take into account the abilities of the natural capital to create the cost without exhibit of the human labor. The Ukrainian representatives of scientific school of physical economy, for example S. Podolynskiy had also specified on this fact. It is also necessary to acknowledge that unlike other types of capital, in particular – financial capital, a natural capital possesses actual, but hidden usefulness which exists in hidden form. However, this fact was not taken into account by both researches. They considered, that any kind of wealth has only actually shown and represented features. As the result of it now the natural constituent is not represented valuably in the system of indexes of value of national wealth. The problem of the account of the cost of the natural capital in all goods and services is very actually in correspondence with the decisions of the world Summit in Rio de Janeiro – 2012 (Natural Capital Declaration).

One of the well-known scientists-ecologists – R. Simonetti, Coordinator of the Sustainable Finance Program had noted that social-environmental policy will be one of the key directions of the work of financial structures and a global statement may demonstrate the commitment to work towards integrating natural capital criteria into financial products and services, as it was launched at Rio+20. Thus, new for us conceptual approach includes, firstly, understanding of natural resource as a capital and, secondly, capitalization as a process of such resource transformation into surplus value and profit. This view is very important because, as it's widely known, that capital differs from wealth by its ability to generate profit. So, capital is wealth in an active state, involved at the certain moment into economic turnover. And we need to find out how a particular natural resource of a certain area can be transformed into a profitable business. Just here it becomes necessary to use the scientific achievements of this issue. And if in our country this

direction is not yet sufficiently developed, we should use positive experience already gained abroad.

Thereby, specific recommendations of the Rio+20 contain information about the natural capital effect on the economic process. There are also some initial guidelines that show how natural resources, including water, land, forestry, minerals and other components of the environment should be adequately estimated. In addition, we find here a very important ratio of natural capital to capitals of other origin, namely human, industrial, financial etc., because it affects the state's economic policy. Moreover, welfare of every citizen largely depends on how seriously governments manage to consider these features. For example, in Scandinavia, the USA, India and even in some African countries governments have established specific financial funds of sovereign wealth, in which they concentrate revenues from natural assets in order to help the economies of these States in times of crisis.

It's also worth noting the report of R. Simonetti, coordinator of the Sustainable Finance (Brazil) at the Rio+20 summit, in which she made significant emphasis on the fact that the assessment and accounting of natural capital are of paramount importance to ensure successful changes towards sustainable development at a national level, and for the world economy as a whole. This question is very actual to our country also. In order to determine the directions of efficient, profitable solution of current environmental management issues, each and all should answer a question: our country is rich or poor? This problem per se should be considered as a cornerstone. If anybody's self-analysis prompts him that he is poor, his behavior will be distorted by lack of confidence as for his resources, capabilities and skills. But if, respectively, a person perceives himself as a rich man, he often feels ability to overcome any obstacles. Wealth implies something much more than it follows from commonplace perception of it as of availability of a certain amount of money, often quite large. Based on the analysis provided in this article, in our opinion, correct is the second attitude – we are rich because we live in a rich country, and it is not questioned. Everything else related to streamlining our way of life is secondary; therefore, corresponding problems can be overcome. It all depends on how quickly and effectively we would manage to reveal our ability to self-organization, self-improvement, adopting advanced world experience in this area in order to properly identify our goals and to achieve them.

Overall, given the Rio + 20 recommendations, it is reasonable to talk not only about the Ukraine's natural wealth in general, but also by regions. This purports the need for a differentiated approach to its evaluation, since there is a significant difference both in regional variety and in resources availability in certain areas. For example, three administrative regions of Ukraine – Donetsk, Lugansk and Dnipropetrovsk – account for 80% of Ukraine's reserves of mineral resources. At the same time the Donbas area belongs to the poorest in water availability: Donetsk and Lugansk regions account for less than 5% of the country's water resources each. In this regard, other issues emerge. For example, why Podillya, the richest agricultural area from year to year appears among regions with the lowest indicators of economic development? And Carpathian region which is widely praised as a real pearl on the tourist and resort map of Europe – to permanently subsidized territories? Why the richest resources availability of some regions of Ukraine, for example, Chernigiv, with a distance to Kiev less than one hour by car, where concentrated powerful oil wells, has virtually no effect on their economic situation? Why welfare of people in rural areas of the South of Ukraine remains in poor condition, although natural wealth there, from the agricultural point of view, is presented by the world best black soils, having even the reference quality. Whether it's the time for Ukraine to talk about so-called "resource curse", which is characteristic for developing countries.

Thereof, it is necessary to take into account actual, but hidden and not shown usefulness, value features and system ecological characteristic in each type of resource – land, water, wood and mineral resources, and in ecological system capital, created by all set of productive force of natural-anthropogenous ecological systems, which comprise all available types of resources. For example, hidden and undervalued characteristics of the natural capital can be presented in virtual water, in the price of the economic wasted lands, in ground protection characteristic of timber plantings, in the risk factor in estimation of the mineral-raw materials capital. It is necessary to take into account the value and the cost of ecological system capital, which creates the conditions for self-reproduction of elements of the natural capital and provides the sustainable development of natural-economic systems.

One of key issues is the volume of our country's natural capital in terms of value. The main factor in the assessment of natural wealth – that's

just a link between scientifically proven wealth concept and the current state of the economy. Wealth, according to modern economists, is measured not by potential, but namely by actual value at the time of evaluation of resources that may be involved in the economic turnover. Thus, the value of wealth greatly depends on the current economic situation and on its readiness to enter into economic circulation, so, in fact, on capitalization. The cost of natural wealth in Ukraine can be estimated only tentatively, given the low level of capitalization of available natural resources. Overall, the share of natural capital in national wealth structure is approximately the same as in the rest of the world – about one-third. Appositely, the rate of the Ukraine's natural wealth, calculated according to current techniques manuals, in 2019, comprised in value terms a bit more than three with a half trillions UAH. However, considering, for instance, structural and quantitative indicators of the areas, comparable with Ukraine on natural resources and potential revenues that could be derived from nature, the order of the numerals might be different. The real value of natural wealth in comparative assessments and subject to achievement of higher levels of capitalization of all kinds of national natural resources under more favourable economic circumstances might comprise several trillions of US dollars.

Similar assumptions are supported by a number of factors: for example, in recent years in crops exportation Ukraine firmly ranked second in the world among individual states (behind the USA). Herewith the land related share in our national wealth in accordance with regulatory assessment is only slightly more than USD 60 billion. In our opinion, the current method of agricultural land assessment provides obviously underestimated figures, as far as it is oriented at unjustifiedly low prices for agricultural products, which potentially could be received from use of land. But in terms when in our country a real land market is practically absent, it's still too early to talk about complete assessment of the land related wealth. Similar statements could also be attributed to some other types of natural resources – water, forests, minerals etc. Therefore, in current economic situation our natural wealth as a whole – due to acting estimation methods – is, of course, largely underestimated – it's an objective reality. However, the figure exceeding three with a half trillion UAH is rather high, it corresponds to more than USD130 billion and exceeds the declared personal wealth of anyone among the richest people



all over the world. For comparison, this amount is approximately equal to the value of almost 10 thousand tons of gold in the market prices taken for the relevant period. For its railway traffic it would be necessary to take about 200 standard freight cars clutched into five trains of 40 cars each. It's worth to be noted that here we deal only with one of the most modest indicators of currently available estimates of the natural capital of Ukraine, though most economically tangent to existing realities.

It is quite clear that the regional economic policy of our state requires appropriate legislative, regulatory and organizational improvements in order to implement the principle of economic self-sufficiency of regions, inseparable from efficient use of available natural resources, – the principle that should become a firm basis for the decentralization of environmental management. Of course, implementation of the newest regional economic policy in accordance with the requirements mentioned above presumes flexible use of the territorial resource potentials while steadily maintaining environmental security and providing relevant well-developed civil society institutions that fully meet the current market conditions.

Conceptual innovation approaches of “green”, “blue” and “nano” economy forms the basis of new management toolbox. It is determined that the modernization of managerial system of natural resources must provide creation of the high effective infrastructure of full-fledged attraction of natural resources in economic process through capitalization of them, including financial component, connected with corporative forms of natural resources management.

In Ukraine new innovative approaches related to “nanoeconomics” are considered to be very important. According to this concept's current positions, proposed relatively recently by a Russian scientist G. Kleiner (2004)<sup>1</sup>, a primary link in the chain of business undertaking is deemed to be not a company, but a man together with a space of his creative activity, including microenvironment of his existence. Such approach presumably opens up broad prospects for development of small entrepreneurship and family business. Nanoeconomics endeavours to find out the most promising forms of behaviour of an individual citizen, including investment activity, entrepreneurship, subsistence farming, social security, etc. This view is especially relevant for rural area, where employment and self-employment issues are posed most acutely, that significantly affects the formation of the national archetype of the Ukrainian people.

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<sup>1</sup> Kleiner, G. (2004). Nanoeconomics. *Questions of Economy*, 12, 70–93.

With regard to the documents of the Rio + 20 summit, to the most urgent issues belongs creation of models for sustainable territorial development that should be based on the concept of efficient local resources usage, first of all, as it obviously, natural. This allows to implement popular environmentally oriented concept of “blue” economy suggested by well-known Belgian economist G. Pauli who personally presented its core ideas, previously elaborated in his world famous book “The Blue Economy: 10 years – 100 innovations – 100 million jobs” (Pauli 2010)<sup>2</sup>, translated into Ukrainian and published in Kyiv in February 2012. In his scientific and journalistic writings G. Pauli argues that rational use of resources on each separate stage and every level of human activities is a prerequisite for economic competitiveness. This concept of nature-oriented existence, based on available local resources, simple and safe technology, small and medium-size business, offers ecosystem approach and cascade models for building the structure of production with a full-scale use of competitive advantages of municipal economic entities.

The term “green economy” was first coined in a pioneering 1989 report for the Government of the United Kingdom by a group of leading environmental economists, entitled *Blueprint for a Green Economy* (Pearce, Markandya and Barbier, 1989)<sup>3</sup>. The report was commissioned to advise the UK Government if there was a consensus definition to the term “sustainable development” and the implications of sustainable development for the measurement of economic progress and the appraisal of projects and policies. Apart from in the title of the report, there is no further reference to green economy and it appears that the term was used as an afterthought by the authors. Whilst the theme of the first *Blueprint* report was that economics can and should come to the aid of environmental policy, the sequels extended this message to global problems – climate change, ozone depletion, tropical deforestation, and resource loss in the developing world. All reports built upon research and practice in environmental economics spanning back several decades. In 2008, the term was revived in the context of discussions on the policy response to multiple global crises. In the context of the financial crisis and concerns of a global recession, UNEP championed the idea of “green stimulus packages” and

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<sup>2</sup> Pauli, G. (2010). *The Blue Economy: 10 years – 100 innovations – 100 million jobs*. Boulder, CO: Paradigm Publishers, 386 p.

<sup>3</sup> *Blueprint for a green economy* : David Pearce, Anil Markandya and Edward B. Barbier. Earthscan, London, Great Britain (1989). 192 p.

identified specific areas where large-scale public investment could kick-start a “green economy”. There is no internationally agreed definition of green economy and at least eight separate definitions were identified in recent publications. For example, UNEP has defined the green economy as one that results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities: low carbon, resource efficient, and socially inclusive”. This definition has been cited in a number of more recent reports, including by the UNEMG and the OECD. Another definition for green economy offered by the Green Economy Coalition (a group of NGOs, trade union groups and others doing grassroots work on a green economy) succinctly defines green economy as “a resilient economy that provides a better quality of life for all within the ecological limits of the planet” (Allen and Clouth, 2012)<sup>4</sup>.

The main on this way is to obtain deep awareness that the very concept of natural wealth should be transformed into a tool with which we will become able to make real steps in resolving development issues of the problem territories. But, as already mentioned, this requires determining successive efforts. As for science, its challenge presumes reorienting the R&D projects to more pragmatic tasks, with emphasis on what significant has been already achieved in the world, especially in European countries, in the field of natural resources transformation into an efficient and powerful capital of high liquidity.

In the nearest future we have not only to undertake a comprehensive valuation of natural capital, but also to provide all necessary backgrounds for launching its converting into financial shape. In particular, the appropriate GIS database is to be created to display characteristics of the natural capital allocation by regions of Ukraine. It’s important to disclose the investment attractiveness of the country for the presence and size (extent) of natural capital, including primarily strategic resources such as oil, shale gas, coal, ores etc. The same concerns elaboration of corporate, project and other innovative software tools for natural resources management, including financial sovereign funds in the field of environmental management and more.

It’s to be specially noted that forming of innovative, organizational and economic structures of environmental management should be carried

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<sup>4</sup> A guidebook to the Green Economy Issue 1: Green Economy, Green Growth, and Low-Carbon Development – history, definitions and a guide to recent publications Division for Sustainable Development, UNDESA: Cameron Allen and Stuart Clouth, UN Division for Sustainable Development, 2012. 64 p.

on in line with the ideologem and objectives for sustainable development, which presumes shared participation and responsibility of national, regional, local authorities and businesses circles in managing natural resources, as well as in sufficient financing of environmental, investment, innovation and other programs of regional development. The concept of building of such structures is presently well known and encourages creation of cluster-corporate forms in natural resource management at all three levels of governance – national, regional and local. This will also ensure the authority decentralization with regard to the principle of structural control.

It should also be added that resources require securitization, that means: ensuring formation and emission of financial assets which are based on natural capital; creating conditions for such assets effective management through joint investment institutions, financial markets, stock exchange and “over-the-counter” (OTC) stock trading; promoting formation of financial resources flows aimed at the natural capital efficient use and restoration, as well as receiving and distribution rent-related incomes.in the interests of all participants in the process. In our opinion, all kinds of rents of natural origin, including not only traditional land, water, forestry and mining, but also climatic, resort as well as rents of geographical location, environmental, transport, etc., should be actively used as a source of public revenue.

Proceeding from fundamental systemic vision of the above mentioned provisions as an entire integrated mechanism of natural-resource relationships it is necessary to concentrate attention, primarily, on the aim that it should cover all stages of the economic cycle of production, exchange, distribution, consumption and accumulation of relevant investment component of economic activity.

In this context, it is necessary to focus on investment-project forms of environmental management, which provide desired tangible results simultaneously with guaranteed high financial returns and advantageous social and environmental effects of economic activity.

We must also take into account the fact, that in the world entirely new concepts of economic activity have been formed, the cornerstone of which – human interests in harmonious interaction with nature. In particular, if Ukrainian public is partly aware of the core principles of “green” economy – state custody in environmental protection, introduction of environmental

restrictions, high taxes and severe penalties for pollution, upgrading of equipment and technology measures in wide-scale hazardous industries, transition to alternative energy sources etc. – the concept of capital-saving, low-waste and oriented towards the use of technologically clean production in innovative small and medium-size businesses of the “blue” economy is not yet known to everyone. In our country almost out of sight of many professional economists remains a concept of nano-economics, which is close to Ukrainian national mentality. It generally considers each individual person, ordinary citizen as a separate self-sufficient entity and, accordingly, imposes on him the duty of reproduction and protection of natural capital. As for existing natural wealth, just one as ultimate approach to solving problems of the natural resources efficient use scarcely should be recommended. On the contrary, it is necessary to implement in environmental management on the national, regional and local levels wide variety of modern means and measures for economic space organization in the direction of development of environmentally oriented economy.

## **2. Good governance tools for modernization of the natural resources management system of Ukraine**

Historically, the form of business management in Ukraine was determined from the outside, without taking into account peculiarities of psychology and traditions of the people. A similar process is now only increases. Given this, it's quite reasonable to focus on the second part of the question: what to do? Here it seems appropriate to put down some thoughts about relatively rather promising future. They refer to proper and effective use of our God-given natural wealth. It turns out that any wealth should be managed skilfully because otherwise, you risk to lose what you have. First of all, it's necessary to learn how to manage effectively. The process approach to management, according to which a variety of modern economical systems – from the quality management to environmental and personnel management – are being built, comes to the fore also among concepts of building national economies in many countries of the world. It is firmly associated with successes in socio-economic development and crisis phenomena overcoming in the Scandinavian countries, Canada, Japan, South Africa and so on. For us this task is quite complicated because it's difficult to think in different way about situation in which we have found ourselves more than twenty-five years ago with the transition

to a completely new economic reality that required creation on its own resources a basis of strong independent economy integrated into the world economic community. Still so far, the opposite happened – using financial, energy and other resources involved from foreign countries we have managed to build only relatively weak economy, dependent on non-residents, that is not in line with European practice.

For this purpose it's advisable to benefit from Polish experience. This country long since is maintaining strong tradition of decentralization and local self-governing given by the Magdeburg law. The government and local authorities are pursuing a policy that provides environmental safety for current and future generations of citizens. Environmental protection is deemed to be responsibility of all branches of the government which, in turn, at all levels encourages and supports citizens' initiatives aimed at protecting and improving the environment. For this, in particular, the concept "public authority" that covers the authorities at all levels is being widely applied. However, it should be noted that in Poland there is a developed system of local government that has three levels – Gmina, Powiatu and Województwo (consequently –municipality, province and Region).

The widest about authority in the use of natural resources is the level of a gmina – an amalgamated local community. Rights of gmina are profound in imposing local taxes, creating own financial base of environmental management and decision making in planning local resources usage as a basis for prospective area's development. In particular, gmina establishes agricultural and forestry taxes. Authority of powiatu regarding the natural resources is relatively limited. Their rights refer to water and gas supply for the population, provision of local fuels – coal, peat, firewood, etc. Competences at the level of Województwos spread out to certain issues of strategic management, including comprehensive reclamation works, but namely in the field of environmental management and disposal of natural resources their rights are also limited. High is a role of all local governance levels in fulfilment of economically viable projects that envisage development of such nature related objects, as fisheries, protected nature reservations, recreational facilities etc. In Poland the government and local authorities at all levels provide protection of natural sites of strategic importance. We also should note careful consideration and control over the country's natural resources, their economical use and protection under existing European standards in accordance with the EU Directives.

Unlike Poland, the most significant among current problems of the majority of regions in Ukraine are incompleteness of inventory records of available natural resources, and low level of capitalization. Such situation is not conducive to their active involvement in economic turnover. Lack of appropriate institutional environment, as well as weak level of market institutions development, including the legislative framework, business structures and financial system in general, slows down the use of modern forms of corporate business entities that could provide solutions for sustainable socio-economic development of the regional natural resource complexes. In this regard, full economic assessment of natural wealth should become the core process in improvement economic activities as a whole.

Thus, we decisively need to shift the focus, to identify the principal points and concentrate attention and efforts on our own resources, benefits and opportunities, still awaiting implementation in the process of economic development. But together with the process, there is also a system which requires systemic thinking that we find too complicated and manage difficult. And most importantly, we yet don't know how to think effectively outside the particular business, region, social group, to think widely, on-state level, ignoring personal, corporate or group interests and ambitions. The key to successful transformation of Ukraine's natural resource management systems is the development of the experience of these countries and the application of effective and modern economic models of management – Good Governance, Public-Private Partnership, Corporate Social Responsibility, adapted to our national specifics.

There is offered modernization of managerial system of natural resources through introduction of mechanism of the “Good Governance”, conception of corporative social and ecological responsibility and introducing of the system of standards series ISO 14000, including standard of estimation of the ecological-cost-performance of management ISO 14045, with such parameters as an organizing structure and dispersion of responsibility in the system of corporative management, which is based on a mechanism of the public-private partnerships (PPP). Conception of Good Governance include participatory, decentralisation, following the rule of law, effective and efficient, accountable, transparent, responsive, equitable and inclusive models of management. Good governance is a term used in international development literature to describe various normative accounts of how public institutions ought to conduct public affairs and manage public

resources. These normative accounts are often justified on the grounds that they are thought to be conducive to economic ends, such as the successful economic development. Different organizations have defined governance and good governance differently to promote different normative ends.

Good governance has 8 major characteristics. It is participatory, consensus oriented, accountable, transparent, responsive, effective and efficient, equitable and inclusive and follows the rule of law. It assures that corruption is minimized, the views of minorities are taken into account and that the voices of the most vulnerable in society are heard in decision-making. It is also responsive to the present and future needs of society.

Participation by both men and women is a key cornerstone of good governance. Participation could be either direct or through legitimate intermediate institutions or representatives. It is important to point out that representative democracy does not necessarily mean that the concerns of the most vulnerable in society would be taken into consideration in decision making. Participation needs to be informed and organized. This means freedom of association and expression on the one hand and an organized civil society on the other hand.

Rule of law in Good governance requires fair legal frameworks that are enforced impartially. It also requires full protection of human rights, particularly those of minorities. Impartial enforcement of laws requires an independent judiciary and an impartial and incorruptible police force.

Transparency means that decisions taken and their enforcement are done in a manner that follows rules and regulations. It also means that information is freely available and directly accessible to those who will be affected by such decisions and their enforcement. It also means that enough information is provided and that it is provided in easily understandable forms and media.

In the sphere of responsiveness Good governance requires that institutions and processes try to serve all stakeholders within a reasonable timeframe.

Good governance is consensus oriented. There are several actors and as many view points in a given society. Good governance requires mediation of the different interests in society to reach a broad consensus in society on what is in the best interest of the whole community and how this can be achieved. It also requires a broad and long-term perspective on what is needed for sustainable human development and how to achieve the goals



of such development. This can only result from an understanding of the historical, cultural and social contexts of a given society or community.

Equity and inclusiveness are other principles of Good governance. A society's well being depends on ensuring that all its members feel that they have a stake in it and do not feel excluded from the mainstream of society. This requires all groups, but particularly the most vulnerable, have opportunities to improve or maintain their well being.

Effectiveness and efficiency are very important in Good governance. It means that processes and institutions produce results that meet the needs of society while making the best use of resources at their disposal. The concept of efficiency in the context of good governance also covers the sustainable use of natural resources and the protection of the environment.

Accountability is a key requirement of good governance. Not only governmental institutions but also the private sector and civil society organizations must be accountable to the public and to their institutional stakeholders. Who is accountable to whom varies depending on whether decisions or actions taken are internal or external to an organization or institution. In general an organization or an institution is accountable to those who will be affected by its decisions or actions. Accountability cannot be enforced without transparency and the rule of law.

From the above discussion it should be clear that good governance is an ideal which is difficult to achieve in its totality. Very few countries and societies have come close to achieving good governance in its totality. However, to ensure sustainable human development, actions must be taken to work towards this ideal with the aim of making it a reality<sup>5</sup>.

Council of Europe proposes to consider not eight, but 12 principles of Good democratic governance: participation, representation, fair conduct of elections; responsiveness; efficiency and effectiveness; openness and transparency; rule of law; ethical conduct; competence and capacity; innovation and openness to change; sustainability and long-term orientation; sound financial management; human rights, cultural diversity and social cohesion; accountability also<sup>6</sup>.

We recommend to introduce the TOTE cognitive model of Good Governance, which is based on mathematical models, authored by

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<sup>5</sup> Yap Kioe Sheng Economic and Social Commission for Asia and the Pacific. Retrieved from: <https://www.unescap.org/sites/default/files/good-governance.pdf>

<sup>6</sup> Principles of good democratic governance. Centre of expertise for local government reform (2018). Retrieved from: <https://rm.coe.int/12-principles-of-governance-poster-a2/1680787986>

G.A. Miller, E. Galanter, and K.H. Pribram (Miller, Galanter, and Pribram, 1960)<sup>7</sup> in natural resource management. This model is based on effect of a cognitive process which must include monitoring devices that control the acquisition of the stimulus-response relationship.

The TOTE model is the self-control mechanisms in management tasking, which are explained in terms of both operations and monitoring processes. In this model each recurring operation would be associated to a monitoring process, to test if the intended control was met or not. Its premise is that a common algorithm for solving non-deterministic problems in a complex natural-economic system, is to test where the system is currently, then perform some operation that makes a change, then retest again, and to repeat this until the answer is satisfactory, at which point the process is complete and ends (or exits). TOTEs are often nested within other TOTEs, since as a means to meet a goal, they are applicable to sub-goals too. The generic TOTE structure is: Test to obtain some representation of the problem state in natural-resource management; Operate – intervene in some way to solve the problem; Test again to see if the desired result has been achieved. If it has not, loop back to operate. If it has: Exit – when problem is solved according to previously obtained format of results by the instrument of project management.

Governance can be used in several contexts such as corporate governance, international governance, national governance and local governance. Since governance is the process of decision-making and the process by which decisions are implemented, an analysis of governance focuses on the formal and informal actors involved in decision-making and implementing the decisions made and the formal and informal structures that have been set in place to arrive at and implement the decision. Government is one of the actors in governance. Other actors involved in governance vary depending on the level of government that is under discussion. In rural areas, for example, other actors may include influential land lords, associations of peasant farmers, cooperatives, research institutes, religious leaders, finance institutions political parties, the military etc. The situation in urban areas is much more complex – at the national level, in addition to the above actors, media, lobbyists, international donors, multi-national corporations, etc. may play a role in decision-making or in influencing the decision-making process.

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<sup>7</sup> George A. Miller, Eugene Galanter, and Karl H. Pribram (1960). Plans and the structure of behavior. New York: Henry Holt, 226 p.

All actors other than overnment and the military are grouped together as part of the “civil society.» In some countries in addition to the civil society, organized crime syndicates also influence decision-making, particularly in urban areas and at the national level. Similarly formal government structures are one means by which decisions are arrived at and implemented. In some rural areas locally powerful families may make or influence decision-making. Such, informal decision-making is often the result of corrupt practices or leads to corrupt practices<sup>8</sup>.

There is considered that basic approaches to modernization of managerial system according to Good Governance management model includes:

- decentralization and introduction of cluster-corporative form of structural management in natural resources sphere;
- implementation of the complex economic estimation of natural resources in the system mechanism of management of natural resources;
- organizing of structure shifts with change of the property categories on municipal and corporative forms of property;
- introduction of the most latest instrument and forms of management – the securitization of natural resources, corporative, cluster, project and other innovation programming and economic methods of management of natural resources etc.

As a fact, Good governance at all levels is fundamental to economic growth, political stability, and security. Central government and local communities must work together to tackle many aspects of weak governance, including corruption and money-laundering, and to promote full respect of the rule of law, increase transparency, and develop effective legislation in natural resources sphere as the foundation of a functioning state.

In the modern economy of the 21st century, which is to become first and foremost a sustainable economy, natural resources will act not only as an element of commodity production, but also as a component of the development of any socio-economic entity that requires appropriate institutionalization of natural-resource relations. This is emphasized, in particular, in the materials of the historic Rio + 20 Summit. The Rio 2012 Resolution “The Future We Want”<sup>9</sup> is an important international document

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<sup>8</sup> Yap Kioe Sheng Economic and Social Commission for Asia and the Pacific. Retrieved from: <https://www.unescap.org/sites/default/files/good-governance.pdf>

<sup>9</sup> United Nations (2012). The future we want. Outcome of the Conference on Sustainable Development. (A/CON F.216/L.1). Retrieved from: [https://rio20.un.org/sites/rio20.un.org/files/a-conf.216l-1\\_russian.pdf](https://rio20.un.org/sites/rio20.un.org/files/a-conf.216l-1_russian.pdf)

that emphasizes that the institutionalization of the economic process in terms of natural-resource relations is an integral part of such an innovative economy and one of the main prerequisites for the continued sustainable development of society.

Therefore, it became necessary to transform the organizational structure of natural resources management in innovative directions at all levels of public administration in Ukraine, taking into account the processes of decentralization and, in this connection, changing the functions, mechanisms and powers for the sustainable development of territories. At the present stage of development of our country, the problem of the lack of a proper model of nature management at different levels leads to obstacles in the implementation of public administration. Therefore, the study of foreign experience will allow us to effectively apply the models of European countries in the management of natural resources. The key issues are related to defining the features of the European approach to the implementation of decentralized type of management of natural resources in the long term, and directions of their implementation in Ukraine.

## **CONCLUSION**

It is necessary to use modern approaches of natural capital management, which are based on accounting of natural capital wealth and capitalization of natural resources now, to take into account actual, but hidden and not shown usefulness, value features and system ecological characteristic in each type of resource – land, water, wood and mineral resources, and in ecological system capital, created by all set of productive force of natural-anthropogenous ecological systems, which comprise all available types of resources. Specific recommendations of the Rio+20 contain information about the natural capital effect on the economic process. There are also some initial guidelines that show how natural resources, including water, land, forestry, minerals and other components of the environment should be adequately estimated. Conceptual innovation approaches of “Green”, “Blue” and “Nano” economy and “Good governance” forms the basis of new management toolbox. It is determined that the modernization of managerial system of natural resources must provide creation of the high effective infrastructure of full-fledged attraction of natural resources in economic process through capitalization of them, including financial component, connected with corporative forms of natural resources management.

Good governance is an approach to government that is committed to creating a system founded in justice and peace that protects individual's human rights and civil liberties. According to the United Nations, Good Governance is measured by the eight factors of participation, rule of law, transparency, responsiveness, consensus oriented, equity and inclusiveness, effectiveness and efficiency, and accountability. Participation requires that all groups, particularly those most vulnerable, have direct or representative access to the systems of government. Rule of Law is exemplified by impartial legal systems that protect the human rights and civil liberties of all citizens. Transparency means that citizens understand and have access to the means and manner in which decisions are made. Responsiveness simply involves that institutions respond to their stakeholders within a reasonable time frame. Consensus Oriented is demonstrated by an agenda that seeks to mediate between the many different needs, perspectives, and expectations of a diverse citizenry. Equity and Inclusiveness depends on ensuring that all the members of a community feel included and empowered to improve or maintain their well being. Effectiveness and Efficiency is developed through the sustainable use of resources to meet the needs of a society. Sustainability refers to both ensuring social investments carry through and natural resources are maintained for future generations. Accountability refers to institutions being ultimately accountable to the people and one another.

It is recommend to introduce the TOTE cognitive model of Good Governance, in natural resource management. This model is based on effect of a cognitive process which must include monitoring devices that control the acquisition of the stimulus-response relationship. The TOTE model is the self-control mechanisms in management tasking, which are explained in terms of both operations and monitoring processes. The generic TOTE structure is: Test to obtain some representation of the problem state in natural-resource management; Operate – intervene in some way to solve the problem; Test again to see if the desired result has been achieved. If it has not, loop back to operate. If it has: Exit – when problem is solved according to previously obtained format of results by the instrument of project management.

Basic approaches to modernization of managerial system according to Good Governance management model includes: decentralization and introduction of cluster-corporative form of structural management in natural resources sphere; implementation of the complex economic

estimation of natural resources in the system mechanism of management of natural resources; organizing of structure shifts with change of the property categories on municipal and corporative forms of property; introduction of the most latest instrument and forms of management – the securitization of natural resources, corporative, cluster, project and other innovation programming and economic methods of management of natural resources etc. Central government and local communities must work together to tackle many aspects of weak governance, including corruption and money-laundering, and to promote full respect of the rule of law, increase transparency, and develop effective legislation in natural resources sphere as the foundation of a functioning state.

### **SUMMARY**

It is determined that nature is a system which requires systemic thinking. With regard to the documents of the Rio + 20 summit, to the most urgent issues belongs creation of models for sustainable territorial development that should be based on the concept of efficient local resources usage, first of all natural. The conceptual approach includes, firstly, understanding of natural resource as a capital and, secondly, capitalization as a process of such resource transformation into surplus value and profit. As experts of the World Bank claim, for the most developed countries, the share of natural capital alongside with other tangible capital in the national wealth is about 20%. The rate of the Ukraine's natural wealth, calculated according to current techniques manuals, in 2012 as of the latest year, which was relatively auspicious economically, comprised in value terms a bit more than USD 130 billion and exceeds the declared personal wealth of anyone among the richest people all over the world. In the nearest future we have not only to undertake a comprehensive valuation of natural capital, but also to provide all necessary backgrounds for launching its converting into financial shape. The answer to the question whether Ukraine is rich or poor, lies in adequate overall economic assessment of natural resources and their successful implementation into full-fledged capital by all means and tools of the modern economy of the XXI century. There is offered modernization of managerial system of natural resources in Ukraine through introduction of mechanism of the Good Governance and conception of corporative social and ecological responsibility and mechanism of the Public-Private Partnerships (PPP).

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## **LABOR MOBILITY AND LABOR MARKET FORMATION: CURRENT TRENDS**

**Boychenko E. B.**

### **INTRODUCTION**

The transformations taking place in the economy of Ukraine are reflected, first of all, in the processes of labor movements of the population. Labour mobility is one of the most important factors influencing the functioning of the labour market. The availability of mobile workforce enables enterprises to employ highly skilled workers, which contributes to the adaptation of the economic entity to changes in market conditions. For an employee, labor mobility is an opportunity to find a job in a new workplace that best suits his needs. The existence of such problems in the country's economy as unemployment, the discrepancy between the level of wages of workers and their education and skills, dissatisfaction with the content of labor, lack of career growth, the inability to improve skills, etc., lead to increased labor mobility of the population. On the basis of the study of labor mobility, information is formed on its scale, intensity, dynamics, directions of flows of labor movements and the reasons causing them. It is the analysis of labor mobility that makes it possible not only to form an idea of how the labor market functions, but also to predict the development of the situation in the field of employment.

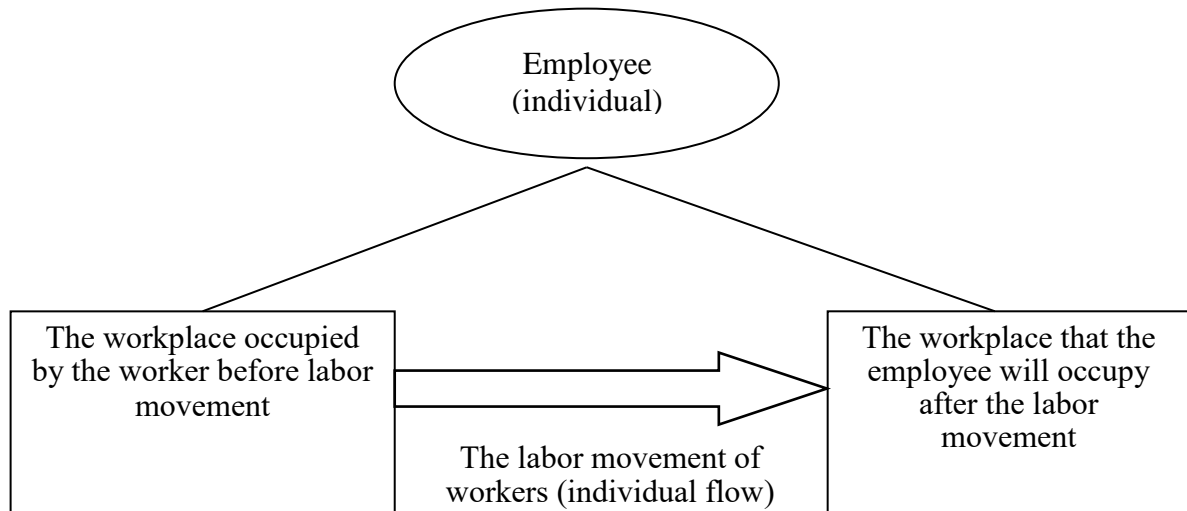
#### **1. The role of labor mobility in the formation of the labor market**

Labor mobility is one of the main factors that ensure the flexibility of the labor market. Therefore, the definition and justification of signs of labor mobility forms makes it possible to classify the flows of labor movements of the population, to identify the motives of young people regarding the decision on labor movement, as well as to analyze the consequences of these movements.

The flow of labor mobility is a set of individual labor movements (individual labor mobility). The directions and number of participants in these labor movements form the intensity of labor mobility flows, each of which has its own characteristics. Elements of individual labor mobility is



labor migration the employee occupied workplace to the labor movement and the working place, which he will occupy after the move (Fig. 1).



**Fig. 1. Elements of self-employment mobility**

The basis of labor mobility is the individual labor movement of the employee, the consideration of which will reveal the motives for the decision to change the workplace. For a certain part of workers, labor mobility is focused more on improving the “intangible” part of the impact of employment-related conditions and regime of work, whereas for another part of the impetus to change the workplace will be wage growth.

Forms of labor mobility are presented in table 1.

The existing forms of labor mobility can be combined into two groups:  
macro level: economic, territorial, sectoral labor mobility;  
micro level: internal corporate and professional labor mobility.

Each form of labor mobility can be represented both independently and in combination with other labor movements of the individual.

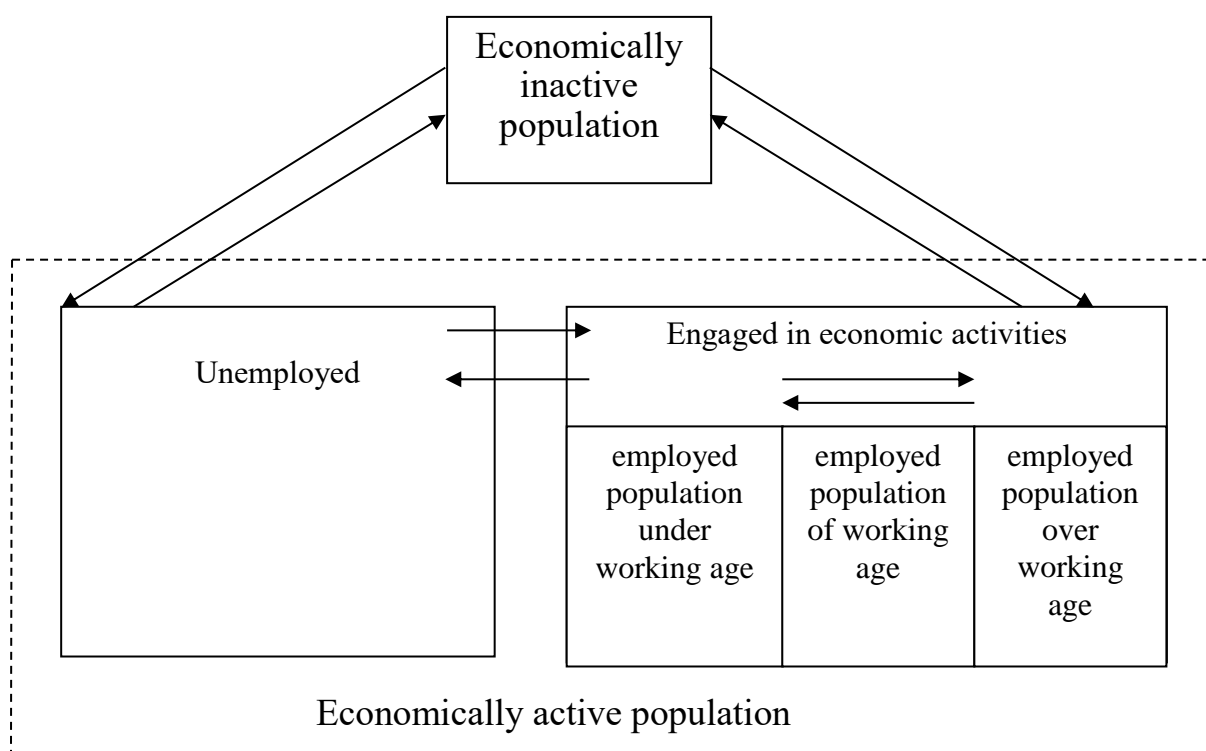
First, economic labor mobility affects the formation of the economically active population. Therefore, the dynamics and intensity of the flows of active and passive labor mobility act on the formation of labor supply in the labor market.

Economic mobility is represented by the flow of labor between the economically active population (EAP) and the economically inactive population (ENP), and between ENP and EAP (Fig. 2).

Table 1

### Classification of forms of labor mobility

No. p/n	Form of labor mobility	Signs of classification of forms of labor mobility
1.	Economic	1.1. Active labor mobility 1.2. Passive labor mobility 1.3. Territorial labor mobility 1.4. Industry labor mobility 1.5. Internal corporate labor mobility
2.	Territorial	2.1. Interstate labor mobility 2.2. Interregional labor mobility 2.3. Intraregional labor mobility 2.4. Industry labor mobility 2.5. Internal corporate labor mobility
3.	Sectoral	3.1. Intersectoral labor mobility 3.2. Internal industry labor mobility 3.3. Internal corporate labor mobility
4.	Internally branded	4.1. Inter-occupational labor mobility 4.2. Internal professional labor mobility



**Fig. 2. Flows of economic mobility**

Flows of economic mobility can be represented as a set of single acts of movement of individuals, which can be divided into two groups.

## **2. Definition of approaches to the classification of forms of labor mobility**

The first group – passive labor mobility characterized by the direction of labor movement between EAP and ENP. It includes flows: 1) employed – economically inactive part of the population; 2) unemployed – economically inactive part of the population.

The directions of economic mobility flows are presented in table 2.

According to the results of the study, the flows of economic mobility of the population of Ukraine for the period 2012-2016, it can be argued that there is a reduction in the population involved in almost all economic flows.

The second group (active labor mobility) characterized by the direction of labor movement between ENP and EAP. It includes flows: 1) employed – unemployed; 2) unemployed – employed; 3) economically inactive part of the population – employed; 4) economically inactive part of the population – unemployed; 5) employed – employed.

Table 2

### **Dynamics of economic mobility of the population of Ukraine in 2012-2016, thousand people**

Years	Entire population		Population aged 15-34 years	
	Economic active population	Economically inactive population	Economic active population	Economically inactive population
1	2	3	4	5
2012	22011,5	12055,3	8387,2	4789,2
2013	21980,6	11861,7	8258,9	4723,0
2014	19920,9	12023,0	7654,6	4421,4
2015	18097,9	10925,5	6789,1	4006,7
2016	17955,1	10934,1	6550,9	3972,1
Relative deviation, % 2012/2016	-18,4	-9,3	-21,9	-17,1

Ending of Table 2

1	2	3	4	5
Years	Employed	Economically inactive population	Employed	Economically inactive population
2012	20354,3	12055,3	7473,1	4789,2
2013	20404,1	11861,7	7409,0	4723,0
2014	18073,3	12023,0	6621,1	4421,4
2015	16443,2	10925,5	5887,9	4006,7
2016	16276,9	10934,1	5690,4	3972,1
Relative deviation, % 2012/2016	-20,0	-9,3	-23,9	-17,1
Years	Unemployed	Economically inactive population	Unemployed	Economically inactive population
2012	1657,2	12055,3	914,1	4789,2
2013	1576,5	11861,7	849,9	4723,0
2014	1847,6	12023,0	1033,5	4421,4
2015	1654,7	10925,5	901,1	4006,7
2016	1678,2	10934,1	860,5	3972,1
Relative deviation, % 2012/2016	1,3	-9,3	-5,9	-17,1
Years	Employed	Unemployed	Employed	Unemployed
2012	20354,3	1657,2	7473,1	914,1
2013	20404,1	1576,5	7409,0	849,9
2014	18073,3	1847,6	6621,1	1033,5
2015	16443,2	1654,7	5887,9	901,1
2016	16276,9	1678,2	5690,4	860,5
Relative deviation, % 2012/2016	-20,0	1,3	-23,9	-5,9

Flow “Employed – economically inactive part of the population”. It’s a movement that characterizes a situation where:

employees who have reached retirement age, decide to leave work;

working pensioners who for objective reasons (advanced age, health status) decide to leave work;

employees who are of working age, but earned the right to receive pensions on preferential terms and left the labor activity;

workers who are of working age, recognized as disabled group I or II, move to the category of economically inactive population;

women who were on leave to care for a child, decide not to proceed with the work upon the expiration of this leave;

workers who are of working age leave work and are unwilling to work for any reason.

The flow of “unemployed – economically inactive part of the population.» First of all, this flow characterizes the situation when persons from among the unemployed, who are in a long period of unemployment and are desperate to find work, completely stop searching for it and become part of the economically inactive population. The unemployed of a certain occupational group are unable to find employment, and the cost of a new profession may be so much higher than the future benefits of the job that it makes employment ineffective. It is also possible that the period of obtaining a new profession is so long that, for example, for people of pre-retirement age it becomes impractical, and they become part of the economically inactive population.

The flow “busy-unemployed”. The reasons for this movement can be both objective and subjective factors. The objective can be attributed to the reduction of excess labor and dissatisfaction with the amount of wages. The subjective factors includes: unsatisfactory working conditions that harm the health of the employee, the lack of opportunities for training, professional growth, socio-psychological climate in the team, as well as violations of labor legislation by the employer, etc.

The flow “unemployed- employed «. It occurs when there is a demand for labor of a certain qualification in the professional-branch segment of the labor market.

Flow “economically inactive part of the population – employed.” The main participants of this flow are students, students, trainees, and full – time students. This is the category that after receiving their specialty enters the labor market and finds their jobs. In addition, participants of this flow can be persons who were not engaged in labor activity, including pensioners.

The standard of living of this category of population depends on the amount of transfers received (pensions) or on the income of household members, which, in their opinion, do not provide an acceptable standard of living. Therefore, they decide to change their status. This category of the population enters the labor market and is employed.

The flow of “economically inactive part of the population – the unemployed”. Its participants are the same category of the population as in the flow of “economically inactive part of the population – employed”. The only difference is the result. If in the previous flow the purpose of this category of the population is achieved, that is, they are employed, then in this they want to be employed, but can't find a suitable job. Consequently, they become unemployed, that is, there is a movement of this category of the population for the flow of “economically inactive part of the population – the unemployed”.

The flow of “employed – employed” characterized by the change of the individual from one workplace to another. This flow considered within the framework of economic, territorial, sectoral, internally branded and professional labor mobility. It is represented by labor movements not only in the direction of the transition of the individual from hired labor to entrepreneurial activity or reverse movement, that is, from entrepreneurial activity to employment, but also in the direction of changing the individual of one workplace to another.

Changes in the intensity of this flow do not affect the structure of the economically active population. The intensity of the movement of workers in this flow may lead to a change in the ratio between the number of employees and those engaged in entrepreneurial activity.

Economic labor mobility represented by labor flows between EAP and ENP, between ENP and EAP, and between employed and unemployed. The analysis of economic mobility flows by age groups are given in table 3.

The results of the analysis of the flows of economic labor mobility of young people between EAP and ENP for the period 2012-2016 show that these groups, both economically active and economically inactive, are highly stable.

Thus, the ratio between EAP and ENP for the analyzed period averages 63,37%, respectively. For persons between 15 and 34 years of age, the ratio is 58,42%, respectively, which is also highly stable. Thus, the flows of economic labor mobility of young people during the study period haven't changed.

Table 3

**Structure of economic mobility  
of the population of Ukraine in 2012-2016 years**

Age group for the period		The ratio between ENP and EAP, %		The ratio between employed and unemployed in the structure of EAP, %	
		Entire population	Population aged 15-34 years	Entire population	Population aged 15-34 years
1		2	3	4	5
<b>2012</b>		35,4:64,6	36,3:63,7	92,5:7,5	89,1:10,9
Age group	<b>15-24</b>	<b>59,3:40,7</b>		<b>82,7:17,3</b>	
	<b>25-29</b>	<b>18,5:81,5</b>		<b>90,5:9,5</b>	
	<b>30-34</b>	<b>16,7:83,3</b>		<b>92,9:7,0</b>	
	35-39	14,4:85,6		93,6:6,4	
	40-49	14,7:85,3		93,8:6,2	
	50-59	34,3:65,7		94,7:5,3	
	60-70	76,0:24,0		99,9:0,1	
1		2	3	4	5
<b>2013</b>		35,19	36,4:63,6	92,8:7,2	89,7:10,3
Age group	<b>15-24</b>	<b>60,7:39,3</b>		<b>82,6:17,4</b>	
	<b>25-29</b>	<b>19,2:80,8</b>		<b>91,3:8,7</b>	
	<b>30-34</b>	<b>16,1:83,9</b>		<b>93,4:6,6</b>	
	35-39	13,4:86,6		93,9:6,1	
	40-49	14,2:85,8		93,8:6,2	
	50-59	32,9:67,1		94,9:5,1	
	60-70	76,2:23,8		100:0	
<b>2014</b>		37,6:62,4	36,6:63,4	90,7:9,3	86,5:13,5
Age group	<b>15-24</b>	<b>61,6:38,4</b>		<b>76,9:23,1</b>	
	<b>25-29</b>	<b>19,5:80,5</b>		<b>88,9:11,1</b>	
	<b>30-34</b>	<b>17,4:82,6</b>		<b>90,7:9,3</b>	
	35-39	15,2:84,8		91,9:8,1	
	40-49	15,4:84,6		92,7:7,3	
	50-59	36,8:63,2		94,0:6,0	
	60-70	84,5:15,5		99,9:0,1	

Ending of Table 3

	1	2	3	4	5
	<b>2015</b>	37,7:62,3		90,9:9,1	
Age group і групи	<b>15-24</b>	<b>63,7:36,3</b>	37,1:62,9	<b>77,6:22,4</b>	86,7:13,3
	<b>25-29</b>	<b>19,2:80,8</b>		<b>88,8:11,2</b>	
	<b>30-34</b>	<b>17,7:82,3</b>		<b>90,3:9,7</b>	
	35-39	14,8:85,2		92,8:7,2	
	40-49	14,9:85,1		92,4:7,6	
	50-59	34,1:65,9		93,7:6,3	
	60-70	85,5:14,5		99,9:0,1	
	<b>2016</b>	37,8:62,2		90,7:9,3	
Age group	<b>15-24</b>	<b>64,9:35,1</b>	37,7:62,3	<b>77,1:22,9</b>	86,9:13,1
	<b>25-29</b>	<b>21,1:78,9</b>		<b>88,3:11,7</b>	
	<b>30-34</b>	<b>18,0:82,0</b>		<b>91,1:8,9</b>	
	35-39	14,8:85,2		91,9:8,1	
	40-49	15,3:84,7		92,3:7,7	
	50-59	32,7:67,3		92,7:7,3	
	60-70	85,7:14,3		99,9:0,1	

Considering this ratio for each age group, it should also noticed a high stability between the EAP and ENP of the country. The most intensive transition to the economically active population falls on the age of 15–24 years, because at this age ends vocational education, and as a consequence, the output of this category of the population to the labor market. High economic activity of the population shows at the age of 20-49 years (on average 82%), then this activity decreases. The decline in economic activity occurs after 50 years, which can be explained by the fact that part of the population received pensions on preferential terms, as well as the deterioration of the health of a certain part of the population of this age group.

The economically active population, as already mentioned, consists of people engaged in economic activities and unemployed. Thus, the flows of economic labor mobility of young people between EAP and ENP can be imagined as flows between ENP, the unemployed and those engaged in economic activities.

The period of economic transformation marked by the reduction of the employed population in the sectors of the economy of Ukraine. If in 2000 the number of the employed population was 20175.0 thousand people, in



2016 this figure was 16276.9 thousand people, that is, for sixteen years the number of people engaged in economic activity decreased by 19.3%.

Analysis of the dynamics of the employed population of Ukraine aged 15-34 years for the period from 2012 to 2016 shows that the country has a tendency to reduce them. Thus, in 2012, persons aged 15-34 years were 7473.1 thousand people, in 2016 their number decreased by almost a quarter (by 1782.7 thousand people – 23.9%) and amounted to 5690.4 thousand people. It can be considered that the main problem of reducing the employed youth in the sectors of the economy of Ukraine is a high unemployment rate, as well as mass migration processes.

The next form of labor mobility, territorial labor mobility, or labor migration occupies a special place in the classification of forms of labor mobility. Territorial labor mobility is the willingness and ability to change the place of residence in searching a new job, as well as ability to territorial movements. The additional costs involved are seen as an investment in human capital. Thus, territorial labor mobility plays an important role in achieving a balance between supply and demand for labor.

Changes in the total population of the region are affected by inter-regional and inter-state migration. Internal regional migration doesn't affect the population of the region, but changes the qualitative composition in urban settlements and rural areas.

The analysis of territorial mobility flows by age groups are given in table 4.

It should be noted, that the state statistics record only a tiny part of migrants, data on which are received from the internal Affairs bodies. Thus, according to the results of the study, it can be argued that a positive migration balance characterizes migration processes in Ukraine.

The main obstacles to territorial mobility are administrative barriers, including the institution of registration, as well as the underdevelopment of the real estate market and social programs, the lack of complete information about the state of the labor market of the place of residence, low incomes of potential migrants.

The third form of labor mobility is industry labor mobility, which characterizes changes in the workplace and the willingness of the employee in this regard to change the company within the industry, and move to another industry, which determines the mastery of new knowledge, skills necessary for a new job or position, as well as the study of new specifics and technology.

Table 4

**Dynamics of territorial mobility of the population of Ukraine  
on migration flows (according to official statistics), persons**

The flow of migration	Number of arrivals		Number of departures		Balance of migration (ages 15-34 years)	Mobility		Proportion of persons aged 15-34 years, %
	Total	at the age of 15-34 years	Total	at the age of 15-34 years		Total o	at the age of 15-34 years	
2012								
All migration flows, including:	726226	469385	664382	423988	61844 (45397)	1195611	893373	74,7
Interstate	76361	51691	14517	6294	61844 (45397)			
2013								
All migration flows, including:	675942	424048	644029	406043	31913 (18005)	1319971	830091	62,9
Interstate	54100	31609	22187	13604	31913 (18005)			
2014								
All migration flows, including:	542506	338123	519914	327050	22592 (11073)	1062420	665173	62,6
Interstate	42698	23636	21599	13086	21099 (10550)			
2015								
All migration flows, including:	533278	299972	519045	293918	14233 (6054)	1052323	145619	56,4
Interstate	30659	16251	21409	11914	9250 (4337)			
2016								
All migration flows, including:	256808	133218	246188	126401	10620 (6817)	502996	145619	28,9
Interstate	14311	8696	6465	2827	7846 (5869)			

Industry labor mobility divided into internal industry (change of employment and the willingness of the employee in this regard change the company within the industry) and inter-industry, which involves the change of both the place of work and the economy.

Sectoral labor mobility is possible only if the employee shows commitment and the ability in search of a more suitable, such that it brings greater benefit, in his opinion, the work place. Industry mobility is associated with the presence of the employee's quality education, broad Outlook, creativity, commitment, experience of different work. This movement involves the development of new requirements by the employee. It requires high professionalism, the ability of the employee to adapt quickly, the development of a new organizational culture, as well as the ability to present themselves in the most favorable light.

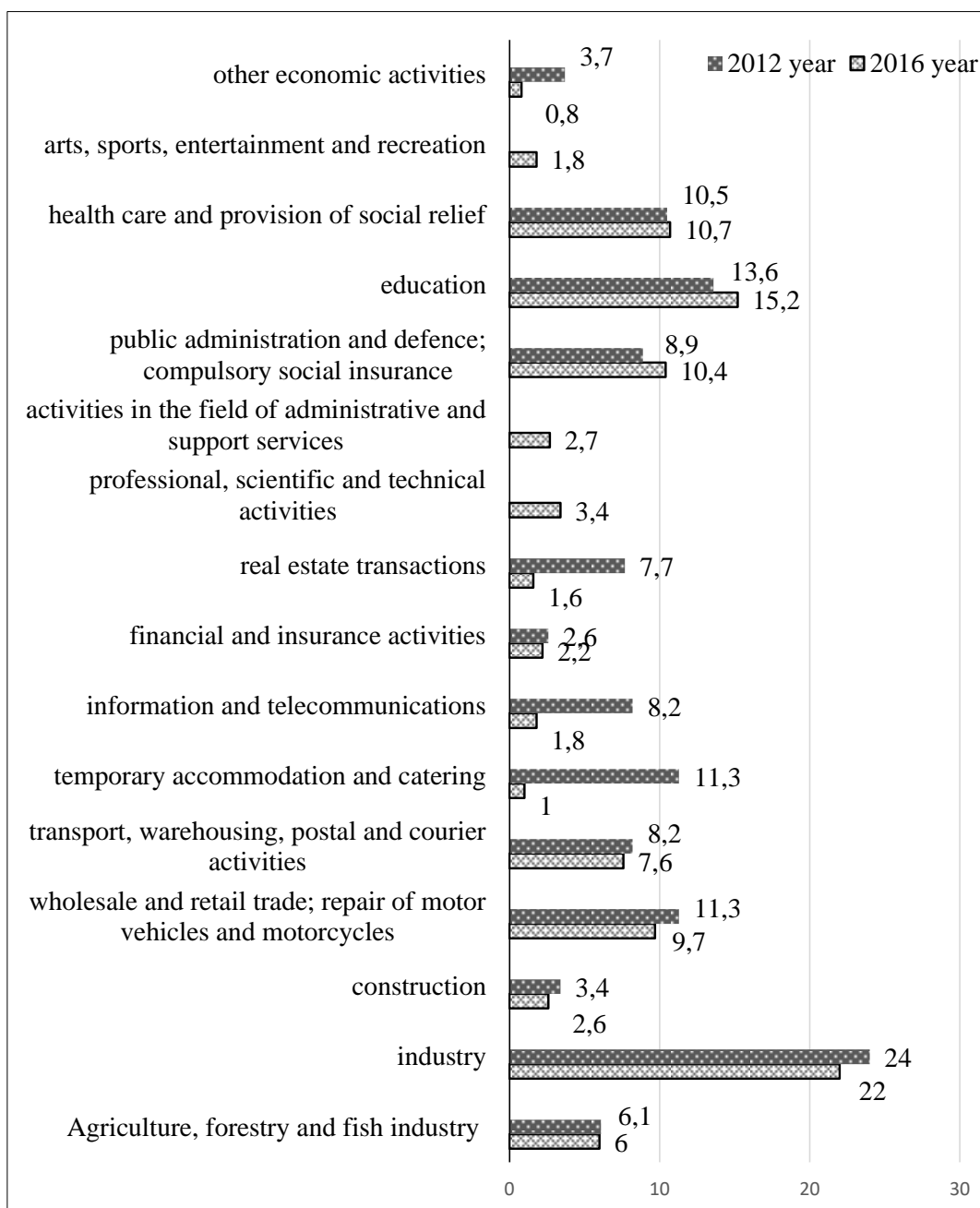
Industry labor mobility divided into internal industry (change of employment and the willingness of the employee in this regard to change the company within the industry) and inter-industry, which involves the change of both the place of work and the economy (Fig. 3).

The reduction of the employed population in the sectors of the economy was observed in industry, where the decrease in the share of employed during the analyzed period amounted to 2.0 p. Certain losses were incurred by the following industries: temporary accommodation and catering (10.3 p.), information and telecommunications (6.4 p.), real estate operations (6.1 p.) and public administration (1.5 p.). There is also an increase in employment in education (1.6 p.), public administration and defense; compulsory social insurance (1.5 p.), health care and social assistance (0.2 p.).

Changes in the sectoral structure of employment can be seen as a reaction of the labor market to the processes taking place in the economy. Therefore, it is quite natural to consider the increase in the number of employees in some sectors of the service sector. The expansion of employment in these areas could be only achieved by increasing the mobility of workers between sectors.

Internally branded labor mobility is the fourth form of labor mobility characterized by changes in the content of labor activity. One can distinguish the following types of labor mobility: inter-professional and inter-occupational labor mobility and specialization.

Internal corporate labor mobility can be characterized as the ability and willingness of the employee to move within the enterprise between structural units and individual types of work. This movement will require the acquisition of a new specialty or a combination of professions, a change of specialization, as well as good awareness of the employee about the possibility of career growth.



**Fig. 3. Dynamics of sectoral labor mobility of the population of Ukraine for the period 2012 and 2016, %**

Internal professional labor mobility includes labor movements within the same profession. The reasons for this type of mobility can be changes in the tariff category or employee category, which affect the volume, complexity and quality of work performed. For example, 1 rank mechanic of mechanical Assembly works needs to know: name and purpose of a simple working tool; a device bench vise; work rules on manual shears and

hand saws, pneumatic and electric machines, rivet and chipping hammers and on a simple drill press; the nomenclature of the handled details; fasteners; name and marking of processed materials. The duties of a locksmith mechanical works 6 category significantly expanded. He must know: the design, the principle of operation of complex machines, machines, assemblies and devices; methods of debugging and adjusting machines, manufactured devices and other equipment, the principle of calculation and methods of checking eccentrics and other curves and gears; methods of calculation and construction of complex shapes; rules for filling in passports for machines manufactured<sup>1</sup>. To obtain the highest level of the worker must pass the exams of the qualification Commission, demonstrating the professional knowledge corresponding to this category. After successfully passing the exams, he is achieving a new category and the corresponding tariff rate. Thus, in this type of labor mobility, the fact of the employee's movement is the receipt of the highest level.

For specialists has developed its own qualification requirements. For example, a leading economist in labor should have a higher education in the relevant field of training (master, specialist) and advanced training, work experience in the profession of economist in labor category I for at least 2 years. Economist of labor I category must have a full or basic higher education of the relevant field of study (master, specialist or bachelor) and advanced training. For the master there are no requirements for work experience, for a specialist – work experience in the profession of economist of labor II category for at least 2 years, for a bachelor of at least 3 years. Economist for labor II category must have a full or basic higher education of the relevant field of training (specialist or bachelor) and advanced training; for specialist – without requirements for work experience, for bachelor work experience in the profession of economist for work – 2 years. Economist for work must have a full or basic higher education of the relevant field of study (specialist or bachelor) without requirements for work experience. Thus, the result of internal occupational labor mobility is a change in the qualification level of the specialist, providing for further training and professional experience.

Mobility implies a change of occupation, which consists in obtaining a new profession. The reasons for this type of labor mobility may be the

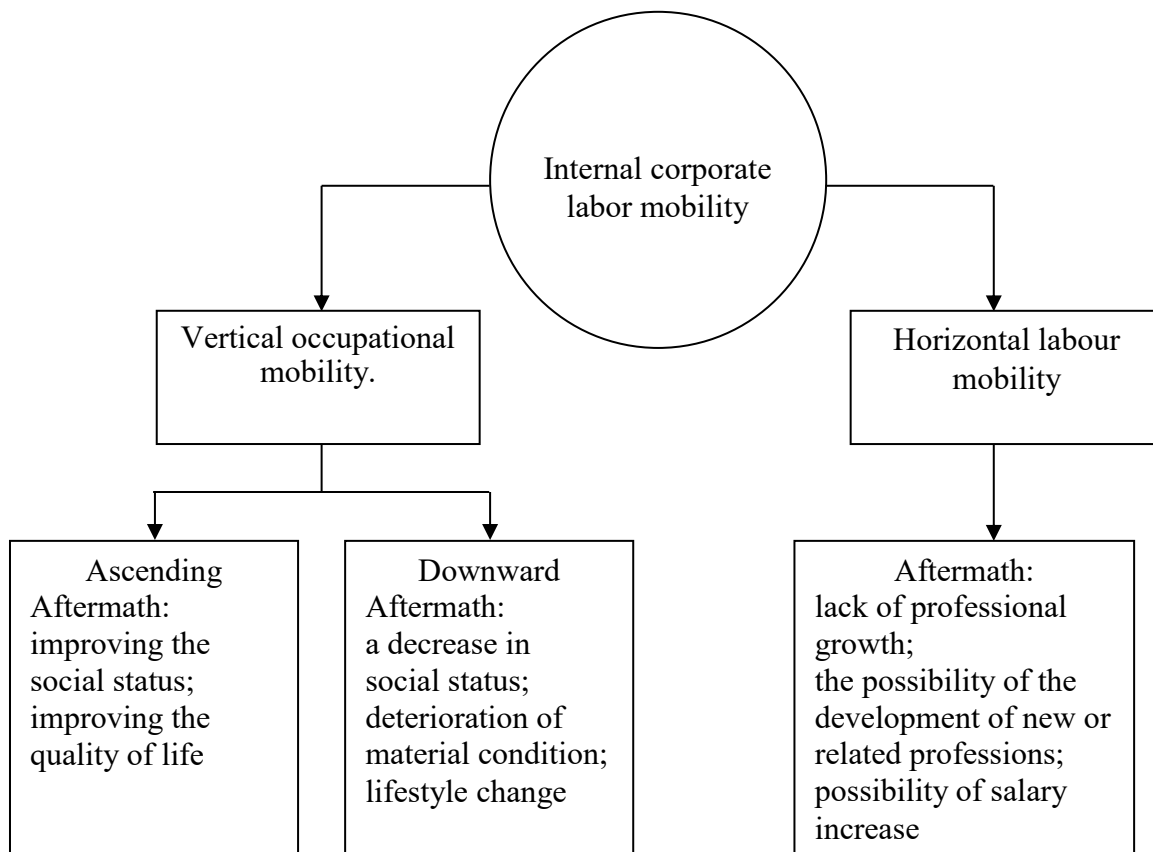
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<sup>1</sup> Единый тарифно-квалификационный справочник работ и профессий рабочих / Государственный Комитет Совета Министров СССР по вопросам труда и заработной платы. Москва : Машиностроение, 1969. Вып. 2. С. 549.

need for production. For example, the Director of an enterprise that has a technical education needs knowledge of management, therefore, it is necessary for him to receive education in this area. The reasons for inter professional mobility may also be personal motives of the employee. For example, he cannot realize himself in the field of activity in which the education received.

The reasons for internal corporate labor mobility can be, on the one hand, the employee's dissatisfaction with the workplace (wages, working conditions and organization, the presence of social and psychological problems in the team, etc.). On the other hand, it's not only the discrepancy of the employee's position, but also providing him with work that is more in his interests, requirements, health, the desire to minimize the level of conflict in the team and its cohesion, optimize social interaction between employees, as well as ensuring employment of the employee in the case of structural reorganization, etc.

Internal corporate labor mobility can be divided into vertical and horizontal (Fig. 4).



**Fig. 4. Structure internally branded labor mobility**

Vertical labor mobility refers to the movement of employees up or down the status hierarchy. Those employees whose status and income at the enterprise are increased correspond to upward labor mobility. For workers whose position changes in the opposite direction, there is downward labor mobility.

Horizontal mobility is also common in the enterprise, which means moving between workplaces both within the division and between them without changing the status of the employee. Horizontal mobility is carried out in two directions: rotation and enrichment of labor.

The first direction is rotation, which exists in two types:

moving an employee from one workplace to another within the enterprise, which provides for the performance of the same duties in a new place (most often used to strengthen the lagging area, to overcome the conflict, training);

permutation: means getting new responsibilities on the same levels. Permutations can be carried out between linear and functional services, various departments, lower and higher bodies without changing the rank.

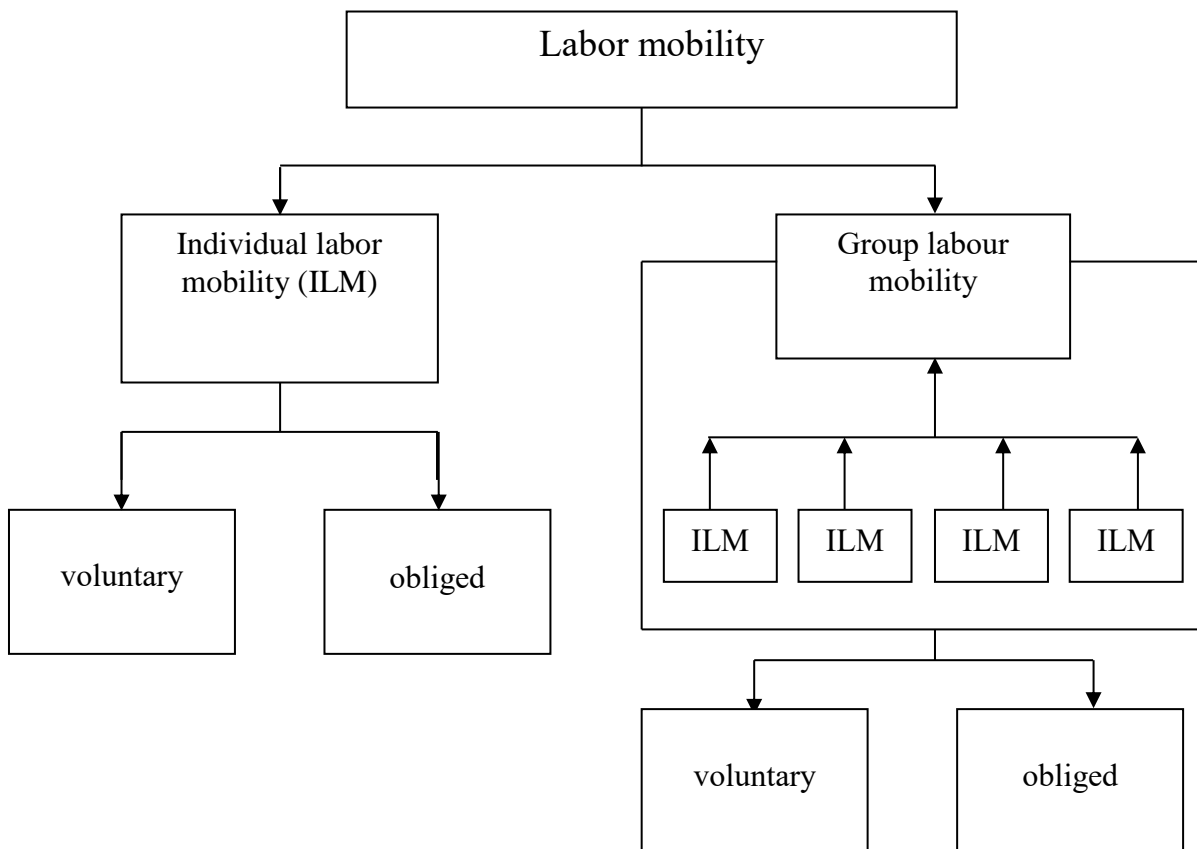
Close in fact to the movements and rearrangements is such a widespread form of rotation in Western firms, as “carousel”, that is, a temporary transition of an employee within the enterprise to another position or to another division, where he has to perform functions that are significantly different from the previous ones. Typically, such movement provides the work in accordance with abilities and needs that better to meet the employee contributes to the development of new skills, provides new production and management experience, knowledge, broaden their horizons

In European and American companies, participation in the “carousel” is voluntary. It involves maintaining the same level of wages and the possibility, in case of failure, to return to the same place. In Japan, the “carousel” is mandatory for young employees, because only after passing it and knowing the peculiarities of work in various departments and acquiring the necessary experience and connections, they can count on moving up.

The second direction is the enrichment of labor. This is a qualitative change in the nature of work, existing in such forms as the expansion of responsibility, granting greater rights in the management of resources, participation in the work of various committees and special creative groups, awareness-raising. The enrichment of labor can also be attributed to the alternation of types of work performed in one place, a temporary appointment to a higher position, providing an opportunity to engage in scientific work

and make an appropriate career, participation in the training of others, mentoring, and transfer of experience. Employee satisfaction increases if the monotonous work to expand the range of its tasks, the possibility of informal contacts, take into account individual wishes regarding a particular job, change its place. The connection can take place both within the same work function by expanding responsibilities and by performing duties related to different functions, which don't, require additional qualification. All this allows using the potential of the worker, his qualification and in General to increase productivity with the maximum completeness.

In the form of the organization, it is necessary to allocate individual and group, voluntary and forced labor mobility (Fig. 5).



**Fig. 5. Distribution of labor mobility depending on the number of participants of movements**

Individual labor mobility is an act of individual labor movement in which only one individual is a participant.

Group labor mobility is a mass, organized labor movement, which consists of a set of individual movements characterized by organized



directions of labor flows. An example of group labor mobility is work in shifts in the far North, on the oilrigs of Kazakhstan, in the archipelago of Svalbard, etc. In the USSR, there was an organized set of workers for permanent or seasonal work in enterprises or in construction, which is outside their main place of residence. This set was carried out on a voluntary basis, on the conditions corresponding to the resolutions and orders of the government of the USSR: “On measures for further improvement of the organized set of workers and the public appeal of youth”, the Standard contract on carrying out the organized set of workers, the instruction on the order of planning and carrying out the organized set of workers and other regulations. Employment contracts with the organizational recruitment of workers were concluded with men from 18 to 55 years, women from 18 to 50 years, mainly for two years, but not less than one year.

Voluntary labor mobility characterized by the fact that the decision on labor movement made directly by the individual. The peculiarity of forced labor mobility is that it is forced labor movement.

The reason for forced labor mobility can be, first of all, the reduction of staff in the enterprise. Due to the decrease in demand for products or services, there is a curtailment of production. After its reconstruction, there is a reduction in jobs, and, consequently, the release of part of the workers.

The reason for forced labor mobility may be the fact that after the employee begins to perform his duties, it may be his professional discrepancy of the employee to the workplace, which he occupies. This, in turn, will affect the productivity of the worker, which may be lower than that expected by employers at the conclusion of the employment contract. Moreover, this is what will cause the dismissal of the employee. The reasons for forced labor mobility can also be violations of labor discipline by the employee, non-compliance with corporate culture etc.

Voluntary labor mobility caused by a variety of reasons. This may be the employee's dissatisfaction with wages. Wages are an important motive for labor mobility both within the enterprise (internally branded) and outside it (industry, territorial, professional). Mobility is possible if there is a situation in which the knowledge and skills of the employee are not in demand at his workplace or there is no social package, the possibility of training, career advancement or the length of the working day, the intensity of work, the level of comfort and safety of the workplace don't satisfy the individual.

Thus, in the regional labor market there are four forms of labor mobility, which can be both independent and combined with other labor

movements of the individual. In order to make full use of the employee's labor potential, it is necessary to increase his labor mobility by creating a system of motives for labor mobility.

Identification of signs of forms of labor mobility is carried out on the basis of definition and justification of flows of labor movements which features give the chance to classify all labor movements of the population. As a result, the classification of forms of labor mobility, which consists of economic, territorial, sectoral, intra-firm and professional labor mobility, was clarified.

Each form of labour mobility can be defined as independent or combined with other labour movements of the individual. It is established that the flows of labor mobility are influenced by a number of factors that determine how this process will proceed, which economic entities will be involved in it and how it will affect the economic system and its individual elements.

### **SUMMARY**

The study proved that labor mobility is one of the main factors that provide labor market flexibility. It is proved that the basis of labor mobility is the individual labor movement of an employee, the consideration of which will reveal the motives of a person's decision to change jobs.

The classification of forms of labor mobility consists of economic, territorial, sectoral, internal corporate and professional labor mobility. Each form can be both independent and combined with other labour movements of the individual.

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## **LABOR MOBILITY AND LABOR MARKET FORMATION: CURRENT TRENDS**

**Petrovskaya I. O.**

### **INTRODUCTION**

The functioning of the national and regional labor markets is impossible without ensuring labor mobility of the population, which is a condition for balancing the supply and demand of labor. Changes in labour market conditions cause the movement of labour resources. Labour mobility is one of the main factors that ensures labour market flexibility. Therefore, the analysis of labor mobility makes it possible not only to get an idea of how the labor market functions, but also to predict the development of the situation in the field of employment.

#### **1. Features of labor mobility of youth in the conditions of reformation economy**

The study of youth labor mobility involves three parts. The first is the assessment of economic labor mobility; the second will be devoted to the analysis of territorial labor mobility, the third – the analysis of sectoral labor mobility.

The analysis of economic labor mobility of young people based on the classification of labor resources, which is based on the methodology of the International labor organization. The ILO recommended a classification system whereby the population divided into economically active population (EAP) and economically inactive population (ENP). This approach makes it possible to assess the labor movements of young people who are in the economically active age (from 15 to 70 years), that is, to determine the movement between the employed, unemployed, economically inactive part of the population. Any movement of the individual, which accompanied by a change in his economic status, leads to a change in the economic structure of the population.

The main movements of labor resources, as already mentioned, are limited by the flows between employment, unemployment and the economically inactive population.

The economically active group (employed and unemployed) includes individuals who focus on income, and in the case of employment – wages. It is the supply and use of labor that characterizes economic activity in employment.

The reasons for economic inactivity in the labor market are primarily due to the availability of income in the form of transfer payments (scholarships, pensions) and the assistance of relatives. The economically inactive part of the population includes: scientists, students, trainees, full-time students (including full-time graduate and doctoral studies); persons receiving old-age pensions and on preferential terms, as well as receiving disability pensions; persons who do not have the need or desire to work, and those who are looking for work but are not ready to start it in the near future. The economically inactive part of the population includes those who are engaged in housekeeping, caring for children, sick relatives, etc. In addition, one of the reasons for the economic inactivity of the population is the inability to find work, that is, this category includes persons who have stopped searching, exhausted all possibilities of obtaining it, which leads to the refusal of employment and transition from the group of economically active population (unemployed) to economically inactive.

Necessity to determine the intensity of the flow between EAP and ENP is justified by the fact that the result of economic labor mobility is an increase or decrease in the supply of young people in the labor market. These data make it possible to characterize the behavior of economically active young people, the probability of maintaining their economic status by this group, which makes it possible to predict the situation in the labor market and use this information in programs to promote youth employment and their professional orientation.

The next form of labor movement is territorial labor mobility, or labor migration.

An important component of the definition of labor mobility is the analysis of migration of economically active youth. Thus, the existing negative trends in the development of socio-economic processes, which have become stable and have been reflected, first of all, in such phenomena as high unemployment; low price of labor, and as a consequence, low income of the bulk of the population; imbalance between demand and supply of labor and limited opportunities for effective employment. The

strengthening of these problems is taking place against the background of the Operation of the joint forces in the Donetsk and Luhansk regions, political instability in society and many other factors that have led to increased labor migration of the population not only outside the state, but also from one region of Ukraine to another.

The consequences of these processes are not only the increase in the volume of inter-state migration, but also the concentration of young people in large industrial cities (where the level and quality of life is higher, and the unemployment rate is much lower) and deserted small towns and rural settlements; the dependence of the economic system on shadow business and other negative phenomena, which, in turn, caused a sharp aggravation of the crime situation.

During the whole period of Ukraine's stay in the USSR, the labor migration activity of young people was kept at a high level. Therefore, since the beginning of World War II there was a mass evacuation of people, especially from the cities of Ukraine, to the Eastern regions of the USSR. Germans and Tatars were forcibly removed from their settlements. There was also a forced removal of young people from the occupied territories of Ukraine to work in Germany<sup>1</sup>.

In the first post-war years, organized resettlement was widely developed – the recruitment of labor for new buildings in the Eastern regions of the former Union and the development of virgin lands, the construction of the Baikal-Amur mainline, as well as the forced removal (deportation from the territory of Ukraine of certain ethnic groups and politically repressed persons). Over time, organized migration was replaced by spontaneous individual migrations, which also involved many people. This was facilitated by the availability of jobs in the country, so that citizens of the former Union had the confidence to get a job, and therefore the means of subsistence after moving and therefore relatively easy to decide on migration<sup>2</sup>.

The impact of migration on the total population of Ukraine during 1960 – 1980 was insignificant, but on the qualitative composition of the population – clearly negative. During 1959-1989 the population of Ukraine

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<sup>1</sup> Tarnavsky M. P. Migration processes in Ukraine: causes and consequences. *Scientific works of Kirovograd national technical University. Series: Economic Sciences*. 2012. Issue. 22. Part 1. P. 4.

<sup>2</sup> First all-Ukrainian population census: historical, methodological, social, economic, ethnic aspects / [N. S. Vlasenko E. M. Libanova, A. G. Osaulenko, etc.]; ed. I. F. Kuras, S. I. Pirozhkova. Kyiv : IVTs state statistics Committee of Ukraine, 2004. P. 340.

grew by less than 1% in a decade due to mismatches, while as a result of the migration factor the number of men aged 20-29 years decreased for each inter-census period by 5-6%, the number of women of the same age – by 2%. However, the number of persons of younger and retirement ages (men 60-69, women 55-69 years) during 1959-1970. Because of migration, it increased by more than 4%, during the next inter-census period – by 2% and only in the 80-ies of the last century, this process stopped<sup>3</sup>.

With independence, migration processes in Ukraine and their impact on social and economic development have changed fundamentally. If at the beginning of the nineties a lot of Ukrainians and representatives of national minorities who previously lived in Ukraine (Crimean Tatars, Armenians, Bulgarians, Greeks, Germans and others), began to return (repatriate) to their homeland and the migration balance was positive (in 1992, for example, it was more than 282 thousand people). Then in 1993, the flow of returnees almost stopped and the migration balance becomes negative<sup>4</sup>.

## **2. Assessment of labor migration in Ukraine**

The structure of migrant workers by age are shown in Figure 1<sup>5</sup>.

At the end of the XX century, migratory processes occurred under the new political, legal and economic conditions associated with the emergence of new independent States, market reforms, Ukraine's entry into the international system of exchange of populations. The first all-Ukrainian census recorded 118.8 thousand people whose place of work is outside Ukraine. This is only a small part of the real population of external labor migrants (1-5 million according to various estimates), although it is three times more than the number recorded by the employment services<sup>6</sup>. Migration processes have an ambiguous impact on the formation of the gender, age, educational and professional structure of the labor market. So migration can actively and quickly influence the demographic situation, reducing or increasing the population, the age and sex structure of the population, changing the conditions of its reproduction. Two laws

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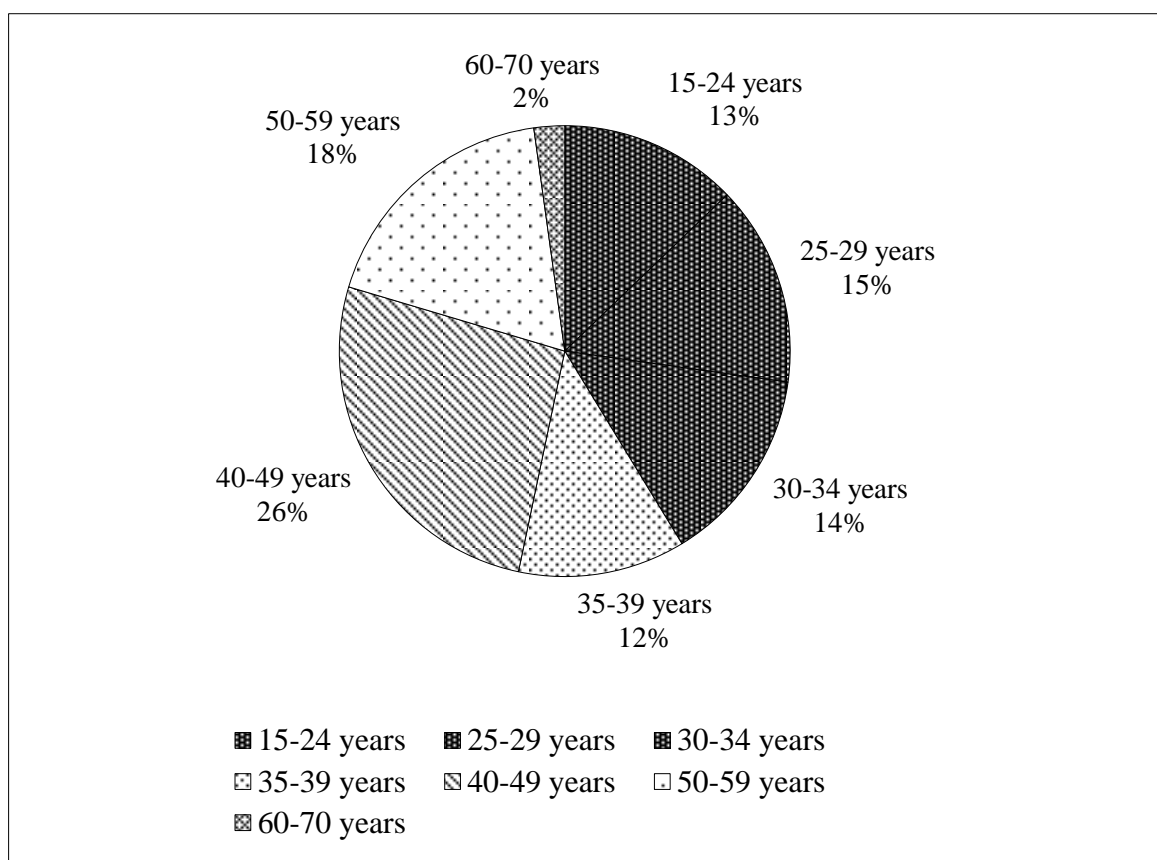
<sup>3</sup> Demographic crisis in Ukraine: its causes and consequences / [ed. S. I. Pirozhkova]. Kyiv : IVTs. State statistics Committee of Ukraine, 2003. P. 42.

<sup>4</sup> Demographic crisis in Ukraine: its causes and consequences / [ed. S. I. Pirozhkova]. Kyiv : IVTs. State statistics Committee of Ukraine, 2003. P. 42.

<sup>5</sup> Statistical Bulletin “External labour migration (based on the results of a modular sample survey)” / [resp. for issue I. V. Senik]. Kiv : State statistics service of Ukraine, 2017. 36 p.

<sup>6</sup> First all-Ukrainian population census: historical, methodological, social, economic, ethnic aspects / [N. S. Vlasenko E. M. Libanova, A. G. Osaulenko, etc.]; ed. I. F. Kuras, S. I. Pirozhkova. Kyiv : IVTs state statistics Committee of Ukraine, 2004. P. 345.

characterize migration activity of the population. The first forms a positive balance of migration, which indicates the attractiveness of the territory for life, the second – a negative balance, which indicates the presence of both social and economic problems in the territory. Migration processes significantly affect the social division of labor and the level of its payment, the distribution and redistribution of labor, as well as the level of social tension in the regions with a long and intense influx of people. Unfortunately, the quantitative characteristics of migration turnover rarely considered in organic connection with its specific social consequences, which can be both positive and negative.



**Fig. 1. Structure of labor migrants by age for the period 2015-2017**

Analysis of the structure of migration of the population of Ukraine indicates that during the study period, there have been changes in the intensity and direction of migration flows. The dynamics of population losses due to migration tends to decrease, although there are some fluctuations. It should be taken into account that the main share of participants in these processes falls on the working part of the population.

According to the research of the International organization for migration, every second young Ukrainian aged 20 to 35 years shows a desire to emigrate from Ukraine. The number of visits of Ukrainians to the EU continues to grow-10.5 million in 2014, 12.5 million in 2015. Yes, in 2015, there were 905.2 thousand Ukrainians living in the EU, They accounted for more than 6% of foreigners from third countries in the EU. Most Ukrainians lived in Italy (238 thousand), Poland (336 thousand), Germany (112 thousand), the Czech Republic (113 thousand) and Spain (84 thousand). Regarding the labor migration of Ukrainians, according to the IOM in 2014-2015. Abroad were about 700 thousand Ukrainian workers. According to the same study, the majority of labor migrants are men, the most numerous of them are 30-44 years old (over 40%), the majority of migrants come from the Western regions of the country. 41% of migrant workers have secondary or specialized secondary education, 36% – higher education. The main destination countries for migrant workers are Poland, the Russian Federation, the Czech Republic and Italy. They account for about 80% of the total flows of short-term and long-term labor migrants from Ukraine<sup>7</sup>.

The structure of labor migrants by countries of residence and age groups, which provided by the State statistics service of Ukraine, are given in table 1.

The analysis of the dynamics of migration processes by the age composition of labor migrants shows that the main share of participants in these processes falls on the population aged 15-34 years. It's established that the intensity of migration processes of the population of different ages varies. The most mobile group turned out to be mostly young people aged 15 to 34 years (more than 40% of the total number of migrants), at the time when the school is finished and in the plans of vocational education and employment, as well as employment after graduation.

Traditionally, at the age of 25-29 years ends the period of education and there is an active job search. In addition, the intensity of migration processes influenced by the mentality of society, in particular, the responsibility for the upbringing and education of children, the establishment of family life and so on. In the age groups 30-39 and 40-49, the intensity of migration processes is significantly reduced, which is explained by the presence of a permanent job, the necessary qualifications to perform professional duties, career prospects, obtaining a second higher education, due to industrial necessity, and etc.

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<sup>7</sup> Stadnyj Y. Number of Ukrainian students abroad. URL: <http://www.cedos.org.ru/RU/osvita/56>



Table 1

**Structure of labor migrants by host country age groups  
for the period 2015-2017**

Country	Total, thousand people	including by age groups, %						
		15-24 years	25-29 years	30-34 years	35-39 years	40-49 years	50-59 years	60-70 years
1	2	3	4	5	6	7	8	9
Number of labor migrants, total	1303,3	12,8	14,4	14,1	12,0	26,3	18,2	2,2
including by host country								
Poland	506,5	17,8	18,1	10,5	14,4	24,6	13,8	0,8
Russian Federation	342,4	6,9	13,6	19,8	7,9	29,6	22,2	-
Italy	146,7	2,5	8,5	5,1	5,7	30,4	39,1	8,7
Czech Republic	122,5	16,1	5,9	23,6	9,7	26,0	10,0	8,7
United States of America	23,5	-	-	13,2	7,2	57,0	22,6	-
Belarus	22,5	14,7	12,0	7,6	3,1	22,2	29,7	10,7
Portugal	20,3	-	29,1	5,9	23,6	20,7	20,7	-
Hungary	17,1	33,9	9,4	19,3	27,5	4,1	5,8	-
Israel	13,9	-	36,7	-	37,4	25,9	-	-
Finland	13,3	39,8	27,1	21,8	-	11,3	-	-
Germany	10,2	12,7	24,5	29,5	13,7	7,8	11,8	-
Other country	64,4	21,9	11,8	17,1	27,4	16,5	5,3	-

The age group of 50-59 years, which is pre-retirement, characterized by low intensity of migration processes. This is due to the low competitiveness in the labor market, the deterioration of physical health, limited professional development etc.

It is proved that the negative consequences of migration processes is, first of all, the outflow of the able-bodied part of the population, in particular, the outflow of young people. These processes contribute to an increase in the proportion of persons of older age groups in the population

of Ukraine. Moreover, this, in turn, is a serious socio-demographic problem of society.

Thus, it can be considered that an important problem of modern Ukrainian society should be considered the strengthening of migration sentiment, especially for young people. Attempts to solve life problems in the way of employment abroad and contributes to the acquired experience of Ukrainians working outside the state, a powerful migration network, formed over the past decades. A survey commissioned by the International organization for migration in the spring of 2015 showed that 8% of Ukrainians plan to find work abroad in the near future or have already found it. According to a similar study in 2011, there were 6%<sup>8</sup>.

According to various expert estimates (exact data do not exist), there are from 2.5 million to 8 million migrant workers abroad. On the other hand, the flow of migrants, mostly illegal, to Ukraine is increasing. Under such conditions, there is an urgent need for in-depth study the processes of emigration and immigration taking place on the territory of Ukraine, as well as their impact on the future of Ukraine.

Labor migrations reduce tensions in the labor market. In the absence of employment abroad, the number of unemployed more than doubled their actual number. According to various surveys, the earnings of migrant workers abroad are three to four times higher than the average wage in Ukraine. The money earned during labor migration mainly used for consumption, which helps to improve the quality of life of migrant families, reduce poverty, and stimulates the development of the economy by increasing effective demand. According to the study of financial income associated with migration, and their impact on the development of Ukraine, carried out by IOM in 2014-2015, remittances of migrants to Ukraine account for almost half of the budget of the households, having in its composition of long-term labor migrants, and 60% of the budget of those members who are in practice short-term labor migration. According to the same study, almost one in five long-term migrant expressed investment intentions, preferring to invest in their local communities in Ukraine and in sectors such as construction, tourism and retail trade<sup>9</sup>.

According to UNESCO, in the period from 2000 to 2012 the number of Ukrainian students abroad has increased more than four times and

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<sup>8</sup> Stadnyj Y. There are Ukrainian students behind the cordon. URL: <http://www.cedos.org.ua/uk/osvita/56>

<sup>9</sup> Stadnyj Y. There are Ukrainian students behind the cordon. URL: <http://www.cedos.org.ua/uk/osvita/56>

reached 37 thousand. According to the annual monitoring of the number of Ukrainian citizens who study at foreign universities in full-time education, carried out by the analytical center CEDOS (covers 34 countries of the world); in the 2013/2014, academic year 47724 citizens of Ukraine studied abroad. Most of them are in Poland (15 thousand), Germany (9 thousand), Russia (6 thousand), Canada (2 thousand), Czech Republic (2 thousand), Italy (1.9 thousand), USA (1.5 thousand), Spain (1.4 thousand), France (1.3 thousand), Great Britain (1 thousand).

It should be noted, that labor mobility flows can be recorded and analyzed both at the level of the economy as a whole – at the macro level, and at the individual enterprise – at the micro level. The results of labor movements at the macro level manifested through changes in the sectoral, territorial and economic structures of employment. At the micro level, labor mobility affects the average number of employees of the enterprise, the number of employees hired and retired, and the turnover of personnel.

There are five forms of labor mobility in the labor market: economic, territorial, sectoral, corporate and professional.

Labor mobility is a dynamic process that is constantly transforming over time. In the process of development of society, labor mobility is changing, which affects its volume, level, composition and structure of participants in this process. Each type of labor mobility develops and changes with the development of society and has its own characteristics.

Features of each type of labor mobility reflected in both quantitative and qualitative indicators. Quantitative and qualitative characteristics of labor mobility are given in table 2.

To determine the degree of intensity of labor mobility, the following scale for assessing the intensity of labor movements is proposed (Fig. 2).

The minimum level of labor mobility intensity is between 0 and 5 per cent, low between 5 and 30 per cent, medium and high between 30 and 60 per cent and 60 and 90 per cent respectively, and the maximum between 90 per cent and above.

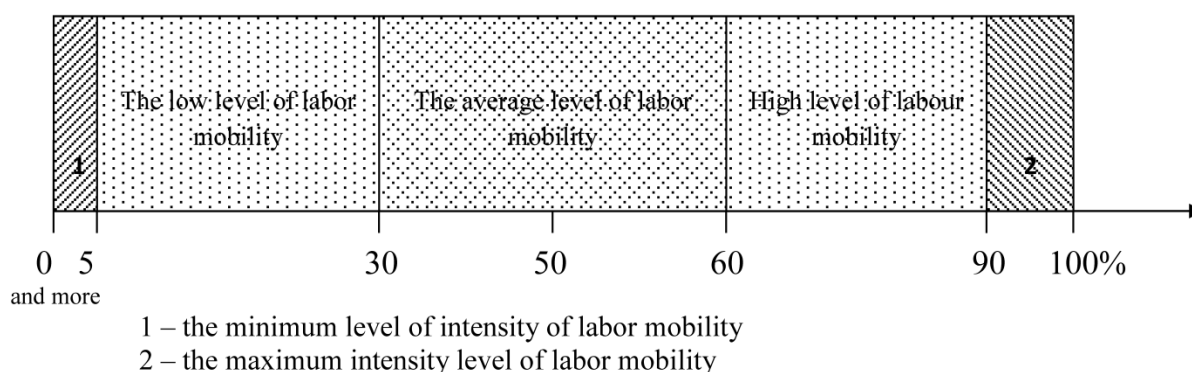
Thus, indicators such as the magnitude and intensity of labour mobility make it possible to conduct a comparative analysis of all forms of labour mobility of young people.

For economic labor mobility, the value of labor movements will be calculated depending on the direction of its flows.

Table 2

### Quantitative and qualitative characteristics of labor mobility

Quantitative assessment	Qualitative assessment
Scale of labor mobility The duration of the labor movement Characteristics of the workplace before and after labor movement: ratio of wages before and after the labor movement the size of material incentives	Characteristics of the individual as a participant of labor movement: level of education age state of health professional experience Characteristics of the workplace before and after labor movement: working conditions social protection of employees vocational training retraining, increase qualifications availability of social infrastructure The level of intensity of labor mobility



**Fig. 2. Scale of assessment of the level of intensity of labor mobility**

Flow “employed ↔unemployed”:

$$M_{ec.lm.e-u} = |E_1 - E_0| + |U_1 - U_0|, \quad (1)$$

where  $M_{ec.lm.}$  – the magnitude of the economic labor mobility;

$E_{0,1}$  – number of persons engaged in economic activity in the base and reporting periods, respectively;

$U_{0,1}$  – the number of unemployed as defined by the ILO in the base and reporting periods, respectively.

Flow “economically active population ↔ economically inactive population”:

$$M_{ec.lm.eap-enp.} = |EAP_1 - EAP_0| + |ENP_1 - ENP_0|, \quad (2)$$

where  $EAP_{0,1}$  – number of economically active population in the base and reporting periods, respectively;

$ENP_{0,1}$  – the number of economically inactive population in the base and reporting periods, respectively.

The flow of “employed ↔ employed” is characterized by the change of the individual from one workplace to another. This flow is also represented by labor movements in the direction of the individual's transition from hired labor to entrepreneurial activity or in the opposite direction, that is, from entrepreneurial activity to employment:

$$M_{ec.lm.e-e.} = C + M, \quad (3)$$

where  $C$  – the number of individuals who changed one workplace to another during the analyzed period;

$M$  – the number of individuals who have moved from hired labor to entrepreneurial activities or Vice versa.

The intensity of labour mobility for the “employed ↔ unemployed” flow is calculated as follows:

$$L_{ec.lm.e-u} = \frac{|E_1 - E_0| + |U_1 - U_0|}{EAP_1} \cdot 100, \quad (4)$$

where  $EAP_1$  – number of economically active population during the reporting period.

For the flow “economically active population ↔ economically inactive population” the intensity level is equal to:

$$L_{ec.lm.eap-enp} = \frac{|EAP_1 - EAP_0| + |ENP_1 - ENP_0|}{EAP_1} \cdot 100, \quad (5)$$

For flow « employed ↔ employed »:

$$L_{ec.lm.e-e} = \frac{C+M}{EAP_1} \cdot 100. \quad (6)$$

The results of calculations of the magnitude and intensity level of economic labor mobility flows are given in table 3.

Table 3

**Assessment of the economic flows  
of the labour mobility of young people**

Flow direction	Period of labor mobility, years	The value of labor mobility (B), thousand people	Level of intensity of labor mobility (P), %
Employed ↔ unemployed (population aged 15-34)	2015-2016	156,8	2,39
Economically active population ↔ economically inactive population aged 15-34	2015-2016	203,6	3,1
Employed ↔ employed	Calculation of the value and intensity factor of labor mobility behind the flow of “employed ↔ employed” at this stage is impossible, because there are no data reflecting the quantitative characteristics of these movements		

Thus, the intensity of economic labor mobility in accordance with the scale of labor mobility intensity is estimated as minimal, which indicates low labor mobility among the entire population and among young people.

For territorial labor mobility the value of labor movements is calculated depending on its types: interstate, interregional and intraregional.

Depending on the directions of labor movement flows, the value and intensity factor of territorial labor mobility are calculated.

The value of territorial labor mobility is defined as follows:

$$V_{\text{terr.lm.}} = N_{\text{arr.}} + N_{\text{dep.}}, \quad (7)$$

where  $V_{\text{terr.lm.}}$  – the value of territorial labor mobility;

$N_{\text{arr.}}$ ,  $N_{\text{dep.}}$  – the number of arrivals and departures of the region's population of working age, respectively.

Size of intergovernmental, interregional and intraregional territorial labor mobility ( $V_{\text{terr.intergov.lm.}}$ ,  $V_{\text{terr.interreg.lm.}}$  and  $V_{\text{terr.intrareg.lm.}}$ ) depends on the number of arrivals and departures of the region's population at working age for each flow of labor movements, respectively.

The level of intensity of territorial labor mobility ( $L_{terr.lm.}$ ) is calculated by the formula:

$$L_{terr.lm.} = \frac{V_{terr.lm.}}{P_1} \cdot 100, \quad (8)$$

where  $P_1$  – the population of the region at working age for the reporting period.

Level of intensity of intergovernmental, interregional and intraregional territorial labor mobility ( $V_{terr.intergov.lm.}$ ,  $V_{terr.interreg.lm.}$  and  $V_{terr.intrareg.lm.}$ ) is calculated as the ratio of the number of the arrived and departing population of the region at the working age for each flow of labor movements, respectively, to the number of economically active population, according to the ILO, of the region for the analyzed period.

The results of calculations of the magnitude and intensity level of territorial labor mobility flows are presented in table 4.

Table 4

**Assessment of territorial labour mobility flows of young people**

Flow direction	Period of labor mobility, years	The value of labor mobility (B), thousand people	Level of intensity of labor mobility (P), %
The overall territorial labor mobility in the age of 15-35 years	2015-2016	12,9	0,11

Thus, the quantitative assessment of territorial labor mobility, as well as economic, suggests that the registered territorial labor mobility is at a minimum level.

For internal industrial labor mobility, the value of labor movements is defined as the sum of accepted and dismissed workers for each type of economic activity for the analyzed period:

$$V_{inter.ind.lm.} = N_{employed} + N_{dismissed}, \quad (9)$$

where  $V_{inter.sect.lm.}$  – value of internally sectoral labor mobility;

$N_{employed}$ ,  $N_{dismissed}$  – the number of employed and dismissed employees in the industry, respectively.

The level of intensity internally sectoral labor mobility ( $L_{inter.sect.lm.}$ ), calculated by the formula:

$$L_{inter.sect.lm.} = \frac{N_{employed} + N_{dismissed}}{N_1} \cdot 100, \quad (10)$$

where  $N_1$  – the number of employees of the relevant industry for the analyzed period.

The calculation of the size and level of intensity of internally sectoral labour mobility among young people because of lacking of statistical data on the admission and dismissal of the population in the age group of 15-35 years by types of economic activity.

Youth labor mobility can be assessed by using indicators such as the magnitude and intensity of labor mobility, which will help to make a comparative analysis of the intensity of flows of all forms of labour mobility and to assess the extent of their labor movements.

Thus, labor mobility is one of the main factors that ensures the flexibility of the labor market. The high level of labor mobility means the fundamental readiness of the population to change the position, profession, place of work and residence, lifestyle in General. In fact, mobility is the key to the success of relevant programmes to combat unemployment.

The determination of the directions of youth labor mobility flows helps to ensure that the labor market conditions, where demand for labor will correspond to its supply; redistribution of the labor force in accordance with changes in the labor market, and consequently, production needs; increasing employment and reducing unemployment.

## SUMMARY

It is established that an important component of the definition of labor mobility is the analysis of migration of economically active youth. The existing negative trends in the development of socio-economic processes, which have become sustainable and are reflected primarily in such phenomena as high unemployment; low price of labor, and as a consequence, low income of the bulk of the population; the imbalance between the supply and demand of labor and limited opportunities for effective employment.

Analysis of the structure of migration of the population of Ukraine indicates that during the study period there were changes in the intensity and direction of migration flows. The dynamics of population losses due to migration tends to decrease, although there are some fluctuations. It should



be taken into account that the main share of participants in these processes falls on the working part of the population. It can be considered that an important problem of modern Ukrainian society should be considered the strengthening of migration sentiments, especially for young people.

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## **FINANCIAL STABILIZATION: REGULATORY APPROACHES AND TOOLS FOR MONETARY POLICY**

**Korneev V. V.**

### **INTRODUCTION**

Stabilization of the financial systems under recovery of capital formation in the real sector of the economy is determined by the effectiveness of means to support the business activity, and in particular, the financing in the loan markets. For the time being, this is one of the main tasks of the governments and central banks around the world. The above requires strengthening the regulatory monitoring framework, consistent valuation and revaluation of financial assets, the gap between yields of financial transactions and transactions in the sphere of non-financial corporations, the expected utility and return of the funds advanced.

Lessons of the latter crisis have once again demonstrated the collapse of speculative economy fed through unsecured credit expansion. Risks of new threats while maintaining critical development imbalances remain significant (probability of a “second wave” of the crisis, the budget problems of the countries from the South of the Euro zone). Published position of OECD was disappointing, characterizing the trend of the world economy as a downward one<sup>1</sup>. That is why the current “financial instability means that the economic system, in varying degrees, allows for reproduction of crises”<sup>2</sup>. Particularly acute crisis manifested itself in the banking sector in many countries. It is also important to date that information according to the IMF estimates, the volume of bank assets write-offs only during the period 2007-2010 amounted to US\$2.2 trillions<sup>3</sup>. Despite the still unstable signs of the crisis overcoming, the basic questions remain as to how banks operate and how they have been regulated.

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<sup>1</sup> Parussini, G., & Hannon, P. (2012). OECD Warns on Global Economy. The Wall Street Journal, with the headline: Global Economy Risks New Drop, November 28, 2012. URL: [online.wsj.com](http://online.wsj.com).)

<sup>2</sup> Коландер Д. и др. Финансовый кризис и провалы современной экономической науки. *Вопросы экономики*. 2010. № 6. С. 10–25.

<sup>3</sup> International Monetary Fund (2010). Global Financial Stability Report. URL: [www.imf.org](http://www.imf.org)

Exploring the spectrum of questions concerning financial and, especially banking, systems' stabilization, belongs to constantly relevant and popular issues. Numerous publications of foreign and domestic economists are evidence of this. However, the full list of names of researchers, which is replenished daily, can hardly be exhaustive within the presented material. However, there is a need to study the peculiarities of the financial system in Ukraine under still unresolved consequences of the recent crisis and the new role of central banks in this process.

In view of these, the object and the aim of this research are as follows: based on comparative analysis of the monetary policies implemented by the foreign central banks to identify trends and tools to stabilize the financial system of Ukraine.

### **1. Activities of foreign central banks to stabilize financial systems: review**

A distinct feature to support economic development in recent years is the implementation by the major central banks the soft monetary policy (stimulating monetary policy) that can be characterized by two key elements – a) holding low interest rates by the central banks to restore loans circulation and b) buying government securities by the central banks to finance the state budgets.

Stimulating monetary policy, among other levers of government regulations of recovery processes, plays a special role as the characteristics of circulation of money largely determine the rates and proportions of economic reproduction. “Central banks have responded to the crisis by providing funding in foreign and domestic currencies. Strategic indicators were reduced countercyclical ...”<sup>4</sup>. Accordingly, there have been indicative changes in characteristics of credit operations of the central banks (through interest rate and credit channel of the transmission mechanism) and the redemption of assets in the open market (through the channel of asset prices).

The implementation of monetary policy of central banks of various countries in the 2008-2012 periods has common and distinctive features. The U.S. Federal Reserve System, during the crisis and initial recovery period, focused through monetary policy tools on easing the regulatory

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<sup>4</sup> BIS (2010a). The global crisis and financial intermediation in emerging market economies. BIS Papers No 5, December 2010. URL: [www.bis.org](http://www.bis.org)

environment to encourage the development of the US economy. Such basic tools were the interest rate of the central bank and fixed income securities (mortgage and public) repurchase in the open market.

At the beginning of the crisis in 2008, the U.S. Federal Reserve System implemented the first program of quantitative easing QE1 in amount of US\$1.7 trillions, which was recognized as effective (when liquidity injections resulted in U.S. GDP growth up to 3.5% in 2009). However, after the deterioration of statistical data in the U.S. in 2010, the second program of quantitative easing, QE2 volume of \$ 600 billions was started; its results were not so obvious comparing with the results of QE1. In 2011, the U.S. Federal Reserve System started so-called “twist operations” – the replacement of short-term bonds with securities of longer maturities in its balance.

As during 2011-2012 some signs of crisis in the U.S. and Europe were obvious and even deepen, a question on starting the third program of quantitative easing (QE3) arose; and it started in September 2012. The U.S. Fed, within QE3, prolonged expected period of low (almost zero) interest rates until mid-2015, and committed to purchase mortgage bonds in amount of up US\$40 billions monthly. Typical position of the U.S. Federal Reserve System is to provide significant freedom in issues of monetary control: “government interference in matters of monetary and credit policy of central banks is undesirable because it can cause further weakening economy and rising inflation”<sup>5</sup>. The Open Market Committee of the U.S. Federal Reserve System for a long time keeps base interest rate at a record low level – In the range 0.0% – 0.25% annually (from December 2008 to the present – January 2013). Program of debt securities repurchase were of regularly renewable nature. Largely it made possible to hold the base and other interest rates at the low level.

The monetary policy of the Bank of England is characterized by a low interest rate and support to programs of repurchase of government bonds as a part of the policy of quantitative easing. This policy also provides stimulating of business activity via corresponding monetary instruments.

In July 2012, the Bank of England increased its quantitative easing program, under which envisaged growth of reserves in the financial system to 375 billion pounds by purchasing government securities. At the same

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<sup>5</sup> Cbonds (2010). Вмешательство властей в деятельность центробанков ослабляет экономику и повышает инфляцию – глава ФРС США. URL: [www.cbonds.info](http://www.cbonds.info)

time, together with the government, it is envisaged to stimulate the banking sector on the condition that banks would more actively lend mortgages and other business projects.

Beginning March 2009 the Bank of England holds interest rate at 0.5% and it is not expected soon to tighten monetary policy in England.

Monetary policy of the Bank of Japan for a long time also remains soft. Since October 5, 2010, interest rate of the central bank has been set in the range 0 – 0.1% and remains unchanged as of January 2013. It is expected that the Bank of Japan will keep key interest rate almost zero in the future – given the existing insufficient demand in the country.

The use of such a monetary instrument as purchase of government obligations to encourage the development became more active in November 2010, when the Bank of Japan has allocated 5 trillions yen (more than US\$62 billions) for immediate purchase of government securities. In August 2011, Japan's central bank decided to increase the volume of the program of repurchase assets (government and corporate bonds) up to 50 trillions yen (US\$648 billions).

The European Central Bank (ECB) carries out regionally consolidated interest rate policy, purchases obligations of sovereign and other debtors, provides loans secured by bonds issued by countries-member of the Euro zone. However, the combination of levers of monetary and fiscal policy on economic dynamics is not always a compromise; that gave grounds to the ECB representative in November 2011 to declare that adaptation of monetary policy to the fiscal policy was unacceptable. The ECB key interest rates remained at historic minimum level of 1% for almost two years from May 2009 to 7 April 2011, when the ECB raised it to 1.25%. However, a few months later – In early November 2011 the ECB key rate was again lowered to 1%, and from July 7, 2012 – to 0.75% due to poor economic conditions.

Dynamics of economic activity in the euro zone has been slowing down due to the tightening fiscal policy (as a consequence of the problems of the Southern euro zone – Portugal, Ireland, Italy, Greece, Spain – so-called peripheral group “PIIGS”). Stabilization of the financial state of the countries with problems in public finance through purchase of sovereign bonds (Program of support of the financial sector of the EU countries implemented within the framework of the EU-IMF plan, volume 750 billion euros) provided the necessary liquidity of markets in the Euro zone. The European Financial Stability Fund (EFSF), which funded

support to Portugal and Ireland, during 2012 – the first half of 2013 gradually transformed into the Financial Stability Mechanism (MFS). The MFS has to replace the EFSF – as an option to replace temporary mechanism with permanent one.

ECB intervened in markets of sovereign and corporate bonds of those countries where there have been high volatility of returns. Further on the ECB implemented a variety of tools to support liquidity. In 2012, when the situation in the markets of sovereign debt in peripheral euro zone countries obviously deteriorated, the ECB faced with a difficult dilemma: while it was necessary to continue to implement monetary anti-crisis measures, inflation risks increased.

The Central Bank of China (CBOC) devalued its currency in September 2008 and since then has kept the Yuan low against the U.S. dollar and a stable exchange rate against the euro, while maintaining a fixed proportion of sovereign bonds of EU countries in the portfolio of its international reserves.

Functioning of the world economy as a macro system is periodically accompanied by so-called “currency wars”, when exchange rate policies of some countries aimed to support their exports at the expense of balancing foreign economic interests. That is, both the U.S. and China are moving in the same direction. A new term has been created – Chimerica – a symbiosis of the first letters of the names of the two countries – China and America. However, there is here also a parallel with the word chimera.

In the international environment becomes apparent gradual activation of segment of Islamic finance with substantial specific related businesses activities. Economic and other developments results in Muslim countries consider the characteristics of Islamic model financial markets.

Islamic financial institutions primarily banks substantially covering not only local but also at international markets. The estimated capacity of financial assets in operating of Islamic banks until recently was about 1 trillion dollars that gradually was provided initially 15% and then 23% annual growth rate (in western countries the same rate before the latest crisis was on average 10%).<sup>6</sup>

Operation of Islamic finance is based on religion and using of the principles of Islamic Sharia law. In Islamic countries are characterized by unity of religion (faith) and such elements of social structure as the

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<sup>6</sup> Increased cooperation between the Pacific and the Middle East // BFCI. 2007. № 67.

organization of power, family, economic and other relations. In such circumstances, “Sharia as laws complex” identifies the functioning of Muslim society. As part of the Far Eastern religious and ideological structures religion is not so much higher sacred value, and mostly studies close to the philosophical, in Indonesia and Malaysia official doctrine included the provisions of Islam.

Islamic finance initially expansionary formed due to the formation of significant positive trade balance of Islamic Petroleum Exporting Countries during the 1973-1974 and 1979-1980 years that was relevant in the future, thereby increasing the competitiveness of the Persian Gulf. But gradually the economic and other fields increasingly manifest and other factors including the desire to ensure recognition of the “greater Islamic identity”.

In the economic sphere Islam puts in the first place enterprise qualities but not the capital. The main feature of financial activities in Islamic countries is that the contracting agreements there is a prohibition on interest payment for conducting financial transactions – income usually paid as a result of participation in profits and not interest charges. In this sense, “made distinguish usury (to get a percent of capital) and profits is a result of human labor.”<sup>7</sup>

Islamic financial institutions have not charge a fixed fee payment and a conclude contracts in the form of participation in the capital, acquisition of property intermediaries and resale to the customer in installments to pay for the increased risk. For the accumulation of resources instead of traditional deposit accounts contracts are used for mutual trust basis and such instruments are used payment of which is fixed in advance and are based on the distribution of prospective profits from a financial institution<sup>8</sup>.

The use of Islamic financial instruments shows their actual “no credit” nature, when prudently in other terms value component of transactions subject to considerations of mutual economic development rather than strictly specified capitalization of prepaid funds. This sacred character entity as opposed to impersonal kind of commercial is dominant.

Within the institutional framework of the Islamic financial model the most developed is banking (Islamic banking). Islamic banks have hardly suffered from the recent financial crisis there are no examples of their failure or refusal of payment and returning of deposits.

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<sup>7</sup> Voznyy, K. Z. (2010). Islam and the modern economy: a comparison and relations. *Economic Theory*, no 4, p. 14.

<sup>8</sup> Ermolov, M. O. (2007). Islamic Finance: interoperability. *Business and banks*, no 3, pp. 7–8.

Basic financial services of Islamic banks based on making and maintenance contracts for: a) purchase and resale of goods to the customer's order (murabaha), b) the provision of capital to the client and implementation of the bank with the functions of the company management (mudaraba) c) bringing of the incorporated capital of a bank and of client for financing of projects with proportional distribution of incomes and losses of the parts (musharaka), d) the acquisition of goods, mainly of agricultural, with a delayed period of supply (Salaam); d) interest-free loan for charitable purposes is secured by pledge (Card Al-Hasan), e) the bank financing of equipment or storage of products for an agreed price with the client which is actually a tool to finance supply (istisna) f) leasing (idzhara) g) lease contract with the possibility of buying lease (idzhara va-iktina). Generally Islamic financial instruments as compared to other are less risky because the bank has always shared the risks with the client.

The Islamic financial system is also characterized by the absence of the Islamic interbank market<sup>9</sup>. Time transaction with using derivatives are prohibited. Since all transactions strictly related to the transactions of tangible assets so all speculations is minimal. Separate specific activities of Islamic financial institutions is to ban funding for gambling, alcohol and tobacco production.

Among the financial instruments Bonds “sukuk” is a medium-term interest-free bonds that are issued as appropriate initiators in Muslim and in other countries and are calculated on Islamic investors. Structure of production involves participation of investors and issuers in the ownership of certain assets consequently bonds “sukuk” provided assets. The most common version of issuing bonds after their placement takes investors in bonds “For Rent” (as a property) and at the same time agrees to buy them in the same investors at the end of term of appeal by paying the agreed-upon “rent” (as for using of a property). The last determines the yield of bonds “sukuk” which can be fixed or floating – for example to be oriented on dynamic rate LIBOR. Formally none of the parties of the agreement does not pay or receive interest charges. Nomination of bonds “sukuk” is available in different currencies and of the underlying asset may include revenue or leasing contracts for the supply of certain material resources.

Development of segment bonds “sukuk” although “totally changed Islamic finance”,<sup>10</sup> but still remains different across countries. The largest

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<sup>9</sup> Maslennikov, V. V. (2001). Foreign banking systems. M. : TD "Elite 2000", 351 p.

<sup>10</sup> Ymam, P., Klodar, K. Is it useful for economic growth? URL: <http://www.imf.org/external/russian/pubs/ft/fandd/2010/12/pdf/imam.pdf>



issuer of bonds “sukuk” is the government of Malaysia (28 billion dollars., or 87.5% of total emissions at the end of 2005), the relevant corporate including bank loans during the 2003-2005 was 5,5 billion dollars<sup>11</sup>. According to recent estimates, the global amount of the bond market “sukuk” reached 24 billion pounds<sup>12</sup>.

New separate elements in Islam finances need additional study. We know that business activity around the world in holiday periods is usually reduced.

However, despite progress the financial system in Muslim countries are characterized by relatively simplified institutional structure and unification used financial instruments. It is dominated by large, particularly family owners, investors in equity and there are no many retail investors and speculators. These aspects indicate the relatively closed nature and limited market liquidity where the Islamic financial model is used.

Historically, long time Muslim countries was under the influence of Western practice of customer service so in the second half of the twentieth century. people actually enjoyed financial and banking services. The first Islamic savings banks fund “Mit Garm Bank” started back in 1963 – first in Egypt to serve the peripheral regions of the country and later in Malaysia to accumulate savings for Hajj.

However, the actual beginning of the Islamic banks is a creation of Islamic Development Bank (“Islamic Development Bank”) in Saudi Arabia in 1975 which led to the rapid formation of other Islamic banks in the second half of the 70-th of 20<sup>th</sup> century. This are a “Dubai Islamic Bank” in the UAE (1975), “Faisal Islamic Bank” in Egypt and Sudan (1977), “Bahrain Islamic Bank” in Bahrain (1979).

Modern Bahrain and Malaysia are the centers of Islamic finance and banking activity (both are considered to be perspective Muslim financial centers). As Bahrain concentrates 35 Islamic banks – the largest number compared to other Muslim countries (for comparison, in Kuwait – 15, in the UAE – 14 in Saudi Arabia – 10, in Qatar – 3). At the end of 2006 in the world there were more than 300 Islamic banks with a market capitalization of over 13 billion dollars and assets of 262 billion dollars.

In many countries there are 400 Islamic equity funds and 250 mutual funds – managed by the first of them is over 5 billion dollars, and some

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<sup>11</sup> Pakhomov, S. (2007). The phenomenon of international market development "Islamic bonds". REM, no 7–8, pp. 97.

<sup>12</sup> London – capital of Islamic finance. URL: <http://islam.com.ua/news/5074/#>

hold shares worth 11 billion dollars. In Malaysia, specially created zone offshore Labuan as a regional investment oasis. Among Islamic banks issuing bonds “sukuk” actively positioned the Islamic Development Bank, Islamic Bank Dubai Islamic Bank Abu Dhabi. In order to finance government projects in Sudan and Iran issued by the government short-term bonds (also on the principles of participation).

However, Islamic banking remains quite fragmented, and even the largest Islamic banks in terms of yield to Western capitalization – the average amount of capital the overwhelming share of Islamic banks does not exceed 25 million dollars.

Operations and services of Islamic financial institutions gradually cease to be the province only of participants from Muslim countries. According conference on the development of Islamic finance in Japan (March 2008), noted to be perspective “... at high oil prices and expansion of capital markets Islamic finance and Islamic financial mechanism will have a growing influence on world financial markets in the future”<sup>13</sup>. However, it still be significant constraints remains of spreading of Islamic finance in other countries.

Firstly, there is some closeness business information, limiting the analysis as a host of financial management of Islamic financial institutions, types of risk and asset structure. K. Rohoff noted that “the main reason why the default of Dubai World happened was in liquidity of UAE finances”<sup>14</sup>. Informative problem due to the fact that there was no standards of financial reporting to Islamic financial institutions. In some countries AAOIFI (Accounting and Auditing Organization for Islamic structures) are used. In other countries other standards are used<sup>15</sup>.

Secondly, there is no proper legal framework, which should combine the requirements of the activities of the financial system of another country, to required of Sharia standards. As a result, financial markets and institutions in different countries are looking for opportunities of mutual adaptation conditions and management tools.

Western banks are diversifying their range of financial instruments with using of Islamic law which open and maintain so-called “Islamic windows” – bank departments which provides services in accordance with

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<sup>13</sup> URL: <http://www.muslim.ru/1/cont/4/5/982.htm>

<sup>14</sup> Rogoff, K. (2009). The limits of Dubai. *Investgazeta*, no 48, 7-13, 12.

<sup>15</sup> Tahibyekov, M. (2009). The features and advantages of Islamic banking. *Financial Markets*, no 11, p. 34.

Shariah rules. This contributes to avoid recurrent problems of liquidity in the markets of USA and Europe.

Examples of such interest and its practical implementation is to engage in a “sukuk” German bank “Saksonia-Anhalt” in 2004 more than 120 million dollars loans and similar loans of mining company in the U.S. “East Cameron Gas Company” 165 million dollars under the guarantee of its own reserves of carbohydrates. Road-shows of Malaysian bank SIMV in East and Southeast Asia in early 2008 had considerable success.

In order to ensure the competitiveness Western banks open departments in Muslim countries. Thus, in 1997, the U.S. “Citigroup” has established a subsidiary “City Islamic Investment Bank” in Bahrain with a capital of 20 million dollars. And investment in specialized Islamic fund reached 1 billion dollars.

Among of European banks, the first English “HSBC” in 2003 began offering to modify mortgage services with regard to their specificity in Islamic countries: bank acting on behalf of the customer in acquiring real estate property that is similar to leasing. In the Islamic financial markets have a business interests such banks as “Citibank”, “Deutsche Bank”, “ABN-Amro”, “Societe Generale”, “ING”, “Chase Manhattan”, “JP Morgan” and other banks that take into account the Islamic law. Thus, in most Muslim countries, along with Islamic banks operate western banks. Only financial systems to Iran and Sudan are based solely on national institutions.

On the other hand in recent decades and years have seen exytra activity of Islamic banks and other institutions in the market non – Muslim countries. Islamic financial institutions gradually cease to be regional and gradually spread its extraterritorial service. Thus, in 1978 in Switzerland have been reported “Islamic Banking System International Holding”, and “Islamic Finance House” in Luxembourg – the first in the West Islamic financial institutions that are actually a base for external dissemination of Islamic finance. Later, was incorporated group “Dar al-Mal al-Islami Trust” in 1981 in Switzerland with a registered capital of 1 billion dollars, which founded banks in Europe and Africa. In 1982 the Saudi investment company “Al-Baraka Investment Company” purchased “Hargrave Securities” in the UK – an organization that had a license to operate to attract population deposits. Later it was created based Islamic bank “Islamic Bank of Britain”, which in 2004 issued its shares on the London

Stock Exchange. Before the latest crisis – in 2008, banking services that comply with Shariah guidelines provided in London 21 traditional banks. Britain is becoming a kind of center for Islamic banking in Western countries. However, Islamic financial instruments are distributed in continental Europe. In particular, in France in September 2009 adopted a special law on the possibility of emission of the country corporate Islamic “sukuk” bonds which release is expected in 2011.

Thus, Islamic financial institutions in the western markets operate mainly using three forms – investment companies, investment companies and financial groups in Euro countries. Unsuccessful attempts to start the experience of Islamic insurance (takaful) in Europe: founded in 1983 in Luxembourg Takafol SA and in London Takafol UK Ltd failed to function as insurance.

Until recently, the Islamic financial model was perceived as more resistant to disasters market compared with other financial models and in “crisis year” (autumn 2008 – autumn 2009) analysts continually analyze its advantages. However, in early December 2009 when it was announced about a suspension for 6 months of paying of the debts of the state corporation of Dubai “Dubai World” of 26 billion dollars. It became clear that the real estate market is one of the most dynamic Muslim countries has become a new example of soap bubbles. Cash gap formed after the price real estate in the early fourth quarter of 2009 decreased by 53% compared with 2008, and income from the exploitation of Dubai World hotels was unable to cover interest payments on loans received earlier. The December (2009) Panic in world markets was cost because of outstanding debt of Dubai World.

Mass demonstrations against the ruling regimes due to uneven distribution of income between population groups in terms of Muslim countries (25.01.2011, the first in Egypt and later in other countries), although it had clear political character, but it was showed the main aspects of vulnerability the Islamic world. For example, in Egypt every day political crisis in January and February in 2011, according to Credit Agricole, costing the national economy 310 million dollars<sup>16</sup>. There had been a week-long suspension of operation of banks, since their discovery in early February had set limits on cash and cash collection for security reasons and used military transport aircraft. Central Bank of Egypt to

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<sup>16</sup> URL: [http://banker.ua/bank\\_news/banks/2011/02/07/1180447042](http://banker.ua/bank_news/banks/2011/02/07/1180447042)

compensate depositors removed funds allocated 854 million dollars from its own reserves.

However, the practices of Islamic financial model and Islamic banking on the formation and maintenance of segment established under the right conditions of financial services has become the heritage of international significance. Capital coming from Muslim countries in Ukraine's financial sector is a matter of time – the internationalization of economic activity in different areas is confirmation of it. After the last crisis, it is clear that to obtain additional resources from the western markets for fixed credit basis is becoming more problematic. In modern terms the positive aspects of Islamic financial model, particularly in terms of transparency of bank transactions and investments worth spreading in the domestic financial and banking management.

## **2. The practice of stabilization of banking systems in Ukraine**

In Ukraine, the stabilization of the banking sector has been ensured by the National Bank of Ukraine (NBU) in framework of indicative changes of monetary and exchange rate policy. These changes, in turn, were conditioned by the processes in both external and domestic financial markets. Regulatory vector of the NBU actions during the crisis was intended to support liquidity in the banking system of Ukraine; i.e. when the anti-crisis monetary policy shifts reflected in activation of the refinancing mechanisms, curbing the outflow of funds outside the banking system with variable use of interventional tools, changes in reserve requirements and interest rate policy.

A discount rate, among set of the NBU's interest rate tools, should play a more active role. Today the value of money in Ukraine is still mostly caused by the changing market conditions and risks, and to a lesser extent by the interest rate policy of the regulator. In the current 2019, the discount rate is maintained at 17.5% (at the time of the subtraction of the material, 2nd quarter 2019)<sup>17</sup>.

Therefore, changes in interest rate and refinancing rates in financial markets are not transformed directly and quickly into changes in rates on bank loans and deposits. However, it is economic turmoil in recent years, and particularly the lessons of the financial crisis that demonstrated the need to enhance the role of interest rate policy: the main channel of the

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<sup>17</sup> URL: [www.bank.gov.ua](http://www.bank.gov.ua)

money supply should be the refinancing of commercial banks and the main regulator – interest rate (refinancing rate). Today, the role of the NBU discount rate, according to the IMF Memorandums, has been transformed from the signal beacon of the value of money (from 2016) to a key indicator of monetary policy (from 2018 to the present).

The reason why the discount rate in Ukraine insufficiently serves as “a guide price of money” and is limitedly demonstrative indicator, lies in the peculiarities of the functioning of other segments of the financial market and the pricing of those assets. Thus, primarily this applies to opaque domestic securities markets (especially stock markets), resulting in the price of the asset little corresponding to their values. Under existing irrelevant information, price for stock assets actually is a “thing in itself” and does not reflect the potential investment value of the assets. It should be noted also that banking systems of around the world more widely use trading with participation of the central banks in the open market (i.e., foreign exchange interventions, repo agreements), where the role of interest rate policy is clearly subordinate.

Changes in the NBU discount rate in recent years geared toward the reduction of inflation risks, the need to encourage capital inflows into Ukraine and at the same time to curb its outflow. In general – to reduce the money supply and monetary constraints. However, money for many borrowers remains deficit due to their high cost, as businesses and households suffer from a lack of working capital.

Cooperation with the IMF plays an important role in the monetary policy of the NBU. This is necessary both for balancing the balance of payments and for replenishing the central bank's international reserves and maintaining financial stability. Separate considerations in this regard.

Also cooperation with the IMF is important as the litmus positioning of debtors in the international debt markets. Such a litmus may be both positive and negative in terms of Stand-by or Extended Fund Facility-EFF (Extended Financing Mechanism). The last program is currently being implemented in Ukraine.

IMF loans – this is a guaranteed debt of the state, the proceeds of which are directed to replenish the NBU's international reserves (this is usually, but sometimes the recipient of funds may also be the Government – in the latest history of Ukraine such examples were, and then the debt is classified as direct). Receipt of IMF loans balances the

balance of payments when receiving funds from a financial account in the presence of problems (negative balance) of the current account, mainly due to “swings” of export-import operations.

The danger of IMF loans is that, the presence of special extra lending terms that limit the sovereignty and autonomy of borrowers. Credit as an instrument becomes a “needle”, without the subsequent injections of which the economy ends with no foreign exchange earnings, and the balance of payments requires an endogenous and permanent replenishment of funds in foreign currency.

Often, replacement of some (old) loans with new ones, ie receiving new tranches is spent on servicing and repayment of debts from past periods.

From the point of view of compliance with the economic and financial security of the state, gradually contacts and negotiating position of Ukraine with the IMF should be translated into the consultative plane as an important participant of a group of international financial organizations. That is, prospective Ukraine is not a debtor, but a side of an advisory dialogue. It should be a common goal of the central bank and the executive (the government).

It should be noted that balancing the balance of payments balance is a task not only of the central bank, but also of the Government. It is the Government that is able to provide a surplus in the export / import pair. The Central Bank does not deal directly with foreign economic policy. Therefore, reducing the dependence on IMF loans is not only a task for the central bank. This is a joint task of the Central Bank and the Government.

The central bank of Ukraine, through its own monetary policy, can take a more active part in lending processes. Thus, one of the effective instruments of indicative financing of the priority projects of economic development may be the target emission of the central bank – the National Bank of Ukraine. Such target emission (directly or through the mechanism of targeted government bonds) should be directed towards refinancing of bank loans issued to enterprises and institutions whose investment projects meet pre-determined criteria.

The main benefits of this are the possibility of implementing the necessary measures of state economic policy in the capital markets, banking system, investment, international cooperation, public-private partnership.

At the same time, the stabilization of the financial system and the real sector of the economy is possible due to the implementation of certain priority investment-credit (not speculative) agreements, designed to solve national issues of economic development.

The use of updated lending schemes for prime development projects with the participation of the central bank (and the Ministry of Finance) will allow the implementation of tools to protect the interests of the state, primarily in terms of control over the targeted use of funds and their proper direction.

The scheme of the target issue does not bear the risks of “leakage” of financial resources into areas that may create a threat to financial stability – the currency market and other possible speculative operations. Thus, the target emission in such conditions will not be able to provoke “out-of-the-box” inflationary processes, or other manifestations of price and financial instability.

Under the conditions of limiting financing from external sources (but not only this), the main emphasis should be placed on the development of the domestic market of long-term financial, and, above all, credit resources. Under the weighted regulation of the NBU, the commercial activities of banks should go beyond mediation and acquire investment-catalytic features. The proper circulation of the loan will resume and “restart” other development financing instruments. This is necessary both for the normalization of the cycle of credit resources, and for safeguarding the financial system from excessive volatility in the market situation.

## CONCLUSIONS

Financial systems are constantly in need of crisis monitoring – and primarily preventive one, – which is in line with international practice<sup>18</sup>. The growth of markets (including loan basis) must be supported by and balance with real savings rather than speculative multiplication of value of assets.

Despite the strengthening of relationships in the context of globalization and increased institutional role of international summits (e.g., in the form of G-20), it becomes clear that each country should independently overcome the crisis and to stimulate their economies

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<sup>18</sup> BIS (2010b). Financial stability: 10 questions and about seven answers: Speech delivered by Mr J. Caruana. General Manager of the BIS, at the 50th Anniversary Symposium of the Reserve Bank of Australia, Sydney, 9 February 2010).



according to their actual capabilities. Resource and institutional constraints of government regulation and recovery of financial markets (in terms of limits on funding stabilization programs by central banks at the expense of monetary resources and government budgetary resources while maintaining the disproportionate development of some euro zone countries under a single institutional framework of the EU) remain significant factors in the development of financial systems in various countries.

Obviously, the Anglo-American and continental (euro zone) financial models confirm to maintain their individual characteristics. Islamic banking is actively developing. And there is a growing demand for the services of Islamic banks. Question of convergence of these models may not be comprehensive despite the increasingly widespread universalization of regulatory and business activities. Universal model of markets and banks showed the presence of clear warnings and restrictions of its operation since it bears the risks associated with the concentration of resources in a single financial center (conglomerate). Universal institutes' presence is justified under the stable conditions and is risky during the crisis.

Ukraine needs not fragmentary but systemic reform of the financial sector in Ukraine as a whole, e.g. banking system, non-banking institutions and business infrastructure. Given the limitations of funding from external sources (but not only this), the main emphasis should be made on the development of the domestic market of financial and other resources of long maturity, including securities market. An activity of the institutional investors should go beyond mediation and get investment catalyzing signs. This is extremely necessary for the normalization of loan and investment cycle and protection of the financial system against external threats of destabilization.

Due to the fact that the price of money as a resource are formed taking into account the peculiarities of development of related segments of the financial market, Ukraine requires effective measures to improve the functioning of financial markets, including the stock market; in particular the transparent pricing of fund assets and disclosure of information on implementation of trade agreements.

Purchase of government bonds by central banks should be considered as an exceptional and not a permanent measure. Otherwise, risks of budget management are transferred to responsibilities of the central bank through monetization of the budget deficit. However, central banks

cannot be fire creditors of the first instance – they are institutional lenders of the last resort.

Loose stimulating monetary policy needs to be balanced by tight fiscal policy. In other words, increasing the money supply through interest rate and loan channels of the transmission mechanism of monetary policy requires balancing the amount of money in terms of limiting the availability of funding through budget expenditures.

In Ukraine, resumed exports and stimulated and solvent domestic demand should be key factors in stabilizing the currency. This would let to adjust the existing imbalances in the balance of payments (in terms of peculiarities of its current account and capital account). Given the still limited funding from external sources (but not only this), the main emphasis should be on the development of domestic market of long-term financial resources. The effective resolution of monetary tasks is possible in the mainstream of improving macroeconomic indicators of economic development.

## **SUMMARY**

Financial stabilization requires active participation of state structures in this process. Special role belongs to central banks and monetary policy. Banks are major providers of changes in the financial sector. Modern changes in development on the basis of dichitalization that confirmation.

The paper deals with issues of ensuring stability of foreign and domestic financial systems. The effectiveness of monetary tools used by the central banks to restore economic development has been analyzed. The resulting estimates and expectations, with emphasis on necessary stabilization measures in Ukraine, have been substantiated.

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## **STRATEGIC MANAGEMENT OF ENTERPRISE ECONOMIC SECURITY**

**Zhuk V. P.**

### **INTRODUCTION**

Every system, as well as anybody in general needs security. Enterprises are also drawn to security. Security is one of the most important conditions of the enterprise functioning. Among the numerous researches of security the research of enterprise economic security is the most popular today. However, inspite of the actuality and popularity of such researches, the form and the content of the enterprise economic security management are in the inconsistent state, and the conceptual principles of such management can not be acknowledged as harmoniously put together. Concurring with the classics' opinion concerning the necessity of keeping to the unity of form and content in science, it should be noted that the achievement of the goals of enterprise economic security management is only possible at the terms of creation of clear and logical concept of such management. In the context of constant environmental threats modern business entities are increasingly facing problems of ensuring the effectiveness of their activities, which is caused by the fact that emerging phenomena and trends of the development in the environment do not always have a positive impact on the operation of economic entities. Some changes in the environment result in dangers and threats to an enterprise and, sometimes, act as catalysts for deterioration of its condition. That is why the necessity to protect enterprise activity as well as its position on competitive markets, which consequently ensures the economic security of business entities, is a logical response to negative changes in the environment.

### **1. Economic security: the main principles and components**

Economic security of an enterprise is characterized by its economic status that ensures sustainability of its operations and development, its financial and commercial success. The problems of security arrangements, being recently the matter of importance, are presented in the world

scientific literature from the perspective of risk coverage and assessment of its consequences. In practice there are certain ways of enterprise economic security development and in most cases they are strategically directed, accompanying the processes of qualitative organizational, innovative and investment changes and creating conditions for enterprise's stable and effective activities.

The economic success of firms is largely determined by the provision of economic security. Enterprise economic security is the state of security of the enterprises from the adverse impact of internal and external threats, destructive causes, which allow sustainable implementation of the main commercial interests and the purposes of the statutory activity. Economic security is ensured by implementation of measures of economic security, whose main aim is to maximize safety and minimize potential damage. Here are the main tasks for ensuring economic security:

- Legal protection of trade secrets of the organization and its interests;
- The acquisition of necessary information by conducting marketing research;
- Detection of external and internal threats, the suppression of economic intelligence by competitors, unauthorized or criminal activities by employees;
  - Security organizations and objects located on it;
  - Compensation for material and moral damages if it was caused by illegal influences businesses and individuals;
- Controlling the activities of the security system, improvement of its elements.

In general, the system of economic security of enterprise is individual, during its formation must consider not only the above problems, but the scope of activities, the conditions of competitiveness. How and in what scale is realized by the system is determined by the normative-legal base of the state, budget of the firm, knowledge and leadership experience in the field of economic security. The establishment of a durable system of economic security of an organization cannot be achieved without its compliance with this series of principles:

1. Comprehensiveness – the system must ensure the safety of various areas of activity of the enterprise.

2. The priority of preventive measures (warning) is a system security required at the initial stages to detect various negative factors.

3. Consistency – security system may be continuous under the condition of failure-free operation of its elements.

4. The legality – all actions to ensure security of the enterprise should be based on the existing regulations and not to contradict him.

5. Planning – logically sequential execution of actions in the system, making the system organized.

6. Low cost – the cost of the system must not exceed the income from the activities of the enterprise.

7. Interaction – all elements of the system are functioning in a coordinated way; the function of each element is clearly defined.

8. Competence – ensuring economic security should be entrusted to professionals with the necessary level of training, knowledge in this area.

Thus, economic security is one of the main components of enterprise management, working for its success. To build a reliable system of economic safety of the enterprise requires specific competence in this field, setting clear goals, objectives and compliance with the basic principles.

Today, the problem of determining the essence of economic security of an enterprise is characterized by a great number of scientific ideas. Economic security of an enterprise was considered just as a practical task some time ago; so taking this fact into account we should admit the lack of a unified approach of researchers to the essence of the concept “enterprise economic security”. The purpose and objectives of the study. Considering the above, the purpose of the study is to systematize approaches to the interpretation of the concept of “economic security of an enterprise”.

The economic security of an enterprise is a synthetic category of political economy and political science, which are closely linked to the categories of economic independence and dependence, stability and vulnerability, economic sovereignty and economic pressure, blackmail, coercion and aggression.

The term “economic security” was firstly used during the Great Depression in the United States. At that time, the idea of economic security was associated with individuals, and actions ensuring it were directed at harmonizing the social situation in the country and at developing public retirement income system and social insurance of the unemployed. In

Ukraine, economic security was firstly mentioned during the period of independence. But today there are many definitions of the concept “enterprise economic security” and a wide variety of ideas as for the essence of this category.

Some scientists said that the economic security of an enterprise is a complex characteristic, which means the level of protection of all types of enterprise’s potential against internal and external threats, which ensures stable operation and effective development, and also requires business administration management. One of them proves that the economic security of an enterprise is a set of factors that provide independence, stability, ability to progress under destabilizing factors. L. Yurovich considers the company’s economic security as the protection of the enterprise against negative impacts of external and internal environment, the ability to eliminate various threats quickly or adapt to external conditions without negative consequences for the enterprise. According to M. Bendikov, the economic security of the enterprise represents the protection of its scientific, technological, production and personnel potential against direct and indirect threats.<sup>1</sup>

O. Illyashenko states that a large variety of definitions of the concept of “economic security of an enterprise” is associated with the number of its attributes.

There are some definitions of “enterprise economic security”:

1. Competitive advantages caused by the correspondence of the material, financial, personnel, technical and technological potential and the organizational structure of an enterprise to its strategic goals and objectives.

2. Business conditions under which the entity, using the corporate resources in the most efficient way, prevents or eliminates the influence of existing threats or other unforeseen circumstances or protects itself against them, and in general ensures achieving the main business objectives in the conditions of competition and economic risk.

3. Protectability of a business entity from the negative effects of external environment, as well as the ability to eliminate quickly various threats or adapt to existing conditions that do not affect its activities negatively.<sup>1</sup>

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<sup>1</sup> Stratan, I. (2007). Bezopasnost' biznesa [Business security]. ELAN-POLIGRAF, 124 p.

4. Harmonizing in time and space economic interests of an enterprise with the interests of external environment involved and their partial protection against threats.

5. The process aimed at protecting the entrepreneurial structures and individuals whose activities include elements of entrepreneurship against criminal competitiveness and other methods that harm them due to violations of law and business ethics.

6. The most effective use of corporate resources in order to prevent threats and to ensure the sustainable operation of an enterprise at present and in future.

7. The most efficient use of resources in order to eliminate the threats and ensure the effective and stable operation of an enterprise at present and in future.

It should be noted that the following definitions of “enterprise economic security” can be attributed to several approaches, which characterizes the phenomenon of economic security as a complex interdisciplinary category and represents its intrinsic qualities. The economic security of an enterprise is a state of the entity as an economic system in which it is capable to respond adequately and prevent effectively all existing threats, both internal and external.

Economic security of an enterprise is defined as a complex category that characterizes the ability of the systems created at the enterprise to withstand the destabilizing effects of internal and external factors in order to ensure the efficient use of its resources (capital, personnel, technology, information, technology, etc.), existing market opportunities (competitiveness), as well as fulfillment of other statutory tasks in the current period and in the future. There is also a concept such as “integrated system for providing enterprise economic security”, which includes a certain set of interrelated elements (measures of organizational, economic and legal nature) that, when the enterprise reaches the main objectives of the business, provides its security against real or potential threats that can lead to material losses. The essence of the company's economic security is to ensure its progressive economic development in order to produce the necessary goods and provide services that meet the needs of the enterprise and social needs. Economic security of the enterprise manifests itself in ensuring its stable activity, preventing the leakage from it of any information. The material basis of economic security of an enterprise is its



economic potential, which determines the possibility of protecting the economic system from the adverse effects of the internal and external environment. The analysis of numerous external hazards and threats, directions and objects of their actions, possible consequences for business is associated with long-term research. Nevertheless, each enterprise and, above all, business managers, considering particular situation their business face, should determine (predict) the most significant (dangerous) problems and develop a system of measures to detect them timely, reduce their influence, prevent them.

Economic security of the company is conditioned to the interaction of various factors. Some factors for a particular period of time can be considered definite (for example, technical characteristics of fixed assets, number of employees, etc.). Others are subject to significant changes over a relatively short period of time (eg fluctuations in product prices, supply and demand levels, level of investment activity, etc.). A number of factors can not be precisely quantified. External and internal factors can cause damage to the economy of the enterprise in four cases:

1. The system of economic security of the enterprise is constructed in such a way that it can not foresee a threat to its occurrence.
2. The threat arose, but officials responsible for the economic security of the company can not foresee it.
3. The threat is detected, but the management of the company is not able to prevent its negative consequences.
4. Enterprise management tries to solve the problem, but its actions do not lead to a positive result.

Since all factors are closely interrelated and have a comprehensive impact on the processes of economic security, enterprises need a comprehensive study of the whole set of operating factors. A detailed analysis of the conditions and factors of economic security allows the company to develop measures for the formation of mechanisms and systems of protection against dangers and threats. The more developed other systems, the less destructive forces that lower security parameters.

Modelling of factor system of enterprise economic security envisages the compliance to the processes of changes of its financial and economic status, development of essential properties and relations within the enterprise system. The process of modelling and analysis consists of the following steps:

- the research concept is to be formed with the object of factors of changes of enterprise financial and economic status and a set of criteria and indicators which characterize these processes;
- the methods of mathematical modelling and evaluation of factors of economic security are identified;
- the results are interpreted and analyzed.

## **2. Economic security: main evaluation criteria**

The basic idea of the research is that the identification of economic security factors involves the development of properties of enterprise economic strength – adaptivity, reliability, flexibility, mobility, adequacy and etc. It is necessary to consider the following:

- the main feature of economic strength is its integrity that results from the interaction of its components and determines the level of its development according to the weakest element;
- the priority of enterprise economic goals and economic results ensures the adequacy of all components within economic strength to achieve long-term development goals owing to enterprise efficient operations;
- the boundary value of adaptivity to the terms of changeable internal and external environment is determined by its stability and economic security.<sup>2</sup>

The first and the second statements allow choosing among all the indicators of enterprise activity – those that ascertain profitability (resources usage, efficiency of business operations and economic activity). The third statement stipulates the necessity of using liquidity ratios and business solvency figures.<sup>2</sup>

Economic security evaluation is an integral management tool, as it creates an information base for making strategic management decisions to ensure a long-term performance of an enterprise. Such evaluations should be based on the cause-and-effect relations between the processes of production and economic activities for the complete consideration of all impact factors. For this purpose an economic security configuration of strategic enterprise development, which includes the following areas of evaluation: “interests”, “economic and financial stability”, “effective

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<sup>2</sup> Kopylyuk, O. I., & Muzychka, O. M. (2015). Formation of the system of financial and economic security of business structures, 98 p.

functionality” “organizational adaptability”, “strategic competence”, was formed. Under the conditions of global integration and globalization the economic efficiency of modern industrial enterprise depends on establishing and maintaining close relationships with 4 types of partners: state, competitors, customers and suppliers, interest groups. Peculiarities of such relationships reflect the interests of enterprise, form various types of strategies and can be organizationally expressed in the form of state protectionism, association, affiliation, alliance, league of public providers, political and technological strategies, political and trade-union strategies etc. By implementing such strategies, an enterprise may secure itself against a variety of possible risks, creating the so-called “niche security” where it is protected from competition and which allows entering competitive struggle at exposed markets. In this sense there is a three-dimensional definition of a business strategy in a certain type of activity. Among the measurements it's important to mention the following:

- value or attractiveness of business areas;
- enterprise competence in this area of activity, which manifests itself as a competitive position;
- security, defined by the importance of existing organizational relations in order to avoid competition.

Indicators for the evaluation of enterprise's and its partners' interests include:

- the exchange index of best practices among partners;
- the activity index in cooperation with universities;
- state support index;
- the activity index in cooperation with competitors;
- the activity index in cooperation with customers.

Financial analysis is the primary task of effectiveness evaluation of production and economic activity according to the indicators: absolute, quick and current liquidity, autonomy, equity and return on assets. Adaptivity is a state of organizational structure that allows responding flexibly to changes in the environment. The indicators for such evaluation are: the index of organizational experience gaining; the integration index; the index of productive diversification development; the specialization index; the index of outsourcing expenditures. The component of adaptivity of organizational structure reflects the main results obtained by means of diversification, integration and specialization. Particular attention should

be paid to the specialization index, calculated by the method of R. Rumelt which is detailed in the scientific work of A. Nalyvaiko in the context of research of productive diversification processes and systems of its effectiveness measurement. Within the today's realities of Ukrainian machine-building, a set of indicators reflecting the effectiveness of the key functional fields of activity was formed: innovative development index, renewal product offering index, index of reduction of project design duration; index of increasing own innovative base; innovation development index. Evaluation of enterprise strategic competence is based on the usage of such indicators: index of managerial staff education; management standartization index; index of return on costs for managerial knowledge development; index of managerial knowledge formalisation; index of bench-marketing costs.

### **3. System of economic security of the enterprise (SEES)**

In modern conditions, economic activity of economic entities is influenced by macroeconomic factors (state of law legislation, political and socio-economic situation in the country), and microeconomic (personnel, capital adequacy, management system), which exacerbates the problems of managing economic security enterprises. Among the problems of managing the economic security of enterprises to be resolved, first of all, the following should be mentioned:

- incomplete certainty with a set of components of the economic security of the enterprise;
- the existence of significant difficulties in the formal description of the dynamic properties of the enterprise in order to ensure its economic security in connection with the actions of destabilizing factors;
- existing difficulties in determining the composition of the assessment criteria of the components of economic security, as well as their gradation for different levels of security;
- there are no generally accepted domestic methods for assessing the level of the components of economic security of an enterprise, since approaches that have been recognized in foreign practice cannot always be applied in the conditions of a transitory economy of Ukraine;
- lack of a methodology for the complex assessment of the level of economic security of an enterprise, taking into account all its components. This problem is quite significant, since the levels of different components

are determined on different scales, which complicates their erection into a single complex indicator.

There are many factors that can negatively affect the ability of an enterprise to successfully carry out its activities. According to the State Statistics Committee of Ukraine: out of 100 enterprises registered as business entities, only about 15 continue their activities, others in the period up to five years are eliminated. According to the data presented in figure. Since 2010, the losses of Ukrainian enterprises have started to grow significantly. This situation was caused by the global financial crisis. Thus, in 2011, the total number of enterprises that are in bankruptcy proceedings has increased by 38% more than in the previous year, while the share of loss-making enterprises was 6.2%. In January-September 2013, 42.6% of domestic enterprises worked at a loss. According to statistics, in 2014, the ratio of profitable and loss-making enterprises was 58.6% and 41.4%. The number of unprofitable industrial enterprises of Ukraine in 2015 increased from 41.4% to 42.2% in comparison with the corresponding period of last year. Keeping such trends in the future will lead to the bankruptcy of many enterprises.

Therefore, an effective SEES involves developing certain, mutually agreed with the strategy of enterprise policy that is reasonable guidelines, which contributes to achieving the necessary level of security. To justify these guidelines, it is necessary to determine the totality of the goals of the organization. The achievement of certain goals is possible through the use of a certain set of tools (technical, organizational, informational, financial, legal and personnel) through the implementation of clearly directed actions. Economic security of an enterprise is a state that provides the most efficient use of enterprise resources to ensure stable operation and development, in which it is able to maximize its value at an acceptable level of risk. The objective of managing the company's economic security is to effectively protect the vital economic interests of a particular security object from threats of external and internal character. The most important goals of economic security of the company include the provision of operational efficiency, financial stability and independence of the enterprise. In scientific practice, the main tasks to be addressed by an enterprise's economic security management system are: the development of tools and effective mechanisms for reducing the impact of threats and supporting sustainable development of the enterprise; forecasting and

monitoring of possible critical threats to the enterprise's economic security; improvement of the mechanism of ensuring economic security; assessment of risks and threats using modern quantitative and qualitative methods.<sup>3</sup>

The objects of the SEES include:

- the direction of the main activities of the entity (supply, management, commercial, industrial);
- property and resources owned by the enterprise (material, technical, financial, intellectual, information);
- personnel, structural divisions, services.

The main subjects of the SEES are officials, services and units involved in security provision. Given the complexity and complexity of the content of this category, it should be considered as an interconnected system. Under the system of economic security of the enterprise (SEES) is understood the organized set of special bodies, services, means, methods and measures that provide protection of vital interests of the enterprise from internal and external threats. The main components of<sup>3</sup> economic security are: the object and subject of economic security, the purpose of economic security, the task of economic security and the mechanism for ensuring economic security. Consistent refinement of the content and nature of categories and concepts that are part SEES (table) to determine that danger – is causing damage to the company, which is close to the possibility of implementation; risks – high probability of occurrence of losses, deviation from the planned; threats – arise on the basis of the contradictions that are economic relations regarding the realization of the economic interests of the subjects; challenges – circumstances that shape future threats and opportunities depending on the timeliness of the reaction and the formation of the correct answer preparation.

The basis for raising the level of economic security of economic entities is the formation and development of a modern SEES, the specific principles of which are complexity, adaptability, flexibility, stability, efficiency, reliability and selforganization. The system of measures should be aimed at achieving (maintaining) an appropriate level of economic security: ensuring optimal combination of resources and available opportunities of the enterprise, detection and neutralization of threats, compensation of damages and reproduction of protected objects in case of

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<sup>3</sup> Volkova T.A., Volkova S.A. Mechanism of providing economic safety of the enterprise. *Topical issues of development of modern society*. Collection of scientific articles of the VI International scientific and practical conference, 2016. 24 p.

realization of hazards. The effectiveness of the SEES is determined by the main indicators of its activities: the stability of functioning; proper level of competitiveness; increase in the wealth of owners (shareholders); Sustainable innovation development of the enterprise; harmonization of socioeconomic interests.

In order to have a comprehensive assessment of the SEES, it is necessary to use a modern system of indicators. Indicators of economic security are indicators that characterize the state of the factors of economic security of the enterprise. Indicators include a system of indicators: the macro level that characterizes the state of the environment (changes in legislation, the level of macroeconomic instability), mesoroveness (regional policy, resource security of the territory) and the micro level (labor supply, the quality of working life). Political, ecological, economic, social, techno-technological and legal factors were identified as the main tendencies of the impact on the operation of the company at the macro level. Mileage of the system of economic security can be investigated both in branch and in the territorial aspect. In the sectoral aspect, as a factor contributing to the threat, the characteristics of the sphere of the functioning of the business structure are considered. The mist from the position of the territory assumes the characterization of a particular region as a threat.

In order to assess the economic security of the enterprise at the micro level, all indicators can be divided into categories: financial indicators; production and sales; indicators of innovation activity; social indicators. An integral assessment of economic security taking into account risks and threats at all levels will identify those security objects that require the development of a mechanism and instruments for increasing economic security.

Eurointegration conditions oblige to implement effective management of economic safety of the enterprise. That is why it is important to create the following subsystems of economic security in order to reduce the threats to enterprises and also to effectively manage economic security:

- analytical subsystem, that is, having at its disposal specialists, tools and methods for diagnosing the internal and external environment of the organization;

- subsystem of planning and forecasting, which allows to determine the goals and objects of management of the organization;

- an effective executive subsystem (for carrying out control activities), which allows to quickly and accurately implement a managerial influence;

- information subsystem, which includes financial and managerial accounting. Allows you to at any time provide management of up-to-date, complete and accurate information about the state of the managed object and the environment, as well as trends in their future changes;

- subsystem feedback (making managerial decisions in the middle of the organization) to assess the result of the control effect on the state of the object of management and making corrections in the event of a deviation of the achieved state of the system from its desired state beyond the range of acceptable deviations.

On the basis of the expert research (2016) of industrial enterprises and service enterprises, the following risks and threats from European integration were identified. For the investigated companies, the main threat is military actions, political instability in the country, increased competition in the domestic market, costs for the transition to international standards, loss of markets in the Russian Federation. Features of industrial enterprises include: the need for modernization of equipment, increased costs for compliance with environmental policy, a large number of documents, costs and time for export, additional costs for compliance with safety.

The priorities of the enterprises for European integration are defined, namely: harmonization of domestic and international standards of production and quality of products, access to the EU market, lower prices for equipment for modernization, reduction of customs tariffs and duty-free quotas, the possibility of expanded cooperation with foreign partners. Since the conditions of the European integration process of Ukraine took place at the interstate level, the same state has a significant influence and can give a significant impetus to enterprises in their development in this direction. Therefore, the process of managing the economic security of enterprises in the context of European integration should involve the involvement of both the owners (through the construction of the appropriate mechanism) and the state, since its role today is largely determinative for business.



## **CONCLUSIONS**

Scientific novelty of the conducted research is in improving the complex assessment of the SEES, which includes indicators of the macro-, meso-, macrolevels of the enterprise. The theoretical significance of the research results is revealed in the identification of the elements of the SEES and the disclosure of their content characteristics. The practical value of the research results is to isolate strategic threats and priorities in the management of the SEES. The strategic orientation of business in the process of European integration should be aimed at studying and taking into account: EU legislation on export-import issues, market trends of EU countries, European standards and requirements for the production and sales of products, increasing the competitiveness of products.

The direction of further research on the management of the economic safety of the enterprise is the development of a methodical tool for assessing the level of economic security of an enterprise in the context of European integration. Research results can be used for companies with European orientation.

## **SUMMARY**

The management system directly depends on the information scope, quality, and intended use. Traditional methods and tools of information preparation do not adequately meet the requirements of modern management, and hence qualitatively and quantitatively new scope of information is required, as well as their structuring considering the influence of risks and uncertainties of the market environment. Creation of the through-flow system of accounting and analytical support as a key component to ensure financial stability and economic security has to be the key to long-term effective strategic development and management of the company.

The effectiveness of the company's strategic management is a complex task mainly dependent on consistency and perfect functioning of the mechanism of collection, accumulation, processing, storage, analysis, and transfer of information and the subsequent mechanism of management decision approval. Currently, many scientific approaches to building the accounting and analytical system are developed and there are many developments related to its component structure, principles, and relationships. However, the main drawback of the existing approaches to

forming the system of accounting and analytical support is that mostly the system outline, components, specific methods, and approaches to accounting and analysis are determined, but the system is not seen as a whole dynamic tool to provide a focused development tool (transfer of the enterprise as a control object from one state to another) in a certain time period. Therefore, one of the priorities in development of the enterprise's accounting and analytical system is its construction under the principles and approaches of logistics management, allowing to form the necessary data information array in a single space, providing a unified approach to information preparation and, at the same time, to avoid information isolation of individual management units, duplication and "overproduction," and data misrepresentation. In addition, each system requires formation of feedback provided to some extent by management control functions. In this regard, accounting and analytical support for economic security was proposed to be used as a system to provide assessment and control of the enterprise's strategic development.

Due to economic security tools, retrospective, current, and preventive control of decisions should be achieved. Issues on detailed development of indicators and criteria of economic security require for further fundamental studies for the purpose of effective analysis and control.

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## **FEATURES OF GOVERNANCE INVESTMENT-BUILDING COMPLEX AT REGIONAL LEVELS**

**Simak S. V.**

### **INTRODUCTION**

Management of any system is known to play a decisive role in the effectiveness of its functioning. The only national economic complex in our country was formed in the 1960's, when the management system of construction was based on the territorial-branch principle. The whole set of construction companies were managed by all-union, union republican and republican building ministries and subordinated main territorial-building managements, combines. Industrial and housing construction was carried out by the Ministry of Construction of the Heavy Industry of the USSR, the Ministry of Industrial Construction of the USSR, and the Ministry of Construction of the USSR. Construction of transport constructions was entrusted to the Ministry of Transport Construction. Rural construction was carried out by the Union-Republican Ministry of Rural Construction. A special role was played by the Union-Republican Ministry of Buildings and Special Construction Work of the USSR, which acted against other ministries as a subcontractor for the installation of technological equipment, electrical engineering, sanitary and technical equipment, control instruments, automation equipment, complex building structures and constructions. Construction of gas and oil pipelines was carried out by the All-Union Ministry of Construction of Enterprises of the Oil and Gas Industry. The Ministry of Energy and Electrification of the USSR carried out both the construction and operation of power plants, power lines, and the like. The Ministry of Land Reclamation and Water Management of the USSR carried out construction and operation of water management constructions. The Ministry of Coal Industry of the USSR led the construction and operation of the coal industry. In the largest cities, first in Moscow and Leningrad, and then in Kiev and Sverdlovsk, housing management was mainly carried out by the main departments that were subordinated to the city executive authorities. With the elimination of the planned centralized management system for the development of the

national economy, and especially as a result of the privatization process, the former organizational forms of management in the construction complex virtually disappeared.

In today's market economy, institutions of private property and capital, private entrepreneurial sector and entrepreneur as its main actor play an important role. The general economic conditions of the functioning of construction as a branch of material production have changed significantly. Construction companies that have survived in the period since 1992 and new enterprises are objectively put in a condition where it is vital for them to search for their niche in the relevant markets. The objective starting conditions for the formation of these markets, conditioned by the current and projected general economic situation, can be considered: the creation of a multi-faceted economy based on the diversity of ownership forms on the means of production; the multiplicity of sources of capital investments, which include the public sector (state budget), the municipal sector, banking and financial structures (including, in the future, insurance and pension funds); corporate sector (including corporate and private capital); mixed and foreign capital, means of the population; the refusal of the state from the policy of complete industrial and social paternalism, which provides for the financing of industrial construction and construction of social facilities; formation of markets of construction products and industry of building materials and constructions; the emergence in domestic markets of foreign producers, which have a higher competitiveness than domestic producers.

### **1. Objective macroeconomic conditions for the formation of regional investment and construction complexes**

Objective macroeconomic conditions of the formation of regional investment and construction complexes are characterized by essentially a significant spatial differentiation of the general economic conditions of start-up conditions and potential of development of construction business and, accordingly, of regional markets for construction and industry of building materials and constructions.

Formation of regional investment and construction complexes to a large extent depends on the degree of concentration of capital in the regions, natural and economic and geographical factors (the availability of mineral resources, geopolitical position, level of economic development of

the region etc.), the level of development of engineering and social and domestic infrastructures and many others factors.

A fundamental feature of the construction products is its territorial integrity, which gives any research in the field of construction a clearly expressed regional aspect. Another fundamental feature of construction – its role in the process of economic reproduction: ensuring an expanded reproduction of fixed assets with the effective use of capital investments (investments). From the technological point of view, the investment and construction complex objectively exists in any form of management or regulation of the economy.

The territorial attachment of the final construction product, the distribution of the raw material base, the inexpediency of transportation of raw materials and structures at greater distances, as a rule, limit the acts of sale between construction organizations of the construction industry local territories with rather narrow boundaries<sup>1</sup>.

Functional purpose of the regional building complex is the creation of a material base that provides conditions for the socio-economic reproduction of the region by converting the money form of investment into specific objects of production and non-production purposes in its territory. In this sense, the regional construction complex materializes the result of the economic regional complex in the form of production and non-productive accumulation. Thus, on the one hand, the conditions of operation and development of the regional investment and construction complex act as a derivative of the efficiency of the regional economy. On the other hand, the investment and construction complex itself creates conditions for the efficient functioning of regional production and consumption systems<sup>2</sup>.

To adapt the investment and construction complex to a difficult economic situation, new approaches to its organization and management are needed.

In the pre-reform period, the governing bodies of the regional investment and construction complex were: the Main Department of Capital Construction; Main planning and architectural management; Technical management etc. All of the aforementioned major departments were members of the Executive Committee.

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<sup>1</sup> Карапузов Є.К., Соха В.Г., Остапченко Т.Є. Матеріали і технології в сучасному будівництві : Підручник. Київ : Вища. освіта, 2005. 495 с.

<sup>2</sup> Панибратов Ю.П., Барановская Н.И., Асташенков В.П. Развитие регионального строительного комплекса в условиях рынка. *Иzv. вузов. Стр-во.* 1997. № 10. С. 23–27.

With the beginning of the transformation of the national economy (May 1992), began to form investment committees, the main task of which is the formation of market relations in regional investment and construction complexes.

The main tasks of the investment committee were reduced to the following<sup>3</sup>: formation together with other committees of the investment policy of the municipality. Preparation of the decisions of the city council of people's deputies and the instructions of the mayor for realization of perspective and current tasks in the field of capital construction and reconstruction in the city; development of proposals for attracting investments for further investment, construction and reconstruction; development of proposals for the formation of a municipal order for the construction and reconstruction of objects of communal services, housing and cultural and household purposes; formation of targeted programs of construction and reconstruction of objects located on the territory, subordinate to the city hall; ensuring the effective use of land allocated for the period of construction and reconstruction; ensuring effective use of material resources for the execution of social programs of the city hall in the field of capital construction and reconstruction; provision of high technical level and quality of housing construction; creation of economic conditions and regulators for the effective realization of the municipal order for the construction and reconstruction of objects of communal economy, housing and cultural and household purposes; coordination and management of companies of the investment and construction complex in the implementation of social programs of the municipality in the field of capital construction and reconstruction of communal facilities, residential cultural and domestic purposes, development of the necessary management decisions; coordination of programs of development of contracting firms and organizations of the building industry for balancing their capacities.

Public administration of the investment and construction complex is carried out within the framework of a single industrial system, taking into account the national interests, interests of regions and local governments, which is connected with the delimitation of state property (for the state and municipal) and the consolidation of the objects of the building complex for

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<sup>3</sup> Покрытан А. Рыночная трансформація і проблеми пріоритетів в економіці України. *Економіка України*. 1997. №12. С. 18–27.

local self-government bodies, and housing and communal services. In today's economic conditions, the relevant public administration bodies implement their functions mainly through coordination, permitting, control and supervisory powers.

The management of the investment and construction complex covers the implementation of a unified technical policy in the field, planning and development of organizational and legal principles of design and construction, their logistical and financial support, rationing, work with personnel, organization of safety and labor protection, quality improvement measures architectural and construction works, control over the observance of construction rules, norms and standards etc<sup>4</sup>.

The main tasks of management of the investment and construction complex in modern conditions is a radical change in investment policy, a significant reduction in the number of simultaneously constructed objects, a significant reduction in the level of unfinished construction, the development of small and medium-sized settlements.

The central body of state administration of the investment and construction complex is the State Committee for Construction, Architecture and Housing Policy of Ukraine (hereinafter – the State Enterprise of Ukraine), which operates on the basis of the Regulation on it.

The State Construction Committee of Ukraine is the central executive body that participates in the formation of the state housing policy, state scientific and technical and economic policy in the field of urban development, construction and utilities and ensures its implementation.

The main tasks of the State Construction Committee of Ukraine are: to ensure the implementation of reforms in the subordinate sectors of the economy; providing them with the development and implementation of energy and resource conservation measures; introduction of environmentally sound technologies; implementation of measures for integrated planning of territories, improvement of architectural and planning and engineering-technical level of development of settlements, buildings and structures; implementation of measures to increase the technical and economic level of the construction industry and construction materials industry, housing and communal services and urban electric transport; organization of work on standardization, etc.

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<sup>4</sup> Поважный А.С. Трансформационные процессы корпоративного управления. Донецк : ИЭП НАН Украины, 2001. 290 с.



In accordance with the tasks entrusted to it, the State Construction Committee of Ukraine: provides for the development, approval, publication and control of compliance with state standards, norms and rules; Participates in the development, approval and implementation of city-planning documentation; carries out coordination and normative-methodical support of activity of local bodies of city-planning and architecture, capital construction, housing and communal services, inspections of state architectural-building control, bureau of technical inventory, etc.; Participates in the development and implementation of measures aimed at economic reforms, demonopolization, privatization in the industry, provision of post-privatization support to privatized enterprises; issues special permits (licenses) for carrying out certain types of business activity; carries out, in accordance with the legislation of Ukraine, the functions of management of state-owned objects belonging to the sphere of its competence<sup>5</sup>.

For the successful implementation of the tasks and functions entrusted to him, the State Construction Committee of Ukraine has been given quite wide powers regarding the organizational support of the work. He has the right: to receive from other central and local executive bodies, local authorities information, documents and materials necessary for the performance of tasks assigned to him, to convene a meeting in accordance with the established procedure on matters within his competence; to involve specialists of central and other executive authorities, enterprises, institutions, organizations, in agreement with their leaders, to consider issues that fall within its competence; to bring disciplinary responsibility of the heads of enterprises, institutions and organizations belonging to the sphere of its competence.

State Building Committee of Ukraine within the limits of its powers on the basis of and on the basis of legislative acts issues orders, organizes and systematically monitors their implementation; generalizes the practice of applying legislation on issues that fall within its competence; develops proposals for its improvement and, in the prescribed manner, submits them for consideration to the President of Ukraine and the Cabinet of Ministers of Ukraine.

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<sup>5</sup> Асаул А.Н., Грахов В.П. Принципы формирования интегративного управления в инвестиционно-строительном комплексе. *Вісн. Хмельниц. нац. ун-ту. Екон. науки.* 2005. №3. Т.1. С. 15–21.

The management of the investment and construction complex on the ground is entrusted to the relevant departments and departments of local state administrations. Thus, at regional state administrations there is a department of city planning and architecture, management of housing and communal services and capital construction management, and in rayon state administrations the functions of management are provided by departments of city planning, architecture and housing and communal services. These bodies are formed and act in accordance with the provisions approved by the Cabinet of Ministers of Ukraine. They carry out the management of the areas of construction and housing and communal services which they have been handed over to, they are responsible for their development within the territory under their jurisdiction, coordinate the activities of enterprises, institutions and organizations belonging to the sphere of management of the relevant local state administration.

The State Construction Department of Ukraine directs and coordinates the activities of local executive bodies in the field of construction and housing and communal services, as well as assists local self-government bodies – the councils and their executive bodies in exercising their powers in the subordinate branch.

Reforming the investment and construction complex requires not only the coordination of the efforts of many ministries and departments, but also the transfer of the center of gravity of the implementation of problems on the ground. In this regard, the activities of local self-government bodies, which have significant powers in the field of housing and communal services and construction, are of great importance.

According to the Law of Ukraine “On Local Self-Government in Ukraine”, local self-government bodies have the following self-governing powers in the area of housing and communal services: management of housing and communal services located in the communal property of the respective territorial communities, ensuring their proper maintenance and efficient operation; registration of citizens who, in accordance with the legislation, need improvement of housing conditions; assistance in the expansion of housing construction, provision of citizens in need of housing, assistance in housing construction, loans and subsidies for the construction or purchase of housing; Assistance to owners of apartments (houses) in their maintenance and repair;

registration of housing construction and garage cooperatives and associations of co-owners of multi-apartment buildings; organization of improvement of settlements, etc.

Along with their own powers, local self-government bodies have delegated their authority in the sphere of housing and communal services. Among the main ones, it should be mentioned: implementation in accordance with the legislation of control over the proper operation and organization of maintenance of population by enterprises of housing and communal services; accounting in accordance with the law of the housing stock, exercising control over its use; control over the condition of apartment registration and compliance with housing legislation at enterprises, institutions and organizations located in the respective territory, regardless of ownership; issuance of warrants for the settlement of residential space in the houses of state and communal organizations; registration and registration in accordance with the law of immovable property, regardless of ownership<sup>6</sup>.

In the construction sector, local self-government bodies have both own and delegated powers. Among their core competencies are the following: organization at the expense of own funds and on a parity basis of construction, reconstruction and repair of objects of communal services and social and cultural purposes, residential buildings, as well as local roads; consideration and submission to the relevant executive bodies of proposals on plans and programs for the construction and reconstruction of objects on the territory; preparation and approval of the corresponding local urban planning programs, general plans for the development of settlements, and other city-planning documentation; coordination on the territory of activity of the subjects of city-planning for integrated development of settlements; granting of permission in accordance with the legislation for the construction of urban development objects, regardless of the forms of ownership.

To the delegated authority of local self-government, legislation refers to the organization of work related to the creation and maintenance of a city-planning cadastre of settlements: the acceptance into operation of completed objects construction; implementation in the established procedure of state control over observance of the legislation, provisions of

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<sup>6</sup> Закон України «Про місцеве самоврядування в Україні» від 21.05.1997 р. №280/97–ВР. *Відомості Верховної Ради України*. 1997. №24. Ст. 170.

the approved urban planning documentation; settlement in accordance with the legislation of disputes on urban planning, etc.

One of the main functions of the State Building Committee of Ukraine and its local authorities is the organization and provision of state architectural and construction control and control over the technical condition of the housing stock and objects of communal use, regardless of ownership.

State architectural and building control is a set of organizational, technical and legal measures aimed at ensuring compliance with legislation, state standards, norms and rules, architectural requirements and technical conditions, as well as provisions of approved urban planning documentation and projects of specific objects, local building regulations settlements by all subjects of town-planning activity. Its implementation is one of the factors of improvement of the quality of construction, maintenance of operational reliability of buildings and structures, protection of the rights of consumers of construction products.

Directly state architectural and construction control is carried out by the State Architectural and Construction Inspectorate as part of the State Construction Committee of Ukraine and the State Architectural and Construction Control Inspectorate as part of the local city planning and architecture bodies.

Inspections of state architectural and building control give developers permits for construction, reconstruction, restoration and overhaul works; participate in the work of commissions on the acceptance into operation of completed construction of objects, as well as in investigating the causes of accidents in construction; carry out random checks; consider cases of offenses in the field of urban planning; analyze and generalize control materials; prepare proposals to the relevant authorities on the improvement of state standards, norms and rules.

Officials of inspections have the right: to freely enter the construction of objects and enterprises that produce construction materials, products and structures, regardless of ownership; to stop construction works that do not meet the requirements of legislation, state standards, norms and rules or are carried out without permission for their execution; make a submission to the relevant authorities on the cancellation or suspension of the license for the right to carry out special types of works in the design and construction;

draw up protocols on misdemeanors in the field of urban planning and impose fines in accordance with the current legislation.

The control over the technical condition of the housing stock and objects of communal destination is carried out by officials of the departments and departments of housing and communal services of local state administrations and local self-government bodies. They have the right: to conduct inspections and inspections of controlled objects; Give instructions to owners and users about eliminating violations found; make suggestions on bringing the perpetrators to administrative liability, etc.

In order to strengthen the control over the technical condition of urban electric transport in the State Construction Committee of Ukraine, the State Technical Inspection, as well as state regional technical inspections in cities, have been established and are in operation. Through constant state control over the technical condition of urban electric transport, officials of these inspections have the right to apply both administrative and preventive measures and measures of administrative termination.

## **2. Improving methodological approaches to the development strategies of investment-building complex**

Ensuring the consideration of public interests (society in general, state, territorial communities, economic competition) and the typical private interests of participants in these relations (if these interests are legitimate) is carried out by the state as the organizer of economic life in the country. The state uses various forms and means at the same time. As in other spheres of the economy, the state uses the following forms of management in the field of capital construction: regulatory regulation; planning (first of all, regarding the activities of economic relations entities, which operate on a state ownership or are controlled by the state on behalf of the authorized bodies, and / or financing of investment projects of construction at the expense of state funds, loans received under the guarantee of the Government of Ukraine); management of current affairs in the field of capital construction (licensing; granting permits related to the construction of objects; providing state expertise of investment projects of construction, etc.); control over observance by the participants of investment activity of the requirements established by the state in the field of capital construction.

Planning (in respect of the mentioned cases) is carried out by the Government of Ukraine, public authorities and management of the AR of Crimea, economic ministries / departments, state economic associations, etc. Current developments in capital construction are largely provided by the Ministry of Regional Development, Construction and Housing and Communal Services of Ukraine.

The main tasks of the Ministry in the field of capital construction are: participation in the formation and implementation of state policy in the field of construction, urban planning and construction materials industry; management, coordination and regulation in the given field; technical regulation in the field of construction, urban development, construction materials industry.

Ministry in accordance with the tasks assigned to it:

- develops and submits proposals to the Cabinet of Ministers of Ukraine on the formulation of state policy in the field of construction, urban planning, architecture and construction materials industry;

- takes part in the elaboration of the Program of Activities of the Cabinet of Ministers of Ukraine, the State Program of Economic and Social Development of Ukraine, the State Budget of Ukraine for the relevant year, and ensures the development and implementation of other state and programs;

- develops and submits, in accordance with established procedure, draft regulatory and legal acts in the field of construction, urban planning, architecture and building materials industry, environmental protection during construction;

- develops and approves, within the limits of its authority, state standards, norms and rules;

- ensures and coordinates scientific research (research and development works) in the field of construction, urban planning, architecture and building materials industry (including issues of standardization, standardization, metrology, codification and cataloging, confirmation compliance), as well as on the preservation of historical habitats and the traditional character of the environment of populated places, architectural monuments and urban planning;

- takes measures for implementation of the General scheme of planning of the territory of Ukraine, improvement of the architectural and planning and engineering and technical level of development and

improvement, development of engineering and transport infrastructure of settlements;

- develops and approves typical regional rules of development, coordinates regional rules of development of the Autonomous Republic of Crimea, regions, organizes the examination of territorial planning schemes (except for district planning schemes), general plans of cities of Kyiv, Sevastopol and regional centers;

- determines the methodology of designing objects of housing and civil engineering purposes and industrial objects, engineering structures, systems of engineering equipment of buildings and structures, as well as reconstruction and adaptation of objects for other purposes;

- determines the procedure for the development and approval of urban planning documentation, projects for the construction of urban development objects and the procedure for organizing and conducting their experimental construction;

- organizes work on conducting professional certification of the performers of works related to the creation of architectural objects;

- provides normative and methodological support for the design, construction and operation of objects in complex engineering and geological conditions, as well as the development and improvement of methods and means of engineering protection of territories, buildings and structures from the influence of dangerous processes of man-made and natural character;

- provides within its authority normative, scientific and technical and expert support of construction works at the Shelter and other facilities of the Chernobyl Nuclear Power Plant;

- carries out architectural and construction control, state control over planning, building and other use of territories;

- organizes work related to the preservation, protection, accounting, use and restoration of monuments of architecture and urban development, as well as the area of historical building;

- participates in the work connected with the inclusion of objects of architecture and urban planning, landscape gardening and monumental art, as well as landscape monuments to the State Register of real estates of Ukraine;

- carries out in accordance with the legislation control over the execution of works related to research, conservation, rehabilitation, restoration, repair and of architectural monuments and urban development;
- participates in the preparation of cultural heritage objects for inclusion in the World Heritage List;
- develops and submits, in accordance with the established procedure, proposals on the designation of conformity assessment bodies for conformity assessment work in the field of construction, urban development and construction materials industry;
- establish in accordance with the legislation the procedure for recognizing the results of tests, including new materials;
- ensures comprehensive state appraisal of investment programs, projects of construction and examination of city-planning documentation;
- determines the procedure for confirming the suitability of new construction products for use in construction, organizes its implementation and issues a technical certificate;
- controls the compliance of the participants with the investment activity in the construction of the requirements of normative documents on the calculation of the cost of construction of objects constructed with the attraction of funds from the state and local budgets, as well as funds of state enterprises, institutions and organizations;
- prepares, on instructions of the Cabinet of Ministers of Ukraine, expert opinions on technical solutions and cost indicators, which confirm the necessity of works that are planned to be carried out at the expense of the state budget reserve fund;
- carries out normative and methodical maintenance of the maintenance of city-planning cadastres of settlements;
- controls the activity of state building corporations in accordance with the law;
- carries out normative and methodical support of activity of controlled and accountable structural subdivisions of local state administrations, bodies of local self-government, enterprises, institutions and organizations belonging to its sphere of management;
- takes measures for the development of economic competition;
- carries out, in accordance with the legislation of licensing of the corresponding types of economic activity, and control over compliance with licensing conditions;



- organizes work on training, retraining and advanced training of workers in the field of construction;
- carries out, in accordance with the legislation, the management of state-owned objects belonging to the sphere of its management;
- carries out, within the limits of its authority, the control over the state of labor protection at the enterprises belonging to the sphere of its management;
- performs other functions arising from the tasks assigned to it.

Ministry issues within its powers and in accordance with the law orders, organizes and controls their implementation; regulatory acts of the Ministry of Regional Development shall be subject to registration in accordance with the procedure established by law; Ministry, if necessary, collects joint acts together with other central executive bodies.

One of the means of state regulation, which is covered by the concept of managing current affairs as a form of state regulation, is the state examination of investment construction projects.

The investor is obliged to obtain a positive conclusion of the state examination on compliance with the existing standards on sanitary and epidemiological well-being of the population, ecology, labor protection, energy saving, fire safety, durability, reliability and necessary durability of buildings and structures in the investment programs and projects, as well as architectural requirements, with the exception of objects of civil and industrial purpose, for approval of construction projects which the complex conclusion of the state examination is not obligatory.

Programs and projects of construction, regardless of sources of funding, are subject to mandatory comprehensive state expertise (except for projects for the construction of objects, for approval of which, according to the legislation, the conclusion of a comprehensive state examination is optional).

In the process of complex state expertise, the state of observance of the standards of reliability, reliability and durability of buildings and structures, their operational safety and engineering, sanitary and epidemiological well-being of the population, labor protection, energy saving and energy efficiency and fire safety, as well as performance of architectural requirements. Relevant conclusions are integral parts of the conclusion of a comprehensive state examination.

According to all programs and projects approved by the Cabinet of Ministers of Ukraine, a comprehensive state examination is provided by the Central Service of Ministry of Regional Development (Central Service), and other projects, as well as its local units.

The rules for carrying out a comprehensive state examination of programs and projects are approved by the Ministry of Regional Development and Local Government, in agreement with the central executive authorities, whose powers include the conduct of such expertise.

Complex state examination is carried out on a contractual basis. The investor (customer) must submit to the Central Service of the Expertise or its local unit the documentation provided for by the state building codes<sup>7</sup>.

The cost of carrying out a comprehensive state appraisal of programs in full amount is determined in the amount that does not exceed 10 percent of the cost of developing the program. The procedure for determining the value of a complex state examination of projects is established by the Cabinet of Ministers of Ukraine.

The general deadline for conducting a comprehensive state examination should not exceed 45 calendar days, including 40 days – preparation of conclusions on selected areas (durability, reliability, durability of buildings and structures, architectural requirements, sanitary and epidemiological well-being of the population, labor protection and protection of the environment ( regarding objects that constitute an increased environmental hazard), energy saving, fire and technological safety, etc.). In cases stipulated by the Law of Ukraine “On Environmental Expertise”, the total period of conducting a comprehensive state examination is set up to 120 calendar days. The conclusion of a comprehensive state examination may be: positive (recommendation for approval of a program or a construction project with indication of the relevant technical and economic indicators); such conclusion is approved by the head of the Central Service of the Expertise or its local unit and is valid during the period of validity of the technical specifications and the architectural and planning task; negative (comments on the revision of the program or construction project or the justification for the impossibility of implementation).

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<sup>7</sup> Закон України «Про державне прогнозування та розроблення програм економічного і соціального розвитку України» від 23 березня 2000 року. *Відомості Верховної Ради України*. 2000. № 25. С. 195.

Programs and projects (with the exception of the projects, for approval of which the complex conclusion of the state examination is optional) on the basis of a positive conclusion of the Expertise Ministry of Regional Development or its local unit are approved (reproved) by the investor or an authorized body (person).

In accordance with the Regulation on the State Architectural and Construction Inspection: The State Architectural and Construction Inspection (State Architectural Inspection) is a government agency of state administration that acts as a part of the Ministry and is subject to it.

The main tasks of the State Architectural Inspection: participation in the formation and implementation of state policy in the field of architecture and construction; implementation of state supervision and control in the field of architecture and construction (hereinafter – architectural and construction control).

State Architectural Inspection in accordance with the tasks entrusted to it:

- develops and submits to the Ministry: proposals on the formation of state policy in the field of architecture and construction, improvement of legislation on the implementation of architectural and construction control; draft regulatory and legal acts on the implementation of architectural and construction control;

- organizes and ensures the implementation of regulatory legal acts on matters that fall within its competence;

- develops and approves organizational and methodical documents on the issues of implementation of architectural and construction control, other issues that fall within its competence, organizes and ensures their implementation;

- carries out methodical and normative maintenance of activity of inspections of state architectural and building control in the structure of bodies of city-planning and architecture in the Autonomous Republic of Crimea, regions, districts, cities of Kyiv and Sevastopol, cities of regional submission;

- issues a permit in accordance with the established procedure for the construction, reconstruction, restoration and major repair of the objects (hereinafter – construction works), registers the objects on which such works are performed (hereinafter – construction objects);

- participates in the work of commissions on the acceptance into operation of completed construction of objects, as well as in investigating the causes of accidents in the construction industry;

- Carries out the verification: compliance of construction works, building materials, products and structures with the requirements of state standards, construction norms and rules, technical specifications, approved design decisions; timeliness and quality of carrying out of the prescribed, normative and technical and project documentation of filming, measuring, testing, and also keeping of works logs, passports, certificates and other documentation; presence in the executor of construction works in the cases provided by legislation certificates for building materials, products and structures; adherence to the established procedure for acceptance into operation of the objects completed by construction;

- considers the issue of violations in the field of urban planning with the adoption of appropriate decisions;

- Carries out methodical maintenance of activity of control services of building organizations and the enterprises which manufacture building materials, products and constructions;

- conducts analysis and generalization of the results of control over the quality of the executed construction works, building materials, products and structures, develops and submits proposals to the relevant bodies on the improvement of state standards, construction norms and rules;

- carries out, in the cases provided for by law, control over observance by the parties of obligations under the contract for the execution of construction works, analyzes and summarizes the results of control and informs them about the Ministry;

- provides study and implementation in practice of the achievements of domestic and foreign science and technology on architectural and construction control;

- carries out informational activity, provides coverage of topical problems of architectural and construction control in the mass media.

The State Architectural Inspection is entitled to:

- in the cases established by law, carry out an inspection of construction objects and enterprises producing building materials, products and structures, regardless of the form of ownership regarding compliance with the requirements of legislation on matters that fall within its competence;

– to receive, in accordance with the procedure established by law, information from bodies of executive power, bodies of local self-government, enterprises, institutions and organizations which is necessary for the fulfillment of the tasks entrusted to them;

– convene a meeting in accordance with the established procedure on matters within its competence;

– involve specialists of executive bodies, enterprises, institutions and organizations (in consultation with their leaders) to consider issues that fall within its competence;

– to give within its authority to customers, design and construction organizations, enterprises that produce building materials, products and structures, which are obligatory for compliance with the requirements for elimination of violations of the requirements of legislation, state standards, construction norms and rules, technical specifications, approved design decisions, local rules of development of settlements; To make proposals to customers for the termination of financing of construction objects for the period before elimination of defects found as a result of the implementation of architectural and construction control;

– involve independent experts and specialized organizations for carrying out inspections and preparing opinions on matters within their competence;

– to demand, in cases stipulated by law, from customers, contractors, enterprises that produce building materials, products and structures, selective disclosure of certain structural elements of buildings and structures, surveys and measurements, additional laboratory and other tests of building materials, products and structures;

– to receive from customers, design and construction organizations and enterprises that produce building materials, products and constructions, normative-technical, project and other documentation necessary for the performance of their functions;

– to stop construction works that do not meet the requirements of legislation, state standards, norms and rules, technical conditions approved by the design decision, local rules for the development of settlements or carried out without permission for their implementation, as well as the production and application in construction of building materials, products and structures constructed in violation of the requirements of state standards; to receive from customers, design and construction

organizations and enterprises that produce building materials, products and structures, written explanations on the reasons for the assumption of violations;

- to submit to the licensing bodies proposals for cancellation of economic entities that admit violations of the requirements of legislation, state standards, construction norms and rules, technical specifications, approved design decisions, local rules of building settlements, licenses for the right to conduct certain types of economic activity in construction ;

- to receive from customers, construction organizations and enterprises that produce building materials, products and structures, as well as state statistics data on the introduction of fixed assets, the sale of finished products;

- to inform the state statistics bodies of the violations of the established procedure for the acceptance and operation of the objects completed by construction, as well as on the implementation of construction materials, products and structures that do not meet the requirements of state standards;

- to cancel the decisions taken by the inspectorates in violation of the norms of legislation;

- draw up protocols on offenses in the field of urban planning and impose fines in accordance with the legislation;

- transfer to the organs of the prosecutor's office, the bodies of inquiry and pre-trial investigation acts of inspections and other materials on the acts in which the signs of the crime are seen.

State architectural and construction control is a set of organizational, technical and legal measures aimed at ensuring compliance with legislation, state standards, norms and rules, architectural requirements and specifications, as well as provisions of approved urban planning documentation and projects of specific objects (hereinafter – approved design decisions), local rules of development of settlements by all subjects of city-planning activity, regardless of ownership forms during the development of territories and settlements, accommodation, construction, reconstruction, repair of housing and civil and industrial and other purposes, restoration of architectural monuments of engineering and transport infrastructure, construction materials, products and structures.

## **CONCLUSIONS**

The links between the participants in the regional investment and construction complex are based on the relations of production with regard to the creation of the final construction products. Regulatory influence of local governments on the regional investment and construction complex is manifested through: a set of state and regional legal acts regulating the economic behavior of market actors; a system of measures within the framework of the adopted regional industrial and social policy in relation to both the regional investment and construction complex as a whole, as well as to each concrete participant of the interaction; initiative development on a competitive basis of large projects in the field of development of regional production, tourism, transport and other complexes, as well as in the development of regional systems of life support and social programs; participation in the creation of regional financial and construction groups aimed at solving the problems of industrial and social development of the region as co-founders, by introducing such groups of funds and granting preferences in the authorized capital; financing of large construction projects of regional industrial and social development at the expense of regional and local budgets; provision of guarantees on targeted loans to regional FBG if their activities are aimed at solving regional problems; support in the area of accumulation of financial resources of financial and construction groups through the issue of municipal bonds. The list of concrete measures to support the development of the investment and construction complex by regional authorities can be continued. But here it should be emphasized that all these measures should be purely economic, but in no way administrative nature.

Implementation of the process of improving the organization of the system of public administration investment and construction complex must be carried out at the following stages: analysis, definition of goals and objectives of improving the organization of the public administration investment and construction complex, where the final document is a list of tasks and areas of improvement (further, in the course of the study, the list and the formulation of problems and requirements both to the system as a whole, and to its separate parts are specified); the second stage begins with the definition of goals and objectives, according to which the structure of the system must be built (the final document of this stage is a tree of goals

and objectives, which reflects the directions of activity on the levels and links of the management system with the details of the specific tasks of the structural units and individual employees); in the third stage the effectiveness is determined and the choice of an option close to the optimal is chosen based on criteria and indicators that reflect the efficiency and quality of the system's operation in terms of its stability, stability and flexibility, as well as the degree of compliance of the management system and its individual structural characteristics with the given level.

### **SUMMARY**

When forming a mechanism for managing housing construction, it is necessary to determine, first of all, the goals and objectives of creating such a mechanism. The purpose of development of housing sector is proposed to consider the achievement of some level of development of socio-economic mechanisms and structures in the housing and construction complex. The system of goals defines the requirements for the future state or the direction of its change. Tasks are solved by determining the optimal (and not the maximum) values of the effectiveness of those or other projects (strategies) to achieve one or another goal of the city development, in most cases, this improvement of housing conditions of the population. The methodical approaches to development of strategies of development of investment-building complex on the basis of indication of problems of state management of investment-building complex in the form of an ordered set of indicators are offered; identification of priority issues for solving problems, as well as promising problems, that is, brewing, which already make itself known, and expected, which may arise under certain conditions in the process of development of the system; formulating goals at all levels and adjusting them. The mechanism of determining the optimal combination of options for the development of individual elements of the system of state management investment-construction complex with the use of mathematical programming (with the composition, structure and regularities of operation are described by a technological matrix, where in aggregate investigated the possibility of changing the properties of each individual element), which will allow the power structures to use convenient in the implementation and from the standpoint of the analysis of results, the mechanism for determining managerial influences on the background alternatives elementary object, group functional strategies and assessing the costs and benefits of each of them.



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## **STRUCTURING THE MANAGEMENT SYSTEM AS A FACTOR IN THE INTENSIVE ENTERPRISE DEVELOPMENT**

**Bezus P. I.**

### **INTRODUCTION**

The long-term economic crisis in Ukraine, which began in 1990, continues to this day. During 28 years of independence, gross domestic product (GDP) reached its minimum value in 2000 (43.2% of the 1990 level of GDP) and its maximum value in 2008 (74.2% of the 1990 level of GDP)<sup>1</sup>. To date, this figure has not reached 60% of the 1990 level of GDP. This indicates the imperfection of the structural adjustment of the domestic economy, the unsatisfactory investment climate and the poor level of market relations. In turn, the success of economic transformations at the macro level depends on the effective activity of specific microeconomic units – producers of gross domestic product<sup>2</sup>. The main task facing the enterprise is its effective economic development, through the intensive use of production potential and improving the management system. Economic development, as a process, may be associated with a change in the nomenclature of the structure of the enterprise, a change in the direction of its activity. But in any case, economic development should be focused on increasing the production of competitive products, increasing efficiency and, as a result, increasing profits.

### **Resource management system structuring**

Given the limited resources, the method of economic development of economic entities without attracting investments due to the determination and use of reserves for each factor deserves special attention, even a slight decrease in which leads to an increase in the efficiency of the entire enterprise.

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<sup>1</sup> Статистичний щорічник України за 2016 рік / Державна служба статистики України. Київ : ТОВ «Август Трейд», 2017. 552 с.

<sup>2</sup> Безус П.І., Безус А.М. Стратегії економічного розвитку виробничих підприємств. *Вісник КНУТД. Серія «Економічні науки»*. 2016. №2. С. 80–87.

To determine the factors affecting the activities of the enterprise, it is necessary to determine the structure of this production. Based on the connections of the control system with the organization and production systems, the control system is divided into functional parts that correspond to its structure. The enterprise management system consists of two types of management processes. The first type can be defined as the management of the production process, and the second – the management of the organization of production, or the management of the process of providing resources.

The composition of the control system can be represented as follows:

$$S = \{S_P, S_R\}, \quad (1)$$

where  $S_P$  – manufacturing process control system,

$S_R$  – resources support process management system.

By V. M. Hlushkov<sup>3</sup> in the classification of control tasks, the control system can be divided into a Process Control System (PCS) and a Managerial Control System (MCS). The basis of this classification is the nature of the control object. The object of PCS control are technological processes, their parameters, and MCS – organizations of any level and their units.

Despite the importance of the technologies used in the manufacture of products, we restrict ourselves to considering the influence of the organizational management system on improving the efficiency of enterprise production.

We will consider the definition of the structure of the control system on the example of a notional enterprise.

In connection with the taken distribution of the production management system (Formula 1), based on the decomposition method of the management system<sup>4</sup>, the  $S_R$  resource management subsystem for the enterprise can be divided into smaller elements that should reflect the actual management tasks that correspond to the existing conditions and goals of the given production. Functional subsystems are such elements of the organizational management system. Each management task should be

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<sup>3</sup> Глушков В.М. Макроэкономические модели и принципы построения ОГАС. Москва : Статистика, 1975. 250 с.

<sup>4</sup> Клименюк Н.Н. Алгоритм декомпозиции систем организационного управления. *Исследование операций и АСУ* : Республиканский междуведомственный науч. сб., 1985. Вып. 26. С. 97–104.

applied in a certain period of time associated with a specific unit and a specific type of resource.

Thus, the enterprise resource management system is divided into the following functional subsystems:

I. By types of resources. The resource management system consists of a subsystem to ensure the production of the necessary types of resources:

$$S_R = \{S_r, r = \overline{1, R}\}, \quad (2)$$

where  $S_r$  – providing production with a resource of the form  $r$ .

This subsystem by types of necessary resources ( $r$ ), if we consider such integrated types of resources as labor, material, fixed assets and energy, may consist of the following elements:

- provision of labor resources;
- provision of material resources;
- provision of fixed assets;
- provision of energy resources.

In each of these subsystems, the costs of the corresponding resources are taken into account.

II. By producing departments. Each resource management task should be considered relative to a specific unit. Therefore, each of the particles defined above for the tasks of managing the provision with the named types of resources ( $S_r$ ) is divided into smaller particles that determine their belonging to a specific production unit:

$$S_r = \{S_{rl}, l = \overline{1, L}\}, r = \overline{1, R} \quad (3)$$

where  $S_{rl}$  – subsystems for providing production with a resource of type  $r$  in the production unit  $l$ .

That is, the management task takes a more specific form, since it relates to a specific type of resource, the share of which can be distributed to determine the necessary type of raw material of a given quality, and a specific unit, to a specific site or workplace.

On the example of the production structure of a notional enterprise (Fig. 1), the distribution of the resource management system according to the above mentioned characteristics is shown. Educated management subsystems in accordance with the existing divisions of the enterprise must implement the following tasks:

1. Managing the provision of labor resources ( $r=1$ ), divided into tasks:
  - 1.1. Enterprise labour force management ( $r=1, l=1$ ).

1.2. Workshop labour force management № 1 ( $r=1, l=2$ ).

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1.8. Managing the provision of work force of the central technological laboratory ( $r=1, l=8$ ).

2. Managing the provision of material resources ( $r=2$ ), divided into tasks:

2.1. Management of the provision of material resources of the enterprise ( $r=2, l=1$ ).

2.8. Material resources management of the central technology laboratory ( $r=2, l=8$ ).

3. Management of security of fixed assets ( $r=3$ ), divided into tasks:

3.1. Enterprise fixed assets management ( $r=3, l=1$ ).

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3.8. Management of the provision of fixed assets of the central technological laboratory ( $r=3, l=8$ ).

4. Energy resources management ( $r=4$ ), divided into tasks:

4.1. Enterprise energy resources management ( $r=4, l=1$ ).

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4.8. Energy resources management of the central technology laboratory ( $r=4, l=8$ ).

III. By control phases. To control each of the above created parts of the system, it is necessary to carry out a full complex of control phases.

To control the various processes that occur at the enterprise, it is necessary to constantly carry out an interconnected set of control phases representing a closed loop. The management process consists of the following phases: planning, accounting, control and regulation<sup>5</sup>.

The sequence of implementation of each of these phases provides a control process. According to the sign – the control phase, each of the previously obtained particles can be distributed into smaller elements that correspond to the selected control phase:

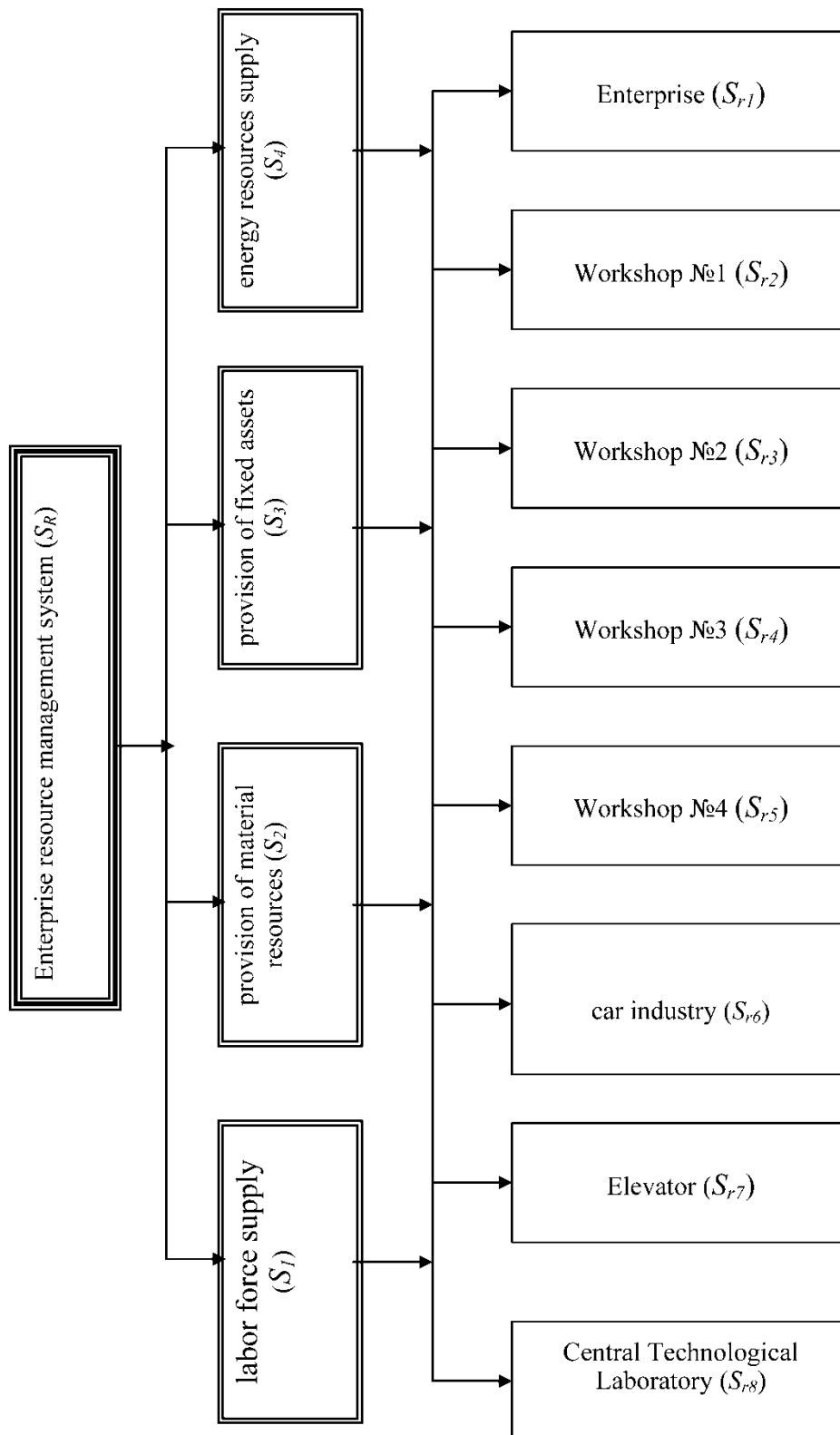
$$S_{rl} = \{ S_{rlf}, f = \overline{1, F} \}, r = \overline{1, R}, l = \overline{1, L}, \quad (4)$$

where  $S_{rlf}$  – the subsystem of the  $f$  control phase, which plans or takes into account, or controls, or regulates (depending on the selected phase) the provision of production with a resource of the form  $r$  in the production unit  $l$ .

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<sup>5</sup> Менеджмент: експрес-підручник / за аг. ред.. М.М. Клименюка. – К.: Міленіум, 2017. – 174 с.



**Fig. 1. The structure of the enterprise resource management system**

All these management tasks cannot be realized if they are considered in isolation from the time of the implementation of the management process. Therefore, for a complete decomposition of the organizational management system, it is necessary to consider another feature that is associated with the execution time.

IV. By management periods. To solve the management tasks, the following periods can be distinguished: year, quarter, month, decade, week, day, shift.

If  $t$  is denoted as the number of the corresponding time period, then the decomposition of the organizational management system allows you to get the following parts:

$$S_{rlft} = \{ S_{rlft}, t = \overline{1, T} \}, r = \overline{1, R}, l = \overline{1, L}, f = \overline{1, F}. \quad (5)$$

Thus, as a result of the decomposition of the system on four grounds, a complete list of tasks for managing the process of providing the enterprise with resources is obtained. Each of these tasks can be represented as an elementary particle of a four-dimensional system, the coordinates of which are controlled processes, production units, control phases, control periods. To solve any management task, it is necessary to name the specific value of all coordinates, for example: providing labor resources (all controlled processes), workshop No. 1 (all production units), accounting (all phases of management), the first quarter (the entire management period).

As a result, you can get such a task – accounting for the provision of labor resources of workshop No. 1 for the first quarter.

So, based on the distribution of the management system (Formula 1), the complete list of tasks for managing the enterprise  $M$  consists of a complete list of tasks for managing the production process  $M(P)$  and a full list of tasks for managing the provision of resources  $M(R)$ .

Thus, the number of control tasks can be calculated by the formula:

$$M = M(P) + M(R) = P \cdot L \cdot F \cdot T + R \cdot L \cdot F \cdot T, \quad (6)$$

where  $P, R$  – the number of controlled processes in accordance with the production process and the process of providing resources;

$L$  – number of production units;

$F$  – number of control phases;

$T$  – number of control periods.

The discovered structure of the production management system acts as the basis for determining the reserves for increasing production volumes, as the main factor in the economic development of production.

## **2. Efficiency index as an indicator of production intensification**

An effective way to develop production is to intensify it. Despite the fact that studies are being conducted at the macro level to determine indicators of the level of intensification, it is advisable to focus on indicators of the intensity of production at the level of the studied object and its units.

The determination and measurement of production intensity will allow us to quantitatively evaluate various options for improving production in terms of its development and intensification.

If we consider the direction of development of the enterprise, focused on increasing production through the use of its reserves, it is necessary to determine the factors that affect changes in production. The classification of factors existing in the literature, as a rule, depends on the selected features, which are often assigned subjectively, depending on the objectives of the study. The proposed classification of factors makes it possible to analyze all existing factors and identify those of them, the impact on which will lead to a significant increase in production efficiency.

Each management task in the implementation of the production development process should be associated with a continuous determination of its effectiveness.

The economic efficiency of production is determined by the ratio of production results with the costs that led to this effect, that is, production efficiency can be estimated by the following formula<sup>6</sup>:

$$E = \frac{Z}{Y}, \quad (7)$$

where  $Z$  – the volume of products manufactured by the enterprise for the analyzed period of time;

$Y$  – production costs for the same time period.

Formula (7) can determine the efficiency of a given enterprise for a specified period of time, but does not make it possible to analyze its economic situation, draw conclusions and take measures for its positive changes.

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<sup>6</sup> Гавва В.Н. Потенціал підприємства: формування та оцінювання. Київ : ЦНЛ, 2004. 224 с.



The definition of efficiency should be based on a system of indicators, and this system of indicators should reflect the structure of the enterprise management system as a whole, which was given above. Based on the considered structure of the enterprise management system, each specific management task has to be evaluated by a corresponding performance indicator.

Management tasks cover a multi-level system of production processes, units, resources, time periods. Therefore, the set of tasks for determining effectiveness should have an identical multi-level structure. Under this condition, the detected structure of the production management system will determine the effectiveness of each production process that is covered by the management system.

Referring to a certain structure of the control system, we note:

$r$  – functional subsystem number of resources support,

where  $r=1$  – labor resources support process;

$r=2$  – the process of providing production with material resources;

$r=3$  – the process of ensuring production of fixed assets;

$r=4$  – energy resources supply process.

In this case, the resources are divided according to the corresponding resource subsystems: labor, material, fixed assets, energy. But such detalization is not enough. Because, if the possibility of increasing production efficiency as a result of improved management of material resources is established, then this direction is not sufficiently specified, since the company uses several types of material resources. Among them may be those whose use is highly effective. So, among all types of resources involved in the production process, it is necessary to determine those due to which it is possible to increase the efficiency of the entire production. In the same way, the production efficiency of various types of products can vary significantly. The greatest reserves for increasing efficiency are identified when analyzing the production of those types of products for which performance indicators are small. For this, it is necessary to calculate indicators of production efficiency of each type of product.

To indicate the production performance of the enterprise and reflect its hierarchical structure, it is necessary to input the following symbols regarding the classification of business units and management periods:

$k$  – production unit level number,  $k = \overline{0, K}$ , if  $k=0$ , then this is the level of the enterprise, (Fig. 2);  $k=1$  – second level, for example workshop;  $k=2$  – third level, for example, a workshop section;

$n$  – number of the production unit of the  $k$ -th level of the production structure,  $n = \overline{1, N_k}$ , that is, at each  $k$ -th level there are  $N_k$  production units. The pairs of indices  $(k, n)$  completely denote each of the production units. For example (1.3) this is unit 3 at the second level of the production structure, that is, in this case (Fig. 2) at the level of workshops, elevator, car fleet and laboratory, namely this is workshop № 3. A pair of indices  $(0, 1)$  mark the enterprise as a whole. In the same way control periods are indicated, that is, each of them also refers to the corresponding level of the control period structure ( $\tau$  – s the number of the level structure of the control period,  $\tau = \overline{0, T}$ ) and up to the period under consideration ( $t$  – is the period number at the  $\tau$ -th level,  $t = \overline{1, T_\tau}$ ). That is, a pair of indices  $(\tau, t)$  mark the necessary period of time. For example, a pair of indices  $0, 1$  – mark the year that is being analyzed, and if the quarter is taken as the next level (i.e.  $\tau=1$ ), then the first quarter at this level is assigned the number 1 ( $t=1$ ) and the pair of indices that it marks will be  $1, 1$ .

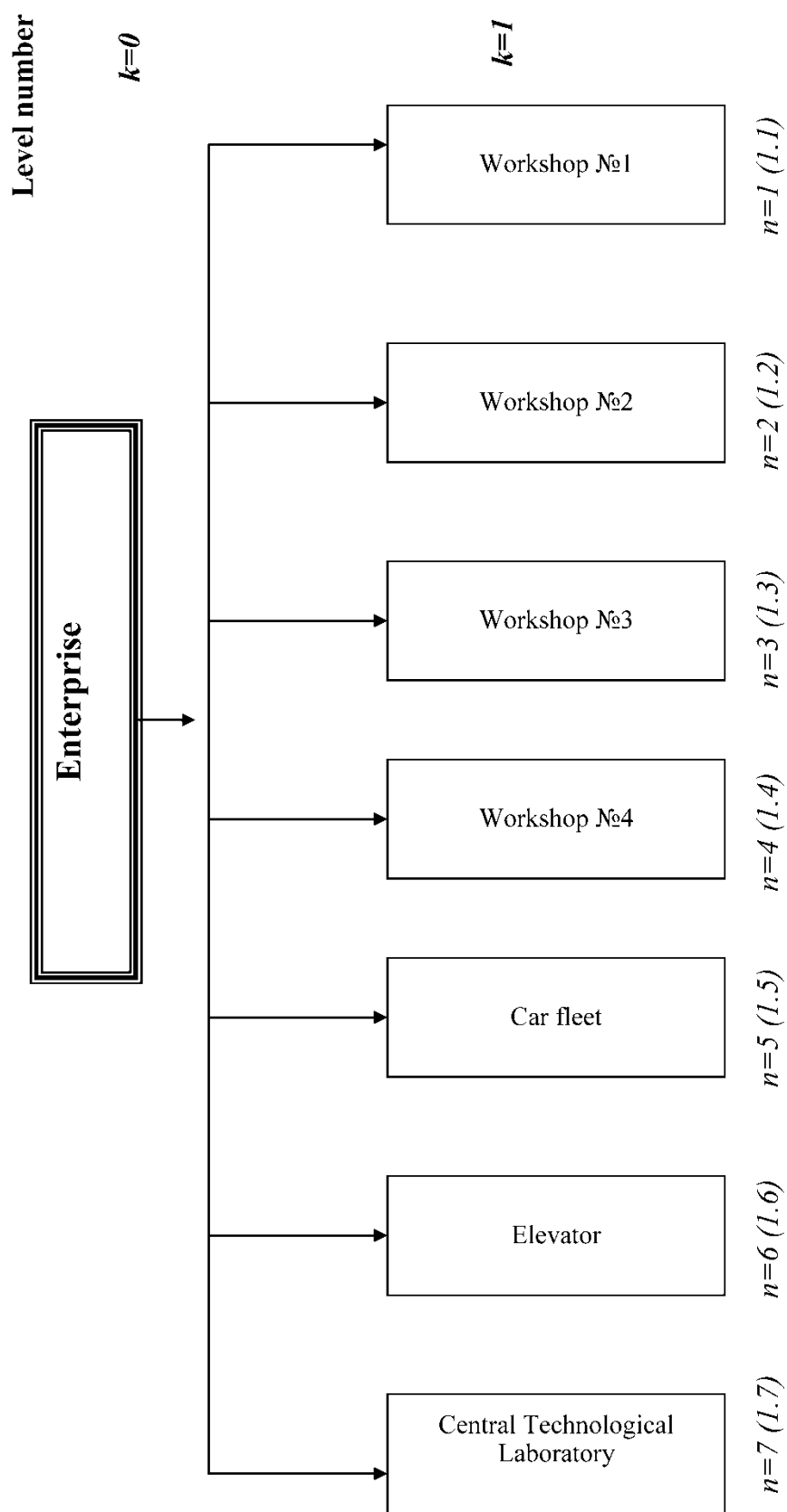
To determine the effectiveness, you must enter the type of product, or assign it the corresponding number –  $p$ ,  $p = \overline{1, P}$ . After assigning indices to units and time periods, one can note many types of products produced by the unit  $(k, n)$  for a period of time  $(\tau, t) – P^{kn\tau t}$ .

Thus, the quantity of products of type  $p$ , that is manufactured by the unit  $(k, n)$  for the period  $(\tau, t)$  is indicated as  $Z_p^{kn\tau t}$ .

Returning to the distribution of resources to subsystems and the definition of certain types of material resources, it is necessary, in addition to the distribution of resources to subsystems  $r$ , to indicate a resource of a certain type –  $i$ , where  $i = \overline{1, I}$ , related to a specific resource subsystem  $r$ ,  $r = \overline{1, R}$ .

Certain types and volumes of resources are used to produce a specific type of product. To indicate this, the following quantity is introduced:  $I_p$  – is the complete score of resources used to produce products of the form  $p$ . A score of resources refers to the resource subsystem  $r$  and is used to produce products of the form  $p$  is marked as  $I_{rp}$ .

Thus,  $Y_{rip}^{kn\tau t}$  – is the amount of resource  $i$  of subsystem  $r$ , spent for the production of products of type  $p$  by unit  $(k, n)$  for the period  $(\tau, t)$ .



**Fig. 2. The hierarchical structure of the enterprise units**

After the classification of production units, management periods, products and resources used to any necessary level, it is possible to determine the production efficiency and the efficiency of use of each of the resources in the production process.

$E_{rip}^{kn\tau}$  – an indicator of the cost-effectiveness of the resource  $i$  of the subsystem  $r$ , which is expended for the production of products of type  $p$  by unit ( $kn$ ) for the period  $\tau$  ( $\tau t$ ).

Each unit ( $kn$ ) for the period ( $\tau t$ ) makes products of certain types  $p \in P^{kn\tau}$ . For each type of product  $p$  a large amount of resources  $i$  ( $i \in I_p, p \in P^{kn\tau}$ ) is consumed. Since the basis of constructing a system of indicators is a comparison of production results with costs, the efficiency of using the resource  $i$  of the subsystem  $r$  for the production of products of type  $p$  in the unit ( $kn$ ) for the period ( $\tau t$ ) is determined by the formula<sup>7</sup>:

$$E_{rip}^{kn\tau} = \frac{Z_p^{kn\tau}}{Y_{rip}^{kn\tau}} \cdot \quad (8)$$

The given dependence makes it possible to calculate the efficiency of using the resources of any subsystem in the production of each unit for the analyzed period of time.

For example, it is necessary to analyze the process of providing labor resources ( $r=1$ ) for the production of workshop № 2 ( $k=1, n=2$ ) for the first quarter of 2018 ( $\tau=1, t=1$ ). In this particular case, the efficiency of providing labor resources is calculated by the formula:

$$E_1^{1211} = \frac{Z^{1211}}{Y_1^{1211}} \cdot \quad (9)$$

The efficiency of using all types of resources in the production process in the  $kn$  unit for the period  $\tau t$  in this case is calculated by the formula:

$$E_R^{kn\tau} = \frac{Z^{kn\tau}}{\sum_{r=1}^R Y_r^{kn\tau}} \cdot \quad (10)$$

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<sup>7</sup> Безус А.М., Клименюк М.М. Оцінка складності управління як основа удосконалення структури управління театром. Збірник наукових праць : *Актуальні культурно-мистецькі проблеми*. Київ : ІВЦ Символ-Т, 2001. С. 229–234.

In the same way, it is easy to determine the resource costs of each resource subsystem, all resource subsystems as a whole for an enterprise or for any production unit, or some of them for different time periods. This also applies to production indicators. In order to determine these indicators for resource expenditures and production, it is necessary to summarize their respective components for production units and time periods.

The production efficiency of various types of products is different from each other. To identify the reserves for increasing efficiency in the analysis of production, it is necessary to calculate the indicators of production efficiency of each type of product separately according to the following formula:

$$E_p^{kn\tau} = \frac{Z_p^{kn\tau}}{Y_p^{kn\tau}}, \quad (11)$$

where  $Y_p$  – full set of resources used to produce products of the type  $p$ .

The given formulas make it possible to evaluate the performance indicators of the lower level of the system. Since the enterprise management system has a hierarchical structure, the indicator system, which is able to evaluate the activity of the enterprise, must have a multi-level structure.

To simplify, the structure of resources used in production is adopted at a three-level (resource of type  $i$ , resources of the subsystem  $r$ , resources of all subsystems  $R$ ), and the produced products are adopted at two levels (products of type  $p$ , number of types  $P$ ). Formulas for assessing the effectiveness of the use of resources at all other levels of the hierarchy for production at all levels of the structure are similar to those given.

To assess the effectiveness of the enterprise, it is necessary to check the degree of implementation of the planned state of effectiveness. Based on this, the planned level of efficiency of application of the resource  $i$  of the subsystem  $r$  for the production of products of type  $p$  in the unit ( $kn$ ) for the period ( $\tau t$ ) is measured by the indicator of the implementation of the planned production efficiency ( $A_e$ ):

$$A_{e_{rip}} = \frac{E_{rip2}^{kn\tau}}{E_{rip1}^{kn\tau}} \quad (12)$$

General view of the formula for assessing the implementation of the enterprise plan for the entire period under consideration for the production

of all types of products at the cost of the necessary resources of all subsystems:

$$A_e = \frac{E_2}{E_1}, \quad (13)$$

where  $E_1$  – planned level of process efficiency that is being analyzed;  
 $E_2$  – actual level of effectiveness of this process.

Thus, it is possible to evaluate the implementation of the plan by each division of the enterprise for any period of time to ensure the efficient use of resources for the production of products of various levels of their structure.

Based on the definition of efficiency for all existing factors of production, the search for factors that influence the volume of production can be carried out in each of these areas. In the analysis of production, those factors that have the least efficiency value are important, since the influence on these factors can lead to an increase in the efficiency of the whole production<sup>8</sup>.

Based on the decomposition of the control system, the volume of production, in the general case, can be increased either as a result of an increase in the capacity of any production unit, or an increase in the amount of a resource of a certain type, as well as by their combined influence in certain periods of time and management. But at the same time, it is necessary to make a choice only of such factors and such a quantitative change that will provide an intensive path of production development.

To clarify the concept of intensification of production for specific conditions of increasing production volumes due to production factors, it is necessary to consider options for various ways of development of production.

To assess the intensity of production after the introduction of the appropriate option for its development compared with the initial state, it is necessary to introduce a production efficiency index  $Q$ , which can be calculated for the enterprise as a whole by<sup>9</sup>:

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<sup>8</sup> Клименюк Н.Н. Автоматизированные системы управления предприятиями сборного железобетона. Київ : Вища школа, 1984. 216 с.

<sup>9</sup> Безус П.І. Моделювання процесу економічного розвитку виробничого підприємства: автореф. дис. на здобуття наук. ступеня канд. екон. наук : спец. 08.00.11 «Математичні методи, моделі та інформаційні технології в економіці». Київ, 19 с.

$$Q = \frac{E'}{E}. \quad (14)$$

For any subsystem for the analyzed period of time, formula (14) has the following form:

$$Q^{kn\pi} = \frac{E_p^{kn\pi'}}{E_p^{kn\pi}},$$

where  $E'$ ,  $E_p^{tkn\pi'}$  – assessment of production efficiency after the implementation of some production development option;

$E$ ,  $E_p^{tkn\pi}$  – assessment of production efficiency for the implementation of some production development option.

Thus, by introducing an efficiency index, it is possible to determine the intensity of production.

The intensive way of development of production is an option for the development of production, in which, after feasible transformations or innovations, the index of production efficiency gets a value more than one, or, in other words, this option of development of production leads to an increase in the coefficient of production efficiency.

Let us suppose, that the production unit whose activity is being analyzed has passed the selected development option. From the moment of the start of the implementation of this option to the moment of stable output, a period of one year has passed. During this time interval, this production unit increased its output by  $\alpha$  times, that is, from value  $Z_p^{kn\pi}$  to value  $\alpha Z_p^{kn\pi}$ , while the cost of resources increased proportionally. This means that the efficiency after the implementation of a suitable option for the development of production has not changed and is equal to the initial.<sup>10</sup>

In this case, the production efficiency index is equal to one:

$$Q = \frac{\alpha \times Z_p^{kn\pi}}{\alpha \times Y_p^{kn\pi}} \div \frac{Z_p^{kn\pi}}{Y_p^{kn\pi}} = 1, \quad (15)$$

where  $\alpha$  – coefficient of increase in production.

This method of increasing the volume of production is extensive, that is, increasing the volume of products, with the extensive method of

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<sup>10</sup> Безус А.М., Безус П.І. Управління розвитком підприємства: моделі та методи : монографія. Київ : ВПЦ АМУ, 2008. 152 с.

development corresponds to a proportional increase in the volumes of resources involved in the production process, that is, a proportional increase in the cost of production of this product.

Extensive development of production also includes a method in which an increase in the volume of output corresponds to an increase in the volumes of resources involved in the production process, but in a disproportionate amount, that is, this method leads to an increase in the cost of production of this product, but the efficiency index is less units.

The development of production should be achieved on a fundamentally new basis, based on the comprehensive intensification of production. In this regard, it is necessary to consider another option for the development of production.

Let us suppose, that in order to increase the volume of production, a certain variant of the development of production was carried out, while the volume of production that began to be produced after the transformations increased by  $\alpha$  times compared to the initial one, while the total amount of expended resources increased by  $\beta$  times, with  $\alpha > \beta$  (it is necessary to pay attention to the fact that, for comparison, the amount of resources used and the amount of products received are measured in monetary units).

In this case, the production efficiency after the implementation of the selected option for the development of the enterprise is:

$$E_p^{kn\pi'} = \frac{\alpha \times Z_p^{kn\pi}}{\beta \times Y_p^{kn\pi}} \neq E_p^{kn\pi} \quad (16)$$

Thus, after the implemented transformations, the volume of production increased and the amount of expended resources also increased by a certain amount, but the efficiency with this option of increasing production volumes did not remain the same (in the formula, the numerator increased more than the denominator) and when comparing efficiency before and after the transformations, you can determine that:

$$E_p^{kn\pi'} > E_p^{kn\pi} .$$

In this case, the production efficiency index exceeds one:

$$Q = \frac{E_p^{kn\pi'}}{E_p^{kn\pi}} > 1 \quad (17)$$



This method of economic development, aimed at increasing production volumes, is intensive, that is, with an intensive path of development of production, an increase in costs leads to a significantly larger increase in output.

Analyzing the proposed options for the development of production, it can be determined that in the first case under consideration, with a proportional increase in output  $Z$  and resource  $Y$ , the efficiency before and after the transformation remained unchanged ( $E' = E$ ), in this case, the development was carried out in an extensive way, which is confirmed by the development coefficient,  $Q_1 = \frac{E'}{E} \leq 1$ . In the second case under consideration, when  $E' \neq E$ , i.e.  $E' > E$ , there is an intensive path of development of production, represented by the coefficient  $Q_2 = \frac{E'}{E} > 1$ .

In order to increase production efficiency among possible options for the development of enterprises, it is necessary to apply only those that provide a significant increase in production intensity.

From the point of view of intensification of production, it is necessary to analyze all the factors involved in production existing in a given production, and select from them those whose impact is most appropriate. To do this, it is necessary to establish patterns that determine the relationship between the volume of production of the enterprise with the identified factors, namely, to determine the function, which has the following general form:

$$Z = f(Y_r), \quad r = \overline{1, g}, \quad (18)$$

where  $Z$  – volume of manufactured production;

$Y_r$  – amount of resource of type  $r$ ;  $r = \overline{1, g}$ .

In order to make this dependence more consistent with the actual conditions of production, it is necessary, along with the quantitative characteristics of the analyzed factors, to take into account their qualitative characteristics, that is, the correspondence of the quantity of all resources necessary for the manufacture of each unit of production. To calculate the indicator of losses from the maintenance of incomplete reserves of resources, it is necessary to calculate the weighted average specific consumption of the  $r$  – th resource for the production of all types of products according to the following formula:

$$v_r = \frac{\sum_{p=1}^m v_{rp} \cdot Z_p}{\sum_{p=1}^m Z_p}; r = \overline{1, g}, \quad (19)$$

where  $v_r$  – weighted average specific consumption of the  $r$  – th resource for the production of all types of products;

$v_{rp}$  – expenses of the  $r$ - th resource for the production of a unit of production of the  $p$ - th type ( $p = \overline{1, m}$ ), i.e.  $v_{rp} = \frac{Y_{rp}}{Z_p}$ ;

$Y_{rp}$  – amount of resource of the type  $r$ ;  $r = \overline{1, g}$ , which is necessary for the production of products of the  $p$ - th type;

$Z_p$  – the planned production volume of the  $p$ - th type of products for the period under review.

It is also necessary to calculate the possible total number of products of all types, which could conditionally be obtained from the available quantity of each type of resource  $r$  separately, provided that other resources are not constraining, i.e.  $Y_\phi \geq v_r \cdot Z$ ,  $\phi \neq r$ ;  $\phi, r = \overline{1, g}$ , then:

$$\overline{Z}_r = \frac{Y_r}{v_r}; r = \overline{1, g}, \quad (20)$$

where  $\overline{Z}_r$  – the conditional quantity of products that can be obtained from the available quantity of each type of resource  $r$  separately, provided that other resources are not constraining;

$Z$  – total production of all types;

$Y_r$  – some amount of resource  $r$  – type, available for a given period of time (or for the period of time being considered) at the enterprise;

$Y_\phi$  – the amount of all types of resources involved in the production of total output;

$\phi, r$  – types of resources, and  $r$  – is the type of resource that is considered in this case.

Thus,  $P$  score can be formed  $(\overline{Z}_r, r = \overline{1, g}), p = \overline{1, m}$

possible volumes of production of products of all kinds, which allows us to ensure the available quantity of the  $r$ -th resource, provided that other resources are not constraining. The quantity of products that can be made from the available quantity of resources at a weighted average specific consumption  $v_r$ , is:

$$\bar{Z} = \min_r \{ \bar{Z}_r, r = 1, g \}. \quad (21)$$

If the constraining resource is  $r'$ , then for each resource  $r$ , where  $r \neq r'$ , after production ( $\bar{Z}$ ), a certain amount of resources will remain unused through incompleteness of existing resource reserves.

In this regard, it is possible to determine the amount of conditional products that would be additionally produced from the leftovers of each resource, and also provided that there are no restrictions on other resources. Thus, the amount of additional conditional products is calculated:

$$\Delta Z_r = \bar{Z}_r - \bar{Z}. \quad (22)$$

Thus, when forecasting production reserves, the inclusion in the function that determines the laws of relations of all factors among themselves indicators of resource completeness is an important condition for the implementation of intensive development of production.

## CONCLUSIONS

Economic development is associated with a change in the structure of the enterprise, the range of products or the direction of its activity requires significant investment. This direction of economic development is extensive. Therefore, subject to limited resources, special attention should be paid to the method of economic development of business entities without attracting investments by identifying and using reserves for each factor of production, which should be preceded by a structuring of the production management system as a basis for determining reserves for increasing production volumes.

Each management task in the implementation of the production development process should be associated with a continuous determination of its effectiveness. Therefore, the set of tasks for determining effectiveness should have an identical multi-level structure. The introduction of a production efficiency index makes it possible to assess the intensity of production after the introduction of an appropriate option for its development compared to the initial.

In the study of the enterprise, along with an analysis of the main characteristics of production factors, it is necessary to use qualitative parameters (an indicator of the completeness of the stock of all necessary resources for manufacturing a unit of production and an indicator of the

uniformity of the distribution of the completeness of the stock of resources over time), even a slight increase in which leads to an increase in production volumes, however, as an increase in the total stock may not lead to positive changes in production.

### **SUMMARY**

The work explores the method of economic development of business entities without attracting investment by identifying and using reserves for each production factor. It is determined that, based on the method of decomposition of the management system, the subsystem for managing the provision of the enterprise with resources, it can be divided into smaller elements, each of which may have reserves and which should reflect the actual management tasks. It is proposed to carry out calculations of production efficiency for each type of product, which should be based on a system of indicators that reflect the structure of the enterprise management system as a whole. It is noted that in the study of the enterprise, it is necessary to use the indicator of completeness of the stock of all necessary resources for the manufacture of a unit of production and the uniformity of the distribution of the completeness of the stock of resources over time.

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## **ANALYSIS OF CONCEPTUAL SCIENTIFIC AND PRACTICAL APPROACHES TO THE MANAGEMENT OF THE HIGHER EDUCATION SYSTEM**

**Klymeniuk M. M.**

### **INTRODUCTION**

Education is one of the most complex institutions of socialization. Society ensures its development through education. There are several approaches to the analysis of educational development.

The first approach was based on the goal of education, which was formulated as the regulatory ideal of an educated person in society. This industry penetrates into all spheres of life, but is always integrated into the corresponding historical era. Karl Mannheim said that the purpose of education is reflected not only by the era, but also by the country. So, the stages of development of education should be considered in accordance with regulatory ideals. For example, in Sparta, the warrior is the central interest, in Athens – the speaker, and in a socialist society, the ideal, according to Shulmann, was a morally consistent, gradual builder of communism.

The second approach assumes that the basis of the development of education is a type of culture. Followers of this approach are Mead, Simon, Coombs, Ilyin. They argue that the development of civilization is marked by a change in the dominant types, in accordance with them, education is changing as a translator of culture. Education becomes mass and divorced from the source of knowledge.

The third, institutional approach is based on the stages of institutionalization of the education system. As a dominant, the normative, state-determined nature of education is highlighted (Durkheim, Mannheim). Education is considered as a system of targeted impact on the younger generation with the aim of adapting it to the needs of society. The domestic system of education fixated on this approach.

Given the features of the approaches described, their use depending on the socio-economic development of society, it is advisable to determine the

basis of the concept of building management of the higher education system of Ukraine at this stage, including:

- the orientation of the higher education system to meet the needs of the state in qualified specialists, which is a prerequisite for the intensive development of the country;
- increasing the level of providing each member of the society in the provision of qualified services for higher education.

All this will ensure both the harmonious development of the socio-economic sphere of the state, and the spiritual and cultural development of each person.

### **1. Main material**

The content of education is also determined by the educational need of society and the personal need for education. The maximum level of need corresponds to the type of culture and is expressed in the form of ideas about the normative ideal of an educated person. The educational need is local in nature and is determined by the scale of the state and its culture. In this case, education is framed by regulatory documents that make up public policy. Each state forms its own education system, which regulates the educational needs of the state. For example, in Japan, the education system is focused on the brilliant fulfillment of tasks in a group according to a given pattern, in America – an orientation on individual success and personal achievements.

The following mechanisms and levers for implementing the state educational policy can be distinguished:

- legal (the whole set of normative acts regulating the activity of the education system): the national law on education (in Japan – the national concept of education; in Armenia – the national doctrine of education); state standards in the field of education (the normative basis for the activities of a particular institution, followed by all) the system of accreditation and licensing of educational institutions; statutes of educational institutions;
- indirect mechanisms of influence: economic mechanisms (budget financing of education) – a system of extra-budgetary investments (the state creates customs and other benefits for those enterprises that invest in education);

– ideological mechanisms (state regulation and reproduction of the prevailing ideology, the main mechanism is the content of the state standard).

Personal educational need is associated with the creation of the image of the world. This is the system of values, patterns of behavior that allows a person to navigate in the world around him. Society is an educational environment from which a person receives information necessary for orientation in the world around him. In this sense, a person has needs that go beyond the state education system. Factors determining the personal need for education are: place of residence (geographical factor); family traditions (social factor); financial situation (economic factor). The scale of educational needs is determined by the number of students who want to get or stay in the education system. In sociology, it is measured by the size of the student population. The scale of educational needs is affected by: the demographic factor; geographical factor; internationalization of education. The educational need has the property of expanded reproduction, that is, the higher the level of education, the higher the need for further education, in particular, higher<sup>1</sup>.

The Law of Ukraine “On Higher Education” gives the following definitions to the concepts of “higher education” and “content of higher education”. Higher education – education that is acquired by a person in a higher educational institution as a result of a consistent, systematic and purposeful assimilation of the content of education based on full general secondary education and ends with a certain qualification based on the results of state certification. The content of higher education is a scientifically based system of didactic and methodically designed educational material, which is created taking into account social requirements for personnel with higher education and is determined by the standards of higher education for educational qualification, scientific and educational levels in the specialties defined in the relevant lists of specialties<sup>2</sup>.

The current stage of political and socio-economic development, is inextricably linked with world development trends, the accession of our

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<sup>1</sup> Ivan M. Gryshchenko, Svetlana V. Bebko (2014). The model of evaluating the efficiency of educational services market based on the balanced scorecard / Warszawa 2014. Społeczeństwo i Edukacja. Międzynarodowych i Edukacji HUMANUM, no 13(1), pp. 91–104.

<sup>2</sup> Закон України «Про вищу освіту» 2014 р. / Верховна Рада України. Відомості Верховної Ради (ВВР), 2014. № 37–38. Ст. 2004.



country to the pan-European processes, requires fundamentally new approaches to the training of highly qualified personnel for all branches of the national economy, culture and higher education.

As you know, the main areas of cultural, educational, scientific and technical integration of Ukraine into the European Union are the introduction of European norms and standards in education, science and technology, and the spreading of our own cultural and scientific achievements in the EU. These steps, aimed at increasing the European cultural identity in Ukraine and integration into the pan-European intellectual-educational and scientific-technical environment are reflected in a number of generalizing works<sup>3,4</sup>.

The process of approaching Ukraine to Europe is taking place in several areas, one of which is educational. In 1999 The Ministries of Education of 29 countries signed the Bologna Declaration. With this act, the participating countries decided to create a single European educational and scientific space. After Ukraine joined the Bologna process, it was quite natural that there was a need for restructuring and improving the management of the higher education system and directing Ukrainian education to achieve a modern world level, update its content, forms and teaching methods, organizational foundations of construction and activities, increase the intellectual potential of Ukraine, increase the contribution in the development of the economy, science, education, culture of the country and the welfare of the people<sup>5</sup>.

Management is the process of subject's influence on a particular system (biological, technological) in order to organize this system, maintain, modify its structure, support, change the mode of activity, its program<sup>6</sup>. The higher education system requires management, although management has qualitative differences regarding education: a person is not an object of activity, unlike a technological or any other system, a

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<sup>3</sup> Николаєнко С.М. Сучасні тенденції і проблеми теорії управління інноваційними процесами в освіті. *«Гуманітарний збірник» державного вищого навчального закладу «Переяслав-Хмельницьк. державн. педагогічн. Університет ім. Г. Сковороди»* : наук.-теор. зб. Тернопіль : Асторія. 2008. № 13. С. 81–89.

<sup>4</sup> Приходько І.П. Інноваційні процеси в реформуванні вищої освіти. *Інвестиції: практика та досвід*. 2009. № 24. С. 97–100.

<sup>5</sup> Мусянко І.І. Інноваційний розвиток освітньої системи як основа гарантування національної безпеки України: засади, механізми управління, напрями забезпечення : Монографія. Харків : ТОВ «Оберіг», 2011. 368 с.

<sup>6</sup> Словарь психолога-практика / Сост. С.Ю. Головин. Мн. : Харвест; М. : АСТ, 2001. С. 636.

person selectively refers to external influences. That is why managing the higher education system is very complex and requires a lot of attention.

Educational sphere management provides:

- determination of goals and objectives of educational institutions of all forms of ownership;
- institutionalization and formation of educational institutions;
- formation and organization of the implementation of planned decisions in the educational field;
- maintaining vital activities of educational institutions;
- control over the functioning and direction of development of educational institutions.

Education management technology is a sequential, focused process that has a cyclical nature and is formed through functions: specific types of managerial activity that provide the formation of techniques, methods of managerial impact on the educational sphere.

Functions of education management were formed in the process of creating a branched structural and functional system of the educational sphere of modern society, reflect the essence and content of managerial activity at all levels of management of this industry.

The concept of “public administration” is considered as an important indicator of the level of functioning of public authority, which directly administers public administration through a legislatively defined system of public authorities. The effectiveness of the management of public authorities is one of the necessary conditions for the successful functioning of the entire public administration system, an important component of which is the management of the higher education system.

Problems of the theory and practice of public administration and its relationship with public policy are analyzed in many works of scientists.

In the work of V. Konnov<sup>7</sup> various models of managing a higher educational institution, in particular a university, are analyzed, a review of the history of the development of the university as a public institution from the moment of the first European higher education institutions to the present day is presented. For example, the Bologna model suggested that the main goal is the training of specialists, the Paris model – that the main value is the pursuit of science, and the training of specialists is a secondary

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<sup>7</sup> Коннов В., Репина М. Эволюция моделей университетского управления: от «Studiumgeneral» до «предпринимательского университета». Москва, Россия : МГИМО (У) МИД России, 2015. (Серия «Международные процессы»). Т. 13. № 1. С. 35–47.

task. In the future, the choice of one of these goals as a priority played a decisive role in determining the formats of university management. In the Napoleonic model of higher schools, the choice was clearly made in favor of learning, and in the Humboldt model in favor of research.

In the second half of the twentieth century, the leadership role shifted to the American model, which involved managing the university by analogy with a commercial enterprise based on an efficiency criterion.

The most detailed analysis of the social functions of the university, the implementation of which ensures its sustainable public support, was carried out by T. Parsons and J. Platt<sup>8</sup>. The authors identify five main tasks: mass higher education at the undergraduate level; scientific research; personnel self-reproduction of the scientific community; training specialists in areas requiring high, specialized qualifications; “Cultural Definition of a Situation” – in essence, intellectual activity.

Thus, if it is possible to maintain unity in the implementation of scientific, educational and social functions, it provides, if not always measurable, but a significant advantage, due to which the university throughout its history has been associated with high-level intellectual standards.

Today, the management of the higher education system of Ukraine is in the process of constant changes. On the one hand, this requires improving the mechanism of public administration of education, in particular, developing fundamentally new approaches to forms and methods of management, determining scientifically sound regulatory and legal aspects of state regulation. On the other hand, the organizational and economic structure of institutions of higher education in the context of globalization and innovative development no longer meets the modern objective needs of society, in particular, it becomes necessary to create a single effective information system for higher education institutions.

Public administration of the higher education system in the countries of the world is developing and transforming under new conditions – the centralized tight control is being replaced by the flexible management of autonomous higher education institutions, and the impact on their activities is carried out using various organizational and economic approaches and tools.

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<sup>8</sup> Parsons T., Platt G. The American university. Cambridge : Harvard University Press, 1973. 474 p.

If we consider the management models in the system of higher education in developed countries in terms of their diversity and community, it is necessary to determine the integration factors in the development of this social phenomenon. These include historical, political and social conditions; cultural and national traditions, views; current international trends. According to a unanimous assessment of Western scholars, it is precisely stated, not scientifically based arguments, and recommendations on a rational planning and examination system that play a leading role in the creation and development of models in the management of higher education in Western Europe.

The organization of management and control of the higher education system of different countries is extremely different from autonomy (Germany) – to control by state national services (England) and direct instructions of the government and the Minister of National Education (France)<sup>9,10,11</sup>.

The United States has far back understood that the level of development of education and science determines the authority of the country, its political importance in the international arena. There twice as much is allocated for education than for military needs. Specialists with higher education (and they make up 25% of employees) produce 56% of the gross product. According to the calculations of American economists, investment in primary school gives 40% of the profit, on average – 10%, and in higher education – 340%<sup>12</sup>.

An analysis of the mechanisms of managing the higher education system of developed countries makes it possible to see the diversity of centralized and decentralized types of governance and proves that each of them has a different effect on the development of the country's higher education system. The most important sign of a high level of development and democratization of public administration is active participation in the management of local government education, which has a complex structure of executive bodies. In improving the mechanisms of state regulation of the

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<sup>9</sup> Ахтамзян Н.А. Система государственно-общественного управления образованием в Германии. URL: [http://www.portalus.ru/modules/shkola/rus\\_readme.php?subaction=showfull&id=1193316900&archive=1195596940&start\\_from=&ucat=&](http://www.portalus.ru/modules/shkola/rus_readme.php?subaction=showfull&id=1193316900&archive=1195596940&start_from=&ucat=&)

<sup>10</sup> Василенко И.А. Административно-государственное управление в странах Запада: США, Великобритания, Франция, Германия. URL: [http://dmeti.dp.ua/file/vasilenko\\_i.\\_a.\\_administrativno-gosudarstvennoe\\_upravlenie\\_v\\_stranah\\_zapada\\_lbr\\_2001\\_rbr\\_pdf](http://dmeti.dp.ua/file/vasilenko_i._a._administrativno-gosudarstvennoe_upravlenie_v_stranah_zapada_lbr_2001_rbr_pdf).

<sup>11</sup> Камозіна Н. Державно-громадська модель освіти у Франції. URL: <http://osvita.ua/school/manage/1776//>

<sup>12</sup> Джонстоун Д.Б. Система высшего образования в США: структура, руководство, финансирование. URL: <http://www.umj.ru/index.php/pub/inside/390>.

higher education system in Ukraine, best practices should be used to improve the management processes of higher educational institutions in modern market conditions. This is the most important task, since the national management system of higher education institutions requires modernization and improvement. The process of integration into the European Union in the field of higher education in Ukraine should be more conceptual and progressive.

The analysis of the development process of the public education management system is dedicated to the works of B. Danylyshyn, I. Zhyvotovska, S. Zaretska, I. Ishyna, K. Korsak, V. Luhovyi, A. Yaryshko and others.

Transformational changes in society require improvement of the higher education system of Ukraine, therefore it requires new approaches, in particular, to the current practice of financing it.

In the work of L. Yaremenko<sup>13</sup> is proposed a dynamic model of financial and economic flows of universities based on a multi-purpose approach in the formation of a development strategy, a combination of public and private financing and adaptation to changing market conditions. The main direction of increasing the efficiency of financial and economic activities is the formation of a vector of strategic goals of universities and their timely adjustment. However, the proposed model does not allow solving the problems of macroeconomic planning of training specialists with higher education.

O. Tymoshenko<sup>14</sup> analyzed approaches to assessing the level of financial independence of a higher educational institution, allowing to identify the effectiveness of various forms of financing its activities by calculating the degree of satisfaction of planned needs for funding (in general and separately from budget and extra-budgetary sources) and assess the type of financial stability of a higher educational institution institutions, the classification of which, in addition to the traditional approach, provides for the differentiation of the crisis type of financial condition in the context of extrabudgetary, budgetary and general underfunding.

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<sup>13</sup> Яременко Л.М. Організаційно-економічні механізми державного управління вищою освітою в Україні. *Потенціал економічного розвитку в контексті Європейської інтеграції* : зб. наук. праць. URL: <http://perspektyva.dp.ua/files/articles/06.07.2013.pdf>.

<sup>14</sup> Тимошенко О.В. Фінансовий механізм функціонування та розвитку системи вищої освіти в Україні [Текст] : дис. канд. екон. наук : 08.00.08. Державний вищий навчальний заклад «Українська академія банківської справи Національного банку України». Суми, 2010. 228 с.

The object of the study to assess financial stability in this case is the higher educational institution, which is part of the scientific and innovative university association. It is a complex system, the main properties of which are: the ability to carry out educational, research and innovative activities; receive budget funds and extrabudgetary revenues to compensate for expenses incurred.

The methodological approach to the financial stability of the university, proposed by the author, involves taking into account the level of satisfaction of the university's planned funding needs from various sources, but this does not solve the main task of macroeconomic planning of specialist training, the regional factor is not taken into account, and the problems of financing the higher education system as a whole are not solved that requires further scientific development.

To assess the quality of higher education, its characteristics are established, and E. Korotkov proposes to consider the whole range of such characteristics in five groups, for each of which their list is established by at least four most important criteria, and suggests using them for assessment, research, analysis and recommendations by the quality of higher education. Each of these criteria can be evaluated by a certain set of universal interconnected and complementary approaches: computer testing, business game, case analysis, role play, analysis of accumulated information, sociometric studies, self-assessment of training, designing strategies, plans, concepts, software and analytical assessment writing work<sup>15</sup>.

The examination of the quality of education, the European approach and the optimization of criteria for assessing the quality of higher education in Ukraine are covered in many scientific works.

Thus, the basis of quality management in institutions of higher education is to monitor the compliance of students' actual knowledge with the standards that were made in the teaching of each discipline, and to achieve this goal a model of an adaptive system model<sup>16</sup>, is proposed that allows you to take into account the individual characteristics of the student in distance learning and knowledge control.

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<sup>15</sup> Коротков Э.М. Управление качеством образования: учебное пособие для вузов [2-е изд.]. Москва : Академический Проект, 2007. С. 252.

<sup>16</sup> Федорук П.І. Модель адаптивної системи дистанційного навчання і контролю знань. *Комп'ютерне моделювання та інформаційні технології в науці, економіці та освіті* : Зб. наук. праць. Кривий Ріг : КЕІ КНЕУ, 2005. С. 223–224.

Many researchers working on the creation of automated systems for assessing students' knowledge have proved that the advantage of such systems is to increase the objectivity of assessment, and the disadvantage is the subjective properties of the standard, with which the student's actual knowledge in each discipline is compared.

In the work of M. Karpenko<sup>17</sup> is examined the process of monitoring the quality of higher education. The proposed model summarizes the model of cyclical verification of quality assurance agencies adopted in the European Higher Education Area. The considered mathematical apparatus can be replenished with new types of controlled objects, indicators of their quality, assessment models.

In some scientific works, state control and monitoring of the quality of educational services implemented through licensing, certification and accreditation of universities are analyzed. By definition of N. Zhyhotska<sup>18</sup>, all indicators are divided into two groups. The first group consists of qualitative and quantitative indicators, the presence of which confirms the readiness of the institution to provide educational services. The second group consists of quantitative indicators (in absolute terms or in percent), the value of which should be no less than the standards that are determined by experts and are firmly established. In fact, experts are only able to indicate the intervals within which the quantitative values of the relevant indicators can be.

However, in all the cited works, in examining the process of monitoring the quality of the higher education system, the important issue of the educational capacities of higher educational institutions was not considered.

The serious attention of researchers in the management of the quality of education confirms the importance of this problem and at the same time poses new tasks, without the solution of which further improvement of quality is constrained. One of the most important of these tasks is the development of a methodological approach and criteria for assessing the quality of training of specialists in comparison not with the standard ones developed by teachers of each discipline (that is,

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<sup>17</sup> Карпенко М. Система забезпечення якості вищої освіти у Болонському процесі та механізми її імплементації в Україні. *Аналітичні записки*. 2008. № 6. URL: <http://www.niss.gov.ua/Monitor/juni08/16.htm>.

<sup>18</sup> Жигоцька Н.В. Комбінований метод визначення вагових коефіцієнтів у рейтинговій оцінці вищого навчального закладу. Зб. наук. праць за матеріалами Міжнар. наук.-практ. конф. «Ризикологія в економіці та підприємстві». Київ : КНЕУ, Академія ДПС України, 2001. С. 150–151.

inside universities), but in comparison with the requirements that the external sphere of activity in which a graduate of a higher educational institution will apply his knowledge and skills. In addition, taking into account quality approaches is realistic when considering educational planning.

Research and development of new theoretical, methodological and practical approaches to planning the activities of higher education institutions has a significant gap with similar processes aimed at industrial or construction enterprises. However, in recent years, the interest of researchers in the development of a methodology and scientifically based practical recommendations for planning individual processes of the activity of air defense has significantly increased.

The completed developments are aimed at solving certain issues of university management, its financing and the like. As a rule, this applies to state educational institutions in which limited funding raises the problem of rational (optimal) use of budget funds.

Some of the most important aspects of the functioning of the state-owned public domain of ownership in a transformational economy are considered. In particular, the issues of managing the social sphere were examined.

In this work, the features of the social and domestic sphere of activity of a state institution of higher education, which operates in the conditions of the transformational economy of Ukraine, are researched. The management concept is presented, which helps to reduce the level of utility costs and increase the flow of funds from functional activities. Within its framework, a model of such a management system of a state university allows you to regulate the cost of services to the housing and communal sector, plan settlements in dormitories of the campus, provide additional scholarships and subsidies to pay for housing and communal services, and quickly manage the financial discipline of residents of hostels. The structure of the complex of information support of decisions in the management of social and household activities of a state institution of higher education is proposed, which is based on the concept of a distributed database. Also considered are internal and interorganizational virtual formations in the social-everyday sphere of activity of a state institution of higher education.



Another work<sup>19</sup> is devoted to the construction of a system of managing the economic activity of a state institution of higher education, and it is proposed to consider the cost of student learning as the main economic indicator for evaluating the activities of a university. The WHO business management process consists in planning supplies and stocks of resources, in choosing suppliers of material resources, in monitoring the work of materially responsible persons. WHO business management models have been developed: cost management for training; inventory planning and accounting; assessments of suppliers of material resources, as well as determining the performance of materially responsible persons. A complex of information support for decisions in the system of economic management of the state WHO is proposed.

Thus, the concept of organizing the management of an economic object in the structure of a higher education institution using the principles of a systematic approach, reengineering and the theory of multidimensional systems is developed, which allows to increase the stability of an economic object in market conditions. The object of management is the campus. A set of management models has been created for it, in particular, financial resources, rating personnel, evaluating the economic efficiency of the information-analytical management system. But the main attention in the tasks of planning the activities of the university, as the analysis of the completed developments shows, is paid to the planning of the social sphere, economic activity, stocks of material resources and the assessment of their suppliers to educational institutions, the campus as an object of management, although in modern conditions of a competitive economy, is important the issue of forecasting and macroeconomic planning of demand for university services and decision-making to achieve the desired number of specialists with higher education for the national economy.

Of particular relevance are the issues of flexible response of the training system to requirements that are constantly changing, and the needs of the labor market in Ukraine, as well as the problems of providing regions with specialists, which are one of the main factors for the effective development of economic sectors in the country.

A significant contribution to solving issues related to the formation of the labor market for specialists with higher education and the development

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<sup>19</sup> Шамарін Ю.В. Моделювання системи управління господарчою діяльністю державного ВНЗ, що функціонує в трансформаційній економіці України : автореф. дис. на здобуття наук. ступеня канд. екон. наук : 08.03.02. Донец. нац. ун-т. Донецьк, 2001. 18 с.

of higher education in the country was made by such scientists as V.I. Kutsenko, I.K. Bondar, D.P. Bohynia, O.A. Hrishnova, V.M. Daniuk, H.A. Dmytrenko and others.

Research on this problem is constantly in the attention of other scientists and economists who have studied the problems of methodological approaches to determining the need for highly qualified specialists and the volume of their training. However, the important theoretical and practical significance of these problems, modern economic realities and requirements make it necessary to continue research on these issues.

Macroeconomic planning and forecasting arose during the twentieth century in the process of economic development as a form of its regulation. It is known that planning is a product of the socialist system, which as authoritarian and centralized was developed in the former USSR, and then in other socialist countries. Over time, it has spread to developed countries with market economies, including the USA, Japan, France, Germany, etc.

This was especially noticeable in the post-war period. This was influenced by the following factors: the need to restore the economy destroyed by the Second World War, the recognition of the new role of the state and the need for its intervention in the regulation of economic growth and, in particular, competition in the former socialist camp.

Thus, despite the fact that planning is a product of the socialist system, it has rapidly spread throughout the world as a form of state regulation of the economy.

For example, in the work of V. Makarov, forecasting the need for specialists in the consumer cooperation of the USSR was considered. Based on the proposed methodology, a forecast was made in two versions – the general and additional needs for specialists in the cooperative sector of the economy, which reduced the possibility of imbalances in the training of specialists. However, it is possible to use this forecasting technique with clarifying the main ways and prospects of the economic system evolution, possible structural changes in it, the priority directions of the socio-economic progress and the transition of our country to a market economy.

In the work of T. Ogarenko<sup>20</sup> the author took as a basis the hypothesis that the demand for WHO educational services in the next year depends on the demand in the current year.

Considering the influence of the demographic situation in the region and the assumptions made about the types of control influence of the university, the author obtained a predictive non-linear dynamic model of the demand for WHO educational services (without taking into account the level of education quality).

Unfortunately, the higher education system is not stable enough, and decisions can change over several years. For example, in the 2006/07 academic year, 507.7 thousand students were admitted, and in 2017/18 – 264.4 thousand.

Today, the demand for educational services is formed under the influence of many factors, the main of which are the structure of specialties in educational institutions formed over the years, the demand from the population, the state order and the demand of employers. The reports of the Accounts Chamber of Ukraine on the results of inspections of the use of funds of the State Budget of Ukraine for personnel training indicate a national problem – a significant number of specialists receiving higher education and vocational education are not employed in their specialty, and the demand for specialists in the labor market has not yet become the determining criterion for assessing the effectiveness of the institution. This situation is due to the lack of a worked out mechanism of interaction between the Ministry of Education and Science, the Ministry of Labor and Social Policy, educational institutions, employment centers and enterprises.

In general, educational standards are outdated, educational institutions due to low material and technical support, a lack of information on the needs of the economy for personnel are more often guided by the commercial interests of satisfying the population's demand for educational services. This leads to the fact that the population receives education, using their own considerations regarding the prestige of individual specialties and the need for relevant specialists. Such stereotypes are not always objective and is the reason for the formation of human resources, which does not correspond in quantity and quality to the needs of the modern labor market. Employers who are buyers of labor practically do not

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<sup>20</sup> Огаренко Т.Ю. Нелінійна динамічна модель попиту на послуги вищих навчальних закладів. *Економічні науки. Вісник Запорізького національного університету*. 2010. № 2 (6).

participate in the training process. The fragmentation of the goals and interests of suppliers and buyers of labor leads to vocational qualification structural deformation and a shortage of qualified personnel. Due to the lack of their constructive interaction, the market mechanism for staffing the Ukrainian economy has low efficiency. Obviously, employers should be more actively involved in the training process in the educational system, in particular higher education, for which a wide range of means and forms has been accumulated.

In world society, 30-50% of the university's budget is formed at the expense of employers, which gives them the opportunity to participate in the educational process, to stimulate the improvement of the quality of education and its use for the development of skills directly beneficial to business.

Thus, we can conclude that in Ukraine today there are effective directions and prospects for establishing close cooperation between science, education and business, requiring the formation of a regulatory framework in the field of encouraging employers to participate in the training and employment of personnel, improving organizational forms of cooperation and implementing new forms of interaction “university – science – business” in the framework of international projects. The integrated implementation of these activities will help bring educational services closer to the needs of employers.

When predicting the demand for educational services of universities, S. Semeniuk<sup>21</sup> took into account the fact that demand is influenced by factors such as the price of educational services, the number of graduates in the region, and the incomes of the region's population. An approach to assessing the competitiveness of universities has also been developed, based on indicators significant for the consumer, established as a result of the survey in determining the degree of influence on individual demand, taking into account their actual weight. But the author does not take into account the needs of the labor market for certain specialists by region and in the country as a whole.

The concept of researching the dynamics of demand for university services proposed by T. Ogarenko<sup>22</sup> includes five stages:

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<sup>21</sup> Семенюк С.Б. Кон'юнктура ринку освітніх послуг вищих навчальних закладів. Рукопис. URL: <https://www.google.com.ua/search?hl=uk&source=hp&q>.

<sup>22</sup> Огаренко Т.Ю. Концепція моделювання динаміки попиту на послуги вищих навчальних закладів. *Ефективна економіка*. 2010. № 10. URL: <http://www.economy.nayka.com.ua/?op=1&z=350>.

I – Determination of factors of motivation for applicants to enter universities.

II – Modeling the dynamics of demand for university services.

III – Formation of control action.

IV – Implementation of the control action.

V – Evaluation of the effectiveness of the application of control action.

At the first stage, it seems appropriate to identify significant factors for the motivation of applicants to enter universities.

At the second stage, the dynamics of demand for services of higher educational institutions is simulated. The complexity of direct experimental research of the processes of formation of demand for educational services necessitates the construction of adequate models of demand dynamics. At this stage, the question arises, what methods and models should be used to model the dynamics of demand for university services. The course of the processes of formation of demand for educational services of a university in time determines the need to use dynamic models for their modeling.

At the third stage, the formation of the university's control effect takes place, which consists in the adoption of appropriate decisions by the administration of the educational institution to achieve the desired level of demand.

At the fourth stage, the implementation of the formed control actions takes place. At the last, fifth, stage, the effectiveness of the applied managerial impact is assessed. By efficiency, the author understands the excess of additional income that will be received from attracting an additional number of students to training over the costs of implementing management methods. The university should choose management methods that will enable it to achieve the goal of recruiting students with the least involvement of resources.

But the methodological approaches of macroeconomic planning in the management of the higher education system, which could provide an increase in its effectiveness, were not considered in the work.

So, the analysis showed that the urgent problem of the development of the national economy is the imbalance between the real needs of the labor market for specialists of a certain competence and the proposal that is formed by graduates of higher educational institutions. The consequence of

this is certain imbalances in the labor market, in particular, its oversaturation by specialists with higher education in certain specialties. Such problems are inherent not only in Ukraine and the CIS countries, but also in the labor markets of Europe, the USA and other countries, and therefore are considered global.

The main reason for this situation in our country is the lack of an effective system of macroeconomic planning of labor market needs for certain specialists with higher education.

The audit materials of the Accounts Chamber of Ukraine showed that the higher education system and the state order mechanism do not correspond to the realities of the modern labor market, do not provide a balance of needs and proposals, and therefore, the efficient use of budget funds is not ensured.

The audits proved that the allocation of budgetary funds for the maintenance of universities, in accordance with the budget and the university's capacity to provide educational services, did not optimize departmental systems for the training of specialists and staff development taking into account the forecasted needs of industries. The main managers of the budget funds were not provided with a study of the real needs of the industries that are subordinate to them, and the volume of the state order for training and advanced training was formed on the basis of proposals from subordinate educational institutions that focused on the order of previous years, their own possibilities of providing educational services and the demand of applicants.

In addition, the legislative and organizational uncertainty of the mechanism for the formation of the need for training for state orders contributes to the collective irresponsibility of both central and local authorities, which leads to an increase in the imbalance between the real need of regional labor markets and the volume of training of specialists by profession and, despite the measures taken by the ministries in the field of training specialists, the needs of the labor market and the market for educational services there is no guaranteed provision of the first workplace to graduates who studied by state order, including in targeted areas.

Thus, in the formation of the state order, the real need for specialists is either not determined at all or ignored, although this is crucial to ensure the efficient use of budget funds for the training of specialists.

The state order of the university, in the absence of a predicted need for personnel and macroeconomic planning, is formed on the basis of their own capabilities and demand of applicants. Contracts are not concluded between state customers and executors of state contracts, therefore, the parties are not responsible for the inconsistency of needs and proposals for training.

In the work of O. Hryhorieva<sup>23</sup> it is noted that the forecast for the development of the higher education system takes a leading place in the system of scientific, technical, economic and social forecasts. Forecasting training of specialists is closely connected with other branches of scientific forecasting. The factors on which the volumes of training specialists for the future depend, have the following parameters: forecast for the development of individual sectors of the national economy and economic regions; changes in the demographic situation; material, labor, financial capabilities of the state; social consequences of mass training.

As one of the ways to solve the problem of the number of specialists with higher education necessary for the national economy, the use of the method of saturation by specialists from the definition of the norm of saturation by WHO specialists is proposed.

The proposed in the work approach to determining the prospective need for specialists with higher education can be used to regulate the demand and supply of highly skilled labor in the labor market, but the statistics are unstable, the reliability of information is low, and failure to receive information on any of the above indicators leads to the termination of the process macroeconomic planning of higher education.

The main attention in the tasks of planning the activities of higher education institutions, as the analysis of the completed studies shows, is given to the planning of the social sphere, economic activity, inventories of material resources and the assessment of their suppliers to educational institutions, the campus as an object of management, etc.

The solution to these problems is relevant and of practical importance, but it should be borne in mind that, in accordance with the logical and informational connections of tasks in the management system, they have a value depending on the tasks of planning the main activity of higher educational institutions. In this regard, the task of studying the basic processes of higher education management and developing methods for

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<sup>23</sup> Григор'єва О.В., Васюта В.Б., Васюта В.В. Методичні підходи до визначення потреби в спеціалістах із вищою освітою. *Вісник Полтавської державної аграрної академії*. 2012. № 3. URL: <http://www.pdaa.edu.ua/sites/default/files/visnyk/2012/03/148.pdf>.

planning the activities of educational institutions is becoming particularly relevant.

Successful implementation of state policy in the field of higher education is impossible now without using modern approaches to macroeconomic planning and forecasting demand for specialists of a certain level and direction of education.

## **CONCLUSIONS**

For Ukraine, the problems of involving all possible factors of economic growth, among which a prominent place belongs to higher education, are of particular relevance, but in the conditions of economic transformation, higher education is faced with the problem of survival and self-sufficiency, which in turn leads to structural imbalances and the mismatch of the higher education system with the needs of the economy.

In order to improve methodological approaches to macroeconomic planning and forecasting in the management of the higher education system, the relevant existing conceptual and scientific-practical approaches to management in the higher education system have been evaluated, their shortcomings and the restrictive nature of practical use have been revealed. Based on its results, it was concluded that the main tasks of macroeconomic planning and forecasting the training of specialists are now practically not being solved, the regional factor is not taken into account, the monitoring capacities of higher education institutions are not taken into account in monitoring the quality of the higher education system, and the problems of financing the higher education system are not resolved, that is, existing methods and approaches do not reflect the full range of issues, the solution of which will provide the national economy with the necessary specialists.

Thus, the analysis of foreign and domestic scientific sources, the areas of research of the essence and the specific problems of the features of methodological approaches and models in the management of the higher education system make it possible to draw conclusions about the need to improve the planning of training of specialists with higher education, taking into account the needs of the economy in specialists, the educational capacities of institutions of higher education education, budget constraints and the direction to maximize the proportionality of the security s economic activities by the necessary qualified specialists.



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## **ANALYTICAL SUPPORT AND METHODOLOGICAL BASIS FOR ASSESSING THE ECONOMIC POTENTIAL OF REGIONAL DEVELOPMENT**

**Ladonko L. S.**

### **INTRODUCTION**

Diversification of the pace of development of individual regions of Ukraine is a deep-rooted phenomenon, which is the result of a number of factors, including the attractiveness of the location, available resources, the level of human capital, as well as access to transport infrastructure and utilities. A special aspect is the problem of effective use of economic potential, which is considered as one of the main factors that determines the development of the regional socio-economic system. Since regions are formed as integral complexes, balanced by natural resource, demographic, production, social and environmental subsystems, and its potential-under the influence of endogenous and exogenous factors, it focuses the region on achieving certain strategic development goals in accordance with the available resources. Various components and aspects of the economic potential of the region were studied by foreign and domestic scientists, in particular V. Adrianov, O. Alimov, I. Dolzhansky, N. Krasnokutskaya, V. Nagornaya, V. Mikitenko, O. Oleksiuk, R. Simionov, V. Pila, S. Tulchinskaya and others. However, the issues of imperfection of opening tools and methods of assessing the economic potential of regions remain insufficiently studied, which leads to limited use of it, ignoring potential opportunities in solving institutional problems.

### **1. Methodological basis for assessing the economic potential of regional development**

Today's trends in the socio-economic development of regions need more modern tools for regulating regional development. Tools that can provide regions and communities with incentives to find their own resources and stimulate them to activate internal development reserves come to the fore. The success of the initiated decentralization reforms in our country, the expansion of power and financial resources of the regions

and ensuring their economic security depends on the ability of the regions themselves to maintain stable economic dynamics even under the unprecedented pressure of negative macroeconomic phenomena<sup>1</sup>. It should be noted that given the urgent need to stabilize economic processes in the state, it should be indispensable to identify regions and types of economic activities that can become a pillar of economic growth, “growth points” of the economic system of the region. In addition, the ability of regional economic complexes to independently accumulate and effectively use the economic potential for their further development will indicate the possibility and expediency of expanding the economic independence of the regions. At the same time, the formation and use of the total regional potential depends not only on the availability of resources of different nature, but also on the action of internal and external factors on this process.

Thus, an urgent task of this study is: 1) determination of the nature and content of multicomponent system – economic potential of the region; 2) analysis of the components of the economic potential of the regions; 3) analysis and improvement of management of formation and use of the economic potential of the region because of its strategic directions of development of effective indicators and depending on the different spheres of regional control that will enable the adoption of optimization of management decisions with respect to certain development priorities in the region.

The economic potential of the region can be defined as the aggregate ability of the economy of the region, its branches, enterprises, farms to carry out production and economic activities, to produce high-quality products, goods and services that meet social needs, ensuring the development of production and consumption<sup>2</sup>. In addition, it is a quantitative and qualitative characteristic of the availability and possibility of using all kinds of resources available to the state (region) for its economic and social progress and development.

There are many approaches to methods of classification of components of economic potential of the region. Thus, the economic potential of the region can be represented in the form of a set of interrelated potentials as components of the economic structure of the regional socio-

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<sup>1</sup> Regional economy in 2015: new realities and opportunities initiated reforms. Kyiv : NISI, 2015. 92 p.

<sup>2</sup> Electronic site of the State statistics service of Ukraine. Access mode: <http://www.ukrstat.gov.ua>

economic system, or types of economic resources, spheres of activity, and areas of use.

Most often for the analysis and evaluation, the authors identify the following determinants of the economic potential of the region:

The *natural resource component* – is the basis of material production and characterizes the natural resources of the region's economy already involved in economic turnover, as well as available for development with these technologies and socio-economic relations.

The territory of Ukraine characterized by unique physical, geographical and geological conditions, which contributed to the formation of significant amounts of natural resources and their diversity. The most valuable natural resources are land and mineral resources.

Thus, on the territory of Ukraine is concentrated a quarter of the world's reserves of unique chernozems, which in their physical, chemical, agrochemical and mineralogical composition among soil-forming rocks is considered the best. The total land Fund of the agricultural sector is about 1.9 million hectares of farmland, including about 1.4 million hectares of arable land. In particular, more than 63% of the territory consists of ordinary chernozems. Of these, 43% are medium-power chernozems on loess-like rocks, 18.4% are gravelly chernozems on dense bedrock and 11% are low-power chernozems on loess-like rocks. Characteristic features: insignificant (50-60 cm. depth of soil profile, humus content – 4-5%, increased (up to 80% of the area) soil erosion and increased content of easily soluble salts. Soils with a high content of humus are concentrated in the Kharkiv region – 4.9% of humus, Kirovograd and Dnepropetrovsk 4.5%<sup>3</sup>.

Ukraine is one of the leading countries in the world in terms of the wealth of mineral resources. According to the total number of natural resources in Ukraine (mineral, land, water, recreational, flora and fauna, table 2), the first three places are occupied by Donetsk, Dnipropetrovsk and Luhansk regions. However, there are regions poor in mineral resources, it is Volyn, Ternopil, Chernivtsi, Odessa, Vinnitsa and Mykolaiv and Transcarpathian regions. Availability of these resources forms and determines the structure of the regional economy. Thus, the main coal base of Ukraine is the Donbass coal basin, which is located on

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<sup>3</sup> Akhromkin E.M. Resources of Ukraine: regional aspect. *Effective economy*. 2010. No. 11. Access mode: <http://www.economy.nayka.com.ua/?op=1&z=500>

the territory of Donetsk and Lugansk regions. Its total area is 60 thousand square meters, and its coal reserves estimated at 109 billion tons. Oil and natural gas are concentrated in the Dnieper-Donetsk (80%), black Sea-Crimean oil, and gas regions. Oil and gas fields on the continental shelf of the Black and Azov seas considered promising for development. Ukraine's own needs in oil are covered by 10-15%, in gas-by 25%, 3 billion tons of peat and oil shale have been explored. Iron ores are located in Krivoy Rog (18.7 bn), in the Nikopol basin, the Largest manganese ore deposits in the world are located in the Kremenchug (4.5 billion tons), Belozersk (2.5 billion tons) and Kerch (1.8 billion tons) iron ore basins.

By deposits of non-metallic minerals, Ukraine occupies a leading place in Europe and the world. Deposits of mineral wax and native sulfur – the largest in the world, graphite – the largest on the European continent, quite significant-rock and potassium salt. Also discovered deposits of precious and semi-precious stones (beryl, amethyst, amber, Jasper, rhinestone, Morion, etc.), explored more than 15 gold deposits.

Therefore, the mineral resource base of Ukraine has a significant economic potential necessary to ensure the further development of the national economy, in particular the metallurgical, chemical industry, ceramics and construction materials. However, insufficient implementation of energy-and resource-saving technologies, the use of alternative energy, fuel and secondary raw materials can increase the resource constraints of the state economy, lead to the depletion of mineral resources.

*Production and technological component* – is a set of production (buildings, structures, equipment) and technological resources, which characterizes the ability of the economic complex of the region to introduce innovative technologies, quickly reorient production capacity, to establish effective production of new (improved) products. This component reflects the production and technological state, the availability of reserves or opportunities to obtain them, the level of technological development, the susceptibility of regional economic systems to innovations and other strategic changes. Reproduction of production and technological potential is one of the factors of socio-economic development of regions. However, due to the imbalance and regional imbalances in the development and placement of industrial production in Ukraine, the role of the latter in the overall socio-economic development differs in different regions.

## 2. Analytical support for the assessment of the economic potential of regional development

The production and technological potential of the region can be estimated by the indicator of the volume of sold products (goods, services) of economic entities (table 1). For the period of 2016-2017, the largest volume of products (goods, services) sold will be Dnipropetrovsk, Kyiv, Donetsk, Kharkiv regions and the city of Kiev.

The received indicators of geography of distribution and dynamics of realization of industrial production in 2014-2016 testify to essential recession of realization of production in such industrial regions, as Donetsk, Lugansk, and in Ternopil and Chernivtsi regions.

Table 1

### Volume of sold products (goods, services) of business entities by regions in 2014-2016 (mln.uah)

	<b>2014</b>	<b>2015</b>	<b>2016</b>
<b>Ukraine<sup>1</sup></b>	<b>4459702,2</b>	<b>5716431,0</b>	<b>6877077,3</b>
1	2	3	4
Vinnys'ka	79376,0	116940,0	139582,3
Volyns'ka	68564,7	93409,7	116585,4
Dnipropetrovs'ka	499870,1	628409,3	742248,7
Donets'ka	386901,9	337284,6	356039,5
Zhytomyrs'ka	46415,0	58451,3	87548,1
Zakarpats'ka	43947,8	52270,7	55240,4
Zaporiz'ka	150914,2	201420,5	237709,6
Ivano-Frankivs'ka	50516,4	64685,9	80542,1
Kyivs'ka	273566,0	351032,1	415406,3
Kirovohrads'ka	61831,9	73230,8	82197,5
Luhans'ka	49535,0	38760,9	53490,7
L'vivs'ka	166394,0	209437,0	237688,2
Mykolaivs'ka	70895,1	106192,6	131428,8
Odes'ka	173515,2	236653,7	308935,4
Poltavs'ka	142371,5	196439,2	227374,2
Rivnens'ka	44074,4	51056,6	59557,4
Sums'ka	47407,1	69635,0	81395,5
Ternopil's'ka	66896,2	83108,2	55943,8



Ending of Table 1

1	2	3	4
Kharkivs'ka	202379,5	278013,1	319754,8
Khersons'ka	38490,4	53781,8	65283,0
Khmel'nyts'ka	51693,3	69288,9	80919,0
Cherkas'ka	84346,4	119639,4	135796,1
Chernivets'ka	21712,5	26732,2	31143,6
Chernihivs'ka	47262,3	68944,3	87015,5
Kyiv	1590825,3	2131613,2	2688251,4

*Source: Grouped and systematized by the author according to the State statistics Committee of Ukraine and regional statistics committees<sup>4</sup>.*

<sup>1</sup>Without taking into account the results of the activities of budgetary institutions, the temporarily occupied territory of the Autonomous Republic of Crimea, Sevastopol and part of the zone of the anti-terrorist operation.

The *personnel component* – is the labor resources of the region, including the number of active working-age population in terms of its volume and quality, educational and professional qualification level, entrepreneurial ability. This is a special kind of resource, which is a carrier of knowledge and information; it is the availability and ability of qualified personnel to carry out the innovation process in the industry (the number of students, students of vocational schools; the number of students of higher educational institutions of I-IV levels of accreditation; the number of specialists who perform scientific and technical work; highly qualified specialists employed in the industrial complex of Ukraine). This component is formed, developed and implemented throughout the working life, determines the management system of industrial activity, its flexibility, adaptability, susceptibility to change.

One of the most important indicators of the functioning of both national and regional labor markets is the indicator of economic activity of the population, which objectively reflects the socio-economic state of society in the current period and used to develop social programs and adjust the entire social policy of the state as a whole. To analyze the quantitative composition of the labor potential of the country, the dynamics of the number of economically active population aged 15-70 years, which is its main component, is of key importance. Over the past 10 years, the number of this

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<sup>4</sup> Electronic site of the State statistics service of Ukraine. Access mode: <http://www.ukrstat.gov.ua>

category of population has decreased by almost 20%. The reason for this was both the objective processes of natural population decline observed over the past 25 years, as well as military actions and the loss of part of the territory, within which at this stage it is impossible to keep records. As for its share in the total population, it does not even reach 50%, and in 2014-2015, it decreased significantly (to 46.3 and 42.2%, respectively). In relation to the population of the same age group (15-70 years), the share is stable-mainly in the range of 62-64%. The economically active population of working age is 71-73% of the population of the corresponding age group.

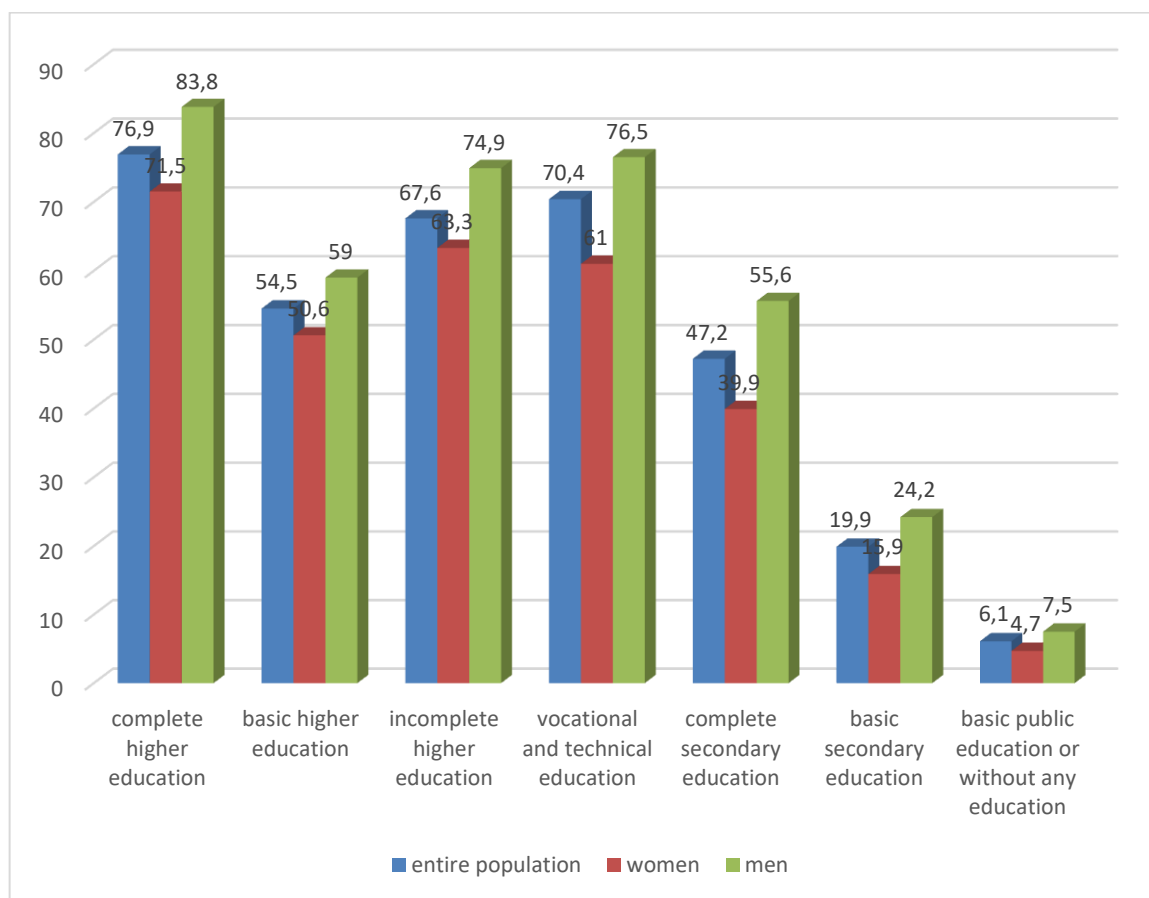
It is quite clear that persons with higher education are the most competitive in the labor market, so among them the highest level of economic activity-76.9% of the total number of economically active persons. In second place in terms of economic activity are persons with vocational education, namely 70.4%. The lowest level of economic activity was recorded among persons with basic General secondary (19.9%), as well as primary General or among those without education (6.1%). According to the distribution of the level of economically active population among men and women, there was a certain gender imbalance. In particular, men (Fig. 1) prefer the level of economic activity among persons with any education.

To assess this component of the potential, we analyze the number of economically active working-age population in the regions listed in table 2.

Therefore, during the analyzed period, the economy of Ukraine lost 1842.0 thousand people, able-bodied population. In General, according to the level of labor potential all regions of Ukraine can be divided into three groups: 1) regions with a significant share of the working population, but very low rates of natural movement, a significant mechanical outflow of people (Kharkiv, Lugansk, Dnipropetrovsk, Donetsk, Kiev region and the city of Kiev); 2) regions with a significant share of able-bodied people, high rates of population aging, negative or small positive indicators of natural population growth, a slight mechanical outflow of population (Odessa, Zaporozhye, Kherson, Mykolaiv, Lviv, Sumy, Ternopil, Rivne, Ivano-Frankivsk, Chernihiv, Zhytomyr); 3) regions with the lowest share of able-bodied population in Ukraine, very low (negative) natural population growth, a high proportion of persons of retirement age, with a significant outflow of population (Khmelnitsky, Vinnitsa, Cherkasy, Poltava, Kirovograd, Chernivtsi, Transcarpathian regions, Volyn region)<sup>5</sup>.

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<sup>5</sup> Electronic site of the State statistics service of Ukraine. Access mode: <http://www.ukrstat.gov.ua>



**Fig. 1. The level of economic activity of the population of Ukraine aged 15-70 years, depending on gender and level of education in 2016 (in % of the population of the corresponding level of education)**

*Source: Grouped and systematized by the author according to the State statistics Committee of Ukraine and regional statistics committees<sup>6</sup>.*

Table 2

**Economically active working age population by region in 2014-2017 (thousand people)**

	2014	2015	2016	2017
1	2	3	4	5
<b>Ukraine</b>	<b>19035,2</b>	<b>17396,0</b>	<b>17303,6</b>	<b>17193,2</b>
Vinnys'ts'ka	700,3	710,4	702,2	694,3
Volyns'ka	435,8	432,9	426,3	413,5
Dnipropetrovs'ka	1554,6	1555,0	1508,6	1475,5
Donets'ka	1914,1 <sup>2</sup>	852,1	844,5	831,0

<sup>6</sup> Electronic site of the State statistics service of Ukraine. Access mode: <http://www.ukrstat.gov.ua>

Ending of Table 2

1	2	3	4	5
Zhytomys'ka	539,9	537,5	543,1	547,2
Zakarpats'ka	554,0	550,5	545,6	539,3
Zaporiz'ka	807,4	789,9	789,4	780,5
Ivano-Frankivs'ka	560,5	578,1	578,9	578,3
Kyivs'ka	771,3	777,6	776,1	780,1
Kirovohrads'ka	420,8	419,7	416,5	416,4
Luhans'ka	953,3 <sup>2</sup>	339,5	338,1	330,7
L'vivs'ka	1101,6	1116,5	1116,9	1119,7
Mykolaivs'ka	532,1	540,9	535,9	529,0
Odes'ka	1038,2	1048,7	1043,9	1038,2
Poltavs'ka	660,7	649,1	638,4	640,3
Rivnens'ka	486,5	489,9	481,9	476,8
Sums'ka	496,8	500,4	497,3	498,0
Ternopil's'ka	443,2	449,1	450,1	441,6
Kharkivs'ka	1285,6	1285,8	1282,2	1285,1
Khersons'ka	484,0	487,2	488,0	488,1
Khmel'nyts'ka	545,9	544,3	545,3	545,8
Cherkas'ka	567,3	566,3	566,9	566,6
Chernivets'ka	361,0	360,5	366,8	366,6
Chernihivs'ka	457,6	459,7	457,0	458,0
Kyiv	1362,7	1354,4	1363,7	1352,6

Source: Grouped and systematized by the author according to the State statistics Committee of Ukraine and regional statistics committees<sup>7</sup>.

<sup>1</sup> Data are given without taking into account temporarily occupied territory of the Autonomous Republic of Crimea, Sevastopol and temporarily occupied territories in Donetsk and Lugansk regions

<sup>2</sup> Data can be refined.

Thus, it can be noted that the characteristic features of a state of use of labor potential in Ukraine are: reducing over the last 10 years of employment by 20.68%, and the level of employment by 2.07%; the growth in the number of unemployed by 9.22% and the unemployment rate is 33.82%; discrepancy between the qualification structure of the labor potential needs of the labor market; a significant wage gap between our

<sup>7</sup>Electronic site of the State statistics service of Ukraine. Access mode: <http://www.ukrstat.gov.ua>

country and other countries of the world, its level is too low, not only demotivates employees, but also deepens the crisis phenomena in the economy, exacerbates the problems of poverty, and among the economically active population, migration, demographic crisis.

The *investment and financial component* – is the volume of financial and investment resources in the region attracted for the implementation of economic activities (funds of local budgets, economic entities, extra-budgetary funds, credit resources, foreign investments, borrowing from the population). It is expressed in terms of the index of investments in fixed capital; internal current costs of scientific and scientific-technical works performed by the own forces of industrial enterprises; total investment costs and the like. The financial component, in our opinion, characterized by financial independence, stability and creditworthiness, the presence of an effective system of financial resources management capable of accumulating and directing their necessary share to the implementation of economic activities.

The indicator characterizing the investment and financial component of the economic potential is the mastered volumes of capital investments, since they are the basic parameter of the reproduction process, which determines the possibility of updating the fixed capital, structural reforms, and sustainable long-term economic and social development of the regions (table 3).

Table 3

**Capital investments by regions for 2014-2017 years (million uah)**

	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>
1	2	3	4	5
<b>Ukraine</b>	<b>219419,9</b>	<b>273116,4</b>	<b>359216,1</b>	<b>448461,5</b>
Vinnyts'ka	5674,6	7373,0	8301,9	11744,1
Volyns'ka	3389,7	6166,8	6384,2	7041,9
Dnipropetrovs'ka	20356,5	25919,9	33169,0	42908,5
Donets'ka	13155,3	8304,3	11902,2	17268,9
Zhytomyrs'ka	2904,9	4044,4	5573,5	7722,0
Zakarpats'ka	2638,7	3778,4	4663,0	5623,7
Zaporiz'ka	7034,5	7794,3	11039,7	15879,7
Ivano-Frankivs'ka	6837,5	9609,3	7947,6	9707,8
Kyivs'ka	19653,5	24359,1	33411,4	34494,5

Ending of Table 3

1	2	3	4	5
Kirovohrads'ka	3122,4	4057,1	6355,3	7320,9
Luhans'ka	5222,6	2060,1	4122,2	3329,8
L'vivs'ka	9555,0	13386,5	18605,2	24105,9
Mykolaivs'ka	3771,4	5989,9	9730,2	11178,0
Odes'ka	9361,3	9983,5	16728,7	22299,7
Poltavs'ka	8827,8	8337,9	15265,1	15855,6
Rivnens'ka	2804,6	4334,2	4324,1	6126,8
Sums'ka	2798,1	3663,0	5762,6	6947,1
Ternopil's'ka	2590,0	3827,5	4888,2	7150,6
Kharkivs'ka	8032,3	11246,7	16545,9	19361,7
Khersons'ka	2208,1	3107,4	4591,3	7362,2
Khmel'nyts'ka	4078,3	6809,3	9123,3	10499,9
Cherkas'ka	3262,1	4485,8	6498,7	8144,2
Chernivets'ka	1686,9	2789,2	2668,8	2992,1
Chernihivs'ka	2621,2	3550,2	5318,5	7351,1
Kyiv	67832,6	88138,6	106295,5	136044,8

Source: Grouped and systematized by the author according to the State statistics Committee of Ukraine and regional statistics committees<sup>8</sup>.

Note. <sup>1</sup> Data are given without taking into account temporarily occupied territory of the Autonomous Republic of Crimea, Sevastopol and for 2014-2017 without part of temporarily occupied territories in Donetsk and Lugansk regions.

The largest investment activity was demonstrated by Dnipropetrovsk, Kyiv, Lviv, Odessa regions and the city of Kiev, and the least – Chernivtsi, Luhansk, Transcarpathian, Rivne regions.

According to official statistics, the volume of capital investments in the national economy in 2017 amounted to 448461.5 million UAH. At the same time, it is positive that almost 50% of the total volume was invested in the acquisition, creation or construction of new non-current assets, the purchase of machinery, equipment, inventory and vehicles – 47.6% of all investments. A significant part of capital investments in 2017 was directed to capital repairs of assets and 38.8 billion UAH of capital investments (9.4% of the total). The leading areas of economic activity in terms of attracting capital investments in January-December 2017 remain:

<sup>8</sup> Electronic site of the State statistics service of Ukraine. Access mode: <http://www.ukrstat.gov.ua>

industry – 33.1%, construction – 12.1%, agriculture, forestry and fisheries- 14.0%, information and telecommunications – 4.1%, wholesale and retail trade, repair of motor vehicles and motorcycles – 7.0%, transport, warehousing, postal and courier activities – 8.7%, public administration and defense and compulsory social insurance – 7.4%. Thus, the reproduction structure of capital investments in Ukraine can be considered quite progressive, because the dominant forms of reproduction are the acquisition of new facilities and modernization of existing ones. A very small share of them is invested in the overhaul of existing non-current assets, which is quite justified in modern conditions.

The main source of financing of capital investments, as before, remains the own funds of enterprises and organizations, at the expense of which 69.9% of capital investments were mastered in January-December 2017. So, the volume of capital investment depends largely on the sustainability of the financial condition of national enterprises. Meanwhile, the volume of profits of Ukrainian enterprises against the background of prolonged stagnation may be insufficient to ensure a sufficient level of modernization of the economy in the coming years. The share of Bank loans and other loans in total investment amounted to only 5.3%. At the expense of the state and local budgets, 3.5% and 9.2% of capital investments were disbursed. The share of funds of foreign investors decreased in 2017 to 1.4% against 3.7% – in 2016, which indicates an unfavorable investment climate, the main causes of which are military operations, structural degradation of the economy, lack of reforms, total corruption at various levels of government, imperfect legislative framework, burdensome taxation system, instability of the national currency, loss of confidence in the banking sector, the inability to attract credit resources due to their high cost and low level of transformation of savings and business profits. The share of the population's funds for housing construction is 7.8%. Other sources of financing account for 2.9%<sup>9</sup>.

*Export component* – a certain amount of goods and services, the regional economy is able to produce, attracting its own and imported factors of production, and sell them on foreign markets with maximum efficiency. This component is determined by the formation of foreign and

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<sup>9</sup> Report “On the socio-economic situation of Ukraine in 2017” / State statistics service of Ukraine, 2018. Access mode: [http://www.ukrstat.gov.ua/operativ/operativ2014/mp/dopovidx/arh\\_dop2017.html](http://www.ukrstat.gov.ua/operativ/operativ2014/mp/dopovidx/arh_dop2017.html)

domestic markets, clear export specialization; the development of transnational elements: joint ventures, vertically and horizontally integrated structures, industrial and financial groups, cross-border economic associations.

As before, in 2016-2017, the basis of the commodity structure of Ukrainian exports were base metals and products made of them, products of vegetable origin, fats and oils of animal or vegetable origin, mineral products, mechanical and electrical machines, finished food products, products of chemical and related industries and wood and wood products. The share of ores, slag and ash, seeds and fruits of oilseeds increased in the total volume of exports of goods in 2017 compared to 2016. But there was a slight decrease in the share of ferrous metals, grain crops, electrical and mechanical machines<sup>10</sup>.

The basis of the commodity structure of Ukrainian imports in 2016-2017 was high-tech products, namely: mineral products, mechanical and electrical machines, products of chemical and related industries, means of land transport, aircraft, floating vehicles, polymeric materials, plastics and products thereof, base metals and products thereof, ready-made food products, textile materials and textile products of vegetable origin.

The share of mineral fuels, oil and products of its distillation, means of land transport (except for rail) has significantly increased in the total volume of imports of goods. The share of mechanical machines, plastics, polymeric materials, pharmaceutical products decreased. In the regional context, the greatest export potential have Dnipropetrovsk, Donetsk, Zaporozhye, Poltava, Odessa regions and the city of Kiev, whose enterprises were most active in foreign trade in goods in January-November 2017 are shown in table 4.

*Innovation component* – a set of scientific knowledge, innovation, human resources are at different stages of the scientific and reproductive cycle, and are aimed at innovation. According to the Law of Ukraine “on priority directions of innovation activity in Ukraine”, “innovation potential is a set of scientific, technological, financial, economic, industrial, social and educational opportunities of the country (industry, region, enterprise, etc.) necessary to ensure the innovative development of the economy”<sup>11</sup>.

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<sup>10</sup> Report “On the socio-economic situation of Ukraine in 2017” / State statistics service of Ukraine, 2018. Access mode: [http://www.ukrstat.gov.ua/operativ/operativ2014/mp/dopovidx/arh\\_dop2017.html](http://www.ukrstat.gov.ua/operativ/operativ2014/mp/dopovidx/arh_dop2017.html)

<sup>11</sup> Law of Ukraine “On priority directions of innovative activity in Ukraine” dated 16.01.2003 No. 433IV. Access mode: <http://zakon.rada.gov.ua/cgi-bin/laws/main.cgi?nreg=433'15>



Table 4

**Volumes of foreign trade in goods in January-November 2017**

	Export			Import		
	millions USA dollars	in % to January–November's 2016.	In % of total volume	millions USA dollars	in % to January–November's 2016.	In % of total volume
<b>Total</b>	<b>39486,1</b>	<b>120,6</b>	<b>100,0</b>	<b>44697,6</b>	<b>127,5</b>	<b>100,0</b>
including						
Dnipropetrovs'ka	6376,3	120,4	16,1	4165,5	135,5	9,3
Donets'ka	4020,0	128,1	10,2	1794,4	183,5	4,0
Zakarpats'ka	1324,9	118,6	3,4	1232,4	118,3	2,8
Zaporiz'ka	2835,9	136,5	7,2	1179,2	131,2	2,6
Kyivs'ka	1605,4	105,3	4,1	3109,3	116,1	7,0
L'vivs'ka	1451,4	126,1	3,7	1984,5	129,7	4,4
Mykolaivs'ka	1701,8	117,8	4,3	700,0	112,4	1,6
Odes'ka	1660,4	122,5	4,2	1293,4	118,4	2,9
Poltavs'ka	1691,0	132,1	4,3	1040,6	139,3	2,3
Kharkivs'ka	1082,5	117,0	2,7	1472,3	109,4	3,3
Kyiv	8927,6	115,6	22,6	17696,2	122,9	39,6

*Source: Grouped and systematized by the author according to the State statistics Committee of Ukraine and regional statistics committees<sup>12,13</sup>*

Objectively assessing this component of the economic potential, the following data can be cited: during 2014-2017, the share of innovatively active enterprises was 17.3%. Of the total number of enterprises surveyed, only 5.0% were engaged in technological innovations (product or process), 6.6% – non-technological (organizational and/or marketing), 6.8% – technological and non-technological innovations. As in previous years, the highest level of innovation activity in 2017 was observed among enterprises in the field of information and telecommunications (22.1%) and the processing industry (22.0%). Based on the analysis of statistical data, it can

<sup>12</sup> Electronic site of the State statistics service of Ukraine. Access mode: <http://www.ukrstat.gov.ua>

<sup>13</sup> Report "On the socio-economic situation of Ukraine in 2017" / State statistics service of Ukraine, 2018. Access mode: [http://www.ukrstat.gov.ua/operativ/operativ2014/mp/dopovidx/arh\\_dop2017.html](http://www.ukrstat.gov.ua/operativ/operativ2014/mp/dopovidx/arh_dop2017.html)

be seen (table 5) that the number of innovatively active enterprises has decreased by almost 3 times. Above the average level of innovation activity in Ukraine in 2014-2017 was in Kharkiv, Mykolaiv, Kirovograd, Ivano-Frankivsk regions (28.1-21.7 %). The largest increase in innovation-active enterprises in 2016-2017 showed Ternopil and Cherkasy regions, but the largest reduction in the number of innovation-active enterprises occurred in Rivne, Khmelnytsky, Chernihiv regions. The share of innovatively active enterprises in the regions that had the status of industrial leaders (Luhansk, Donetsk, Dnipropetrovsk regions of Ukraine) in 2014-2017 was only 10.0 – 11.0 % and did not reach the average level in the regions.

The largest number of innovative products in recent years has been manufactured at the enterprises of Transcarpathian, Kharkiv, Ternopil, Kirovograd and Zaporozhye regions. But in such industrial regions as Dnipropetrovsk, Sumy region and Kiev production and sales of innovative products fell to a record low. As follows from the data presented in table 3, the regions differ significantly in the magnitude of this indicator – from 0.3% in the Dnipropetrovsk region to a maximum of 4.2% in the Transcarpathian region.

By types of economic activity, innovative product renewal occurred at enterprises producing machinery and equipment, and those that do not belong to other groups – food products, metallurgical production. In General, the negative dynamics of innovation activity of domestic industrial enterprises and the low rate of implementation of innovative goods and services, indicate the lack of innovation potential of most regions. This situation leads to the need for a forced increase in imports of new technologies, finished products and to a reduction in export operations for domestic innovative products.

Analysis of the current state of use of the components of the economic potential allows to draw the following conclusions: the insufficient level of introduction of energy – saving technologies, use of alternative energy, fuels and secondary raw materials can increase resource limits on the development of the state economy, lead to depletion of mineral resources; drop-tech key sectors of the economy of regions; there is a lack of efficiency of regional industrial production and management mechanisms of its technological development; deterioration of the main production facilities of the industry of the regions; reduction of labor potential, shortage of educated workers and insufficient levels of training of highly

qualified scientific personnel; insufficient innovation potential of most regions and as a consequence-a decrease in the number of innovation-active enterprises and a catastrophically small share of innovative products sold in the total volume of sales.

Table 5

**Retrospective data on innovative development  
regional economy of Ukraine in 2014-2017 years**

Regions of Ukraine	Objects of retrospective assessment of innovation activity											
	Number of innovatively active enterprises, units			Share of innovatively active enterprises in the total number of ind. enterprises', %			Volume of innovative products sold, mln.uah			The share of sales of innovations. products in full sales.ind. products,%		
	2014	2015	2017	2014	2015	2017	2014	2015	2017	2014	2015	2017
<b>Ukraine</b>	<b>1609</b>	<b>824</b>	<b>579</b>	<b>16,1</b>	<b>17,3</b>	<b>16,2</b>	<b>25669,0</b>	<b>23050,1</b>	<b>17714,2</b>	<b>2,5</b>	<b>1,4</b>	<b>1,0</b>
Crimea	-	-	-	-	-	-	-	-	-	-	-	-
Vinnys'tka	46	25	24	14,2	14,7	15,4	664,1	192,4	454,7	2,3	0,6	0,5
Volyns'tka	30	12	17	10,8	11,5	16,0	316,6	383,6	66,8	2,5	2,2	2,0
Dnipropetrovs'tka	109	63	51	13,4	13,1	11,0	1563,1	1145,5	297,8	0,7	0,4	0,3
Donets'tka	45	28	22	14,6	11,7	11,5	1018,0	4591,8	3301,9	1,7	2,6	2,1
Zhytomyrs'tka	48	28	23	12,5	15,4	13,9	255,2	372,3	155,9	1,4	1,8	1,6
Zakarpats'tka	16	14	12	6,0	10,1	9,0	837,6	583,2	358,1	8,4	4,6	4,2
Zaporiz'tka	108	49	42	22,9	20,9	19,1	1530,0	3162,3	4041,2	1,7	2,7	2,2
Ivano-Frankivs'tka	99	27	28	22,8	21,6	21,7	883,2	242,0	105,4	3,8	1,3	1,8
Kyivs'tka	66	44	37	11,6	13,3	11,0	897,4	618,8	770,6	2,2	0,8	0,9
Kirovohrads'tka	49	25	24	17,3	24,7	22,6	504,4	354,7	405,6	2,9	2,3	2,3
Luhans'tka	16	9	7	12,2	11,2	10,0	38,0	373,2	13,1	0,2	1,8	1,2
L'vivs'tka	129	64	28	16,4	19,3	15,2	731,9	1193,9	763,1	2,1	1,9	1,9
Mykolaivs'tka	67	29	25	19,9	31,1	26,9	363,8	71,2	417,3	1,5	0,3	0,9
Odes'tka	67	36	36	16,8	19,3	15,7	698,7	544,4	157,6	2,4	1,2	1,1
Poltavs'tka	33	30	27	8,0	16,3	10,4	6519,5	1938,5	243,2	8,9	1,9	2,0
Rivnens'tka	45	13	8	14,9	10,6	5,9	134,6	67,3	9,3	0,8	0,4	0,4
Sums'tka	46	23	24	17,6	19,8	20,5	2610,7	1751,9	601,9	10,4	7,1	0,5
Ternopil's'tka	36	16	25	14,9	17,4	27,5	133,4	249,3	126,9	1,7	2,8	2,9
Kharkivs'tka	191	117	111	22,4	28,6	28,1	2609,8	2742,4	2515,9	3,8	3,4	3,6
Khersons'tka	54	19	15	24,2	20,6	15,5	657,8	175,4	287,6	5,4	1,4	1,8
Khmel'nyts'tka	38	18	8	11,0	12,3	5,7	162,8	127,1	27,8	0,9	0,7	0,8
Cherkas'tka	37	25	32	10,6	17,2	24,4	556,3	289,7	583,1	1,6	0,7	1,0
Chernivets'tka	34	9	8	15,6	16,9	14,5	81,7	100,0	46,3	2,0	2,4	2,1
Chernihivs'tka	32	15	10	13,1	13,2	9,6	151,7	95,9	345,4	1,0	0,5	0,8
Kyiv	168	86	95	21,7	17,3	20,7	1748,6	1683,3	1617,7	2,0	0,4	0,5
Sevastopol	-	-	-	-	-	-	-	-	-	-	-	-

Source: Grouped and systematized by the author according to the State statistics Committee of Ukraine and regional statistics committees<sup>14</sup>.

<sup>14</sup> Electronic site of the State statistics service of Ukraine. Access mode: <http://www.ukrstat.gov.ua>

Thus, we recognize that economic potential is a dynamic category that changes, on the one hand, depending on the needs of society, and on the other, on the level of resource, technological and institutional support for its development. Sustainable economic development increases the ability of the regional economy to create wealth for the local population. This depends on the state of the components of the driving spheres of development of the region-labor, financial capital, funds and equipment, know-how, land, other physical resources, public and private infrastructure<sup>15</sup>. The development of the scientific and technical sphere has led to the emergence of such new categories as scientific, technological, intellectual, innovative potential, which can be considered as systemic components of the economic potential of the region. Through the complexity and impossibility of knowing all the parameters and properties of the potential as a system, there is a need to study its individual aspects, which are characterized by the multiplicity of the description of the system.

Therefore, there are many methods of assessing the economic potential of the region, which based on various mathematical, graph-analytical models, matrix, logical and linguistic methods, and the like. The analysis of literature sources showed that depending on the basic evaluation criterion among the existing concepts can be distinguished: a) resource, which determines the economic potential of the region based on the amount of costs for its formation and use; b) comparative, which is based on the definition of the economic potential of the region on the basis of comparison with analogues; c) the original, which determines the economic potential of the region by the size of the net flow of economic results from its use<sup>16</sup>. During the evaluation, combinations of these approaches can be used, since the economic potential, as an object of evaluation, consists of several interrelated objects (elements) that can be evaluated separately.

So, under the assessment of the potential we will understand the determination of the degree of possibility of quantitative and qualitative composition of both the total value of the potential and the value of its components. Thus among scientific methods of an assessment it is

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<sup>15</sup> Kane, M. 2004. Public-Sector Economic Development: Concepts and Approaches. Washington DC: Northeast-Midwest Institute. Access mode:<http://econ2.econ.iastate.edu/classes/crp274/swenson/CRP523/Readings/econdevelopmentmattkane.pdf>

<sup>16</sup> Lapin E. V. Economic potential of industrial enterprises: formation, evaluation, management, abstract.dis. Kharkiv : NTU "Kharkiv Polytechnic Institute", 2006. 37 p.

necessary to allocate qualitatively two main groups of methods by criterion of formation of knowledge base-the formalized rational methods and expert or intuitive (table 6).

Table 6

**Scientific methods of assessing the economic potential of the region**

№	Method group name	Characteristic
1.	Formalized rational (economic-mathematical, simulation, factor analysis, extrapolation trends, normative forecasting)	<p>This is a set of methods and techniques for the development of models and integral indicators that allow on the basis of factor analysis of data, as well as their quantitative changes and relationships to determine the generalizing indicator, as well as to make fairly accurate predictions about the future state of economic potential. Advantages of methods: adequacy, accuracy, possibility of use for management and decision-making.</p> <p>Disadvantages: limited ability to obtain sufficient retrospective information on the development of individual components of the potential; limited use of formal methods of forecasting for the long term with a given quality.</p>
2.	Expert (expert evaluation, hierarchy analysis, ranking, score, rating analysis)	<p>Indicators of methods are formed on the basis of expert assessments, which introduce an element of uncertainty and stochasticity in the definition of integral indicators of potential. The quality of methods depends on the selection and qualification of experts. Advantages of methods: use in the conditions of the informal description of States of economic system of the region; use of experience of experts in the corresponding branches; coordination of estimates of experts in the conditions of incomplete uncertainty of information base.</p> <p>Disadvantages: it is quite difficult to obtain the necessary information base; the inability to ensure high accuracy of analysis and forecasting; subjectivity.</p>

The methods of assessing the economic potential of the region presented in the table have their positive and negative sides, which accordingly affect the quality of the final result. Of course, any form of assessment deserves attention, because in the system of analysis, diagnosis or monitoring, it gives not only an analytical definition, but also serves as a basis for making appropriate management decisions. However, an important condition in the development of a capacity assessment system is to minimize the fact of subjectivity, which can be achieved by clearly defining the evaluation criteria for the baseline indicators. The application of formalized methods is more resource-intensive from an organizational point of view. At the same time, the use of expert methods, which are determined by simple technology, can be applied in conditions of scarcity and even lack of information on the basic elements of regional economic potential.

Applying formalized methods of assessing the economic potential of the region, it is necessary to take into account the following main aspects of the analysis in the framework of a systematic approach<sup>17</sup>:

1) elemental aspect-identification of the composition of the potential; types of potentials; differentiated characteristics of potentials; generality and power of potentials;

2) structural aspect-establishment of structural characteristics of potential system: types of connections, quantitative and qualitative interdependencies;

3) functional aspect – establishment and interaction between potentials, identification of functions of potentials in the system of territorial development; comparison of functions in order to determine similarities and differences; identification of the functional structure of territorial potential;

4) factor aspect – establishing the relationship between the use of economic potential (a separate element of potential) and the costs of maintaining its required value in the economy of the region;

5) integration aspect – clarification of contradictions in the system of potentials, ways and means of resolving the found contradictions; determination of the hierarchy of potentials depending on the importance for sustainable development of coordination links of the system of

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<sup>17</sup> Gliznitsa N. Y. Definition of components and assessment of innovative potential of the region. *Technological audit and reserves of production*. 2016. No. 3/5(29), pp. 11-14.

potentials with the environment external to the territory; determination of the closeness of these links;

6) historical aspect – consideration of the territory's potentials through the prism of their historical development; identification of stages in the formation and development of potentials; comparison of the identified trends with General economic features of development.

A detailed analysis of the various methods of assessing the economic potential of the region provided an opportunity to form a typology of evaluation principles. They are basic for assessing both the availability and implementation of economic potential, but their list is not limited to the above, and depends on the requirements of the assessment, namely:

- system. The assessment process should be carried out taking into account the fact that the economic potential of the region is a complex stochastic system;

- consistency. It means the need for interconnection of the individual stages of the assessment process, harmonization of indicators used in the assessment process, as well as the results of the assessment of the elements of the economic potential of the region;

- variance. It involves obtaining several variants of the values of the economic potential of the region. This requirement is due to the fact that the basis is limited resources, and the same type of resource often provides several mutually exclusive opportunities;

- optimality. Based on the fact that the existence of several alternative evaluation options requires the selection of the most optimal option, it is assumed to minimize the factor of subjectivity, which can be achieved by clearly defining the evaluation criteria for the basic indicators;

- complexity. Implementation of a comprehensive assessment of the magnitude of all sets (packages) of opportunities to identify the maximum of them;

- adequacy. All components of the economic potential of the enterprise should be considered in their relationship and interdependence with other processes and phenomena. The assessment should, firstly, correspond to the essence of the economic potential of the region, and secondly, reflect the real state of the environment;

- effectiveness of the evaluation process. Means the need to exceed the economic effect of determining the value of the economic potential of the region and the use of the data obtained over the costs of the assessment.

Assessing the overall situation in which the economy of Ukraine and its regions, it should be noted that the crisis not only exacerbate socio-economic problems, but also give a chance to solve them with new methods. Such a chance for Ukraine is, in our opinion, the solution of problematic issues aimed at ensuring effective management of the national wealth of the country, its resources and assets at all hierarchical levels of the national economy on the basis of assessing the level of economic potential of each region. This could be a real direction to ensure the development of the economy of Ukraine.

The key positions in solving the problems of economic potential formation at the regional level are:

- determination of the market and real cost of capital of economic entities located in the regions;
- accounting of all forms of ownership of regional capitals from the standpoint of their influence on the formation of the gross regional product and the creation of added value;
- introduction of indicators characterizing the level of capitalization of economic entities into the system of statistical reporting of regions;
- development of mechanisms of management of social and economic development of regions taking into account property, real and market value of their assets.

The scientific and applied solution of the above issues requires the formation not only of a new methodological basis for managing the economic potential of regions, based on their uniqueness, property, value and ability to create added value, but also awareness of the need for such a transition on the part of legislative and executive authorities.

The transition from formal methods of management of development of regions (from achieved in the previous period, from policy tasks of the higher authorities) to assess the real possibilities of socio-economic development of regions, based on assessment of economic potential, focus and interests of the regional authorities on the issues related to finding effective ways of realization of the resource potential of specific areas.

## **SUMMARY**

This study provides an overview of the problems and approaches to assess the impact of the economic potential of the regions on the sustainable development of the state. As a result of the analysis, it was



found that certain regions of Ukraine have certain features of development and specialization, and therefore-different economic potential both in structure and in degree of formation.

After analyzing the existing methods of assessing the economic potential of the region, the authors propose a comprehensive use of both groups of methods depending on the characteristics and other components of the object of study. Availability of technical means (information technologies, specialized software, modern algorithmic approaches to economic and mathematical modeling) for formalized assessment of the economic potential of the region allows to obtain better results. Along with this, the use of expert methods that take into account the accumulated experience, intuition and professionally-oriented knowledge of experts makes it possible to increase the quality of the integral indicator of the economic potential of the region and a differentiated approach to its formation.

To assess the economic potential of the region, it is necessary to apply and develop appropriate methods and methodologies adapted to the available official statistics and will determine not only the size of the potential and the qualitative state of its elements, but also the effectiveness of its use and reproduction. Sometimes the regional economy to achieve higher performance is not necessarily to increase its economic potential, but rather to increase the efficiency of its use.

Assessment of economic potential and identification of ways and means to enhance its use is one of the most important tasks in solving regional socio-economic problems of development, serves as the basis for choosing the directions of strategic development of the region.

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## **ECOLOGICAL MODERNISATION OF THE UKRAINIAN ECONOMY AS A PREREQUISITE FOR GREEN GROWTH**

**Moroz V. V.**

### **INTRODUCTION**

Recently, more and more international calls have been made for the need of the transition of national economies to the new concept of economic development and growth, commonly referred to as the “green” economy. The concept of a “green economy” is gaining increasing public resonance, and is being actively discussed by government officials, experts, politicians, and public figures.

In the expert environment, there is no longer any objection to the thesis that the continuation of economic development without a radical change in the current economic model will lead to increased environmental threats and will make sustainable development impossible. Against this background, government officials, economists, politicians, and business representatives should begin to look for new avenues of development that will ensure sustainable economic growth, environmental restoration, and high levels of well-being. Thus, the search for ways to transition to a “green” economy is an urgent task and should occur on the basis of scientific substantiation of measures of state policy to stimulate the development of a “green” economy in Ukraine.

Ecological modernization is the basis for green growth. Today, one of the priority tasks is to develop principles for managing green modernization and to select levers of influence on economic entities to implement the green growth model.

The Sustainable Development Strategy of Ukraine for the period up to 2020 determines the goals, directions, priorities of the country's development. The purpose of the reforms is to achieve European standards of living, to implement the principles of sustainable development of Ukraine's economy, which is an extremely important task of public administration to build a welfare society, increase the competitiveness of the economy and implement the European integration strategy.

Generally, the green economy concept emphasizes all aspects of the sustainable development framework. The United Nations Environment Program (UNEP) defines the green economy concept as an economic paradigm that improves welfare, social equity, and environmental degradation. The economy concept will not replace the sustainable development framework. Sustainable development is the main goal in the long-run, whereas the green economy concept is the actions that should be taken in order to achieve sustainability.

Several requirements are needed to apply the green economy concept. At national level, government needs to change their fiscal policies, introduce several environmentally friendly regulation, and reform their subsidy policies (for instance from fossil fuel subsidy to renewable energy subsidy). Moreover, government should also increase the public investment on the selected “green” sectors (UNEP 2011).

It must be admitted that under globalization of environmental challenges there is a necessity for forming green economy fundamentals, i.e. system of economic activities related to the production, distribution and consumption of goods and services that would improve human welfare in the long-term without exposing future generations to significant environmental risks, resource and environmental scarcity. Therefore, the development of green economy doctrine in the context of establishing national strategy for sustainable development can be considered as a major landmark and basis of public policy, when Ukraine can both demonstrate its commitment to approaches of environmentally safe development within joint environmental and economic space, and clearly identify main trends of its sustainable development for the near future.

The main goal of green economy is to achieve sustainable development, which includes three aspects, namely economic, environmental, and social. But implementation of a green economy concept needs additional aspects, such as public supports, policy reforms, and regulation adjustment. Moreover, green economy can be implemented differently across countries or regions, depending on the strength and weaknesses of a country or region. World practice shows that the development of green economy takes the form of sectoral model. UNEP strategy in this field foresees a switch of some key economic sectors such as agriculture, heating and lighting of buildings, energy, fishery, forestry, industry, tourism, transport, waste management and

water resources management to the green track. It is to be admitted that today there is no “universal” formula for implementing green growth strategies. The transition to green economy depends on a number of political and institutional conditions, the level of economic development and other factors.

### **1. Theoretical approaches to identify the components of green economy concept**

The green economy is a pathway to sustainable development. It is based on an economic model that differs from traditional ones in that it takes due consideration of environmental and social externalities, and does not focus on GDP growth as the ultimate goal. Instead it focuses on resource efficiency and natural capital as the building blocks of the economy, recognising that environmental degradation undermines long-term economic growth and human development.

The concept of a green economy is related to ecological modernisation. Ecological modernisation refers to an environmental policy, related to the precautionary principle, and involves long-term structural change of the patterns of production and consumption (Andersen and Massa, 2000). One of the main assumptions of this perspective is that economic growth and a sustainable use of resources can be achieved simultaneously. However, growth and resource consumption can be interpreted in different ways, and the theoretical basis of the green economy can be interpreted through the subfields of environmental and ecological economics.

The EU vision entails multiple facets of the green economy:

- economic aspects: an economy that secures growth, building on resource efficiency and sustainable consumption and production patterns;
- environmental aspects: an economy that preserves the natural capital, invests in natural resources and mitigates climate change through low-carbon and resource efficient solutions;
- social aspects: an economy that improves human well-being, provides decent jobs, reduces inequalities and tackles poverty.

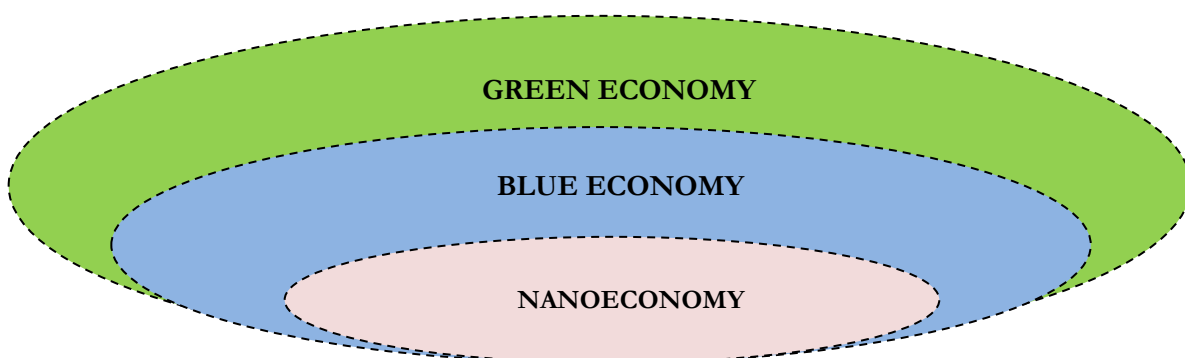
In the same vein, the European Environment Agency has formulated its own definition of the green economy, which puts a clear focus on resource efficiency and natural ecosystem health and resilience as the two main pillars of the green economy. It also acknowledges that any economic

model that fails to provide decent jobs and earnings will not be politically or socially viable, and hence includes aspects of human well-being as a third pillar, focusing on social equity and fair burden-sharing.

It should be noted that some researchers are trying to contrast the concepts of “green” and “blue” economy. Thus, V. Khimynets<sup>1</sup> thinks that “The green model of economy is too expensive and not adapted to modern economic realities. It is more romantic than practical because it requires significant financial costs that only developed countries are capable of. ” The researcher points out that «... it is time to move to a competitive blue economy” business model, which allows manufacturers to offer better products at lower prices, by introducing innovations that not only increase profits but also generate environmental benefits.

Thus, within the framework of this interpretation of the concepts of “green” and “blue” economy, we see a certain antagonism and mutually exclusive. It should be noted that the concept of “blue economy” was proposed by Professor Gunter Pauli, as part of a scientific study of the business models of the future, commissioned by the United Nations in 1994.

In our view, such antagonism between green and blue economies is not and should not be, since these concepts are more likely to complement each other and should be considered, alongside nanoeconomy, as components of the green economy model that demonstrate different levels of economic processes and phenomena (Fig. 1).



**Fig. 1. Structuring the components of the green economy concept**

The green economy component is formed at the level of state bodies, state environmental policy, and regional authorities, which is manifested

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<sup>1</sup> Химинець В.В. Синя економіка – новий шлях до сталого розвитку. URL: [http://www.confcontact.com/20130214\\_econ/8\\_himynets.htm](http://www.confcontact.com/20130214_econ/8_himynets.htm)

through: state standardization and certification of production; creation of national and regional sovereign wealth funds; environmental taxes and fees (Tobin tax); state and regional environmental monitoring; national financial market for “green” securities; centralized budget expenditures for nature conservation; national and regional environmental programs; sectoral restructuring and modernization of production; the transition to new, environmentally-oriented technological structures.

The component of the “blue” economy is realized at the level of local self-government, municipalities and territorial communities, which is manifested through: entrepreneurship and entrepreneurial initiative; integrated use of local resources; public-private partnership; voluntary environmental certification and standardization; eco-oriented and resource-saving technologies; social and environmental corporate responsibility; cluster-corporate mechanisms of environmental management; projects of sustainable development of territories and enterprises.

Nanoeconomy is formed at the level of individual economic agents, households operating through: small business, farming, personal subsidiary; environmental personality culture; environmental education and environmental thinking; saving natural resources in everyday life; separate collection of waste; resource- and energy-saving housing and appliances; “Smart home”; tariff and financial incentives for environmental resource consumption for the population; the interaction of technological structures, the systemic effect of the interaction of elements of technological structures with each other.

Thus, the concept of green economy has a major impact at the national and regional levels and involves an active environmental policy of the state and the regions, which in the person of the governing state bodies and regional authorities through the appropriate administrative, organizational, economic, legal, financial and other levers create the conditions for gradual economic growth based on economical and integrated use of natural resources, protection of the environment from harmful anthropogenic impacts and development of environmentally-friendly innovative industries and industries. Economic growth is not an end in itself, but a means. The state environmental policy of the green economy is aimed at the transition to new, less resource-intensive technological modes of production, comprehensive development of infrastructure, incl. environmental, etc.

The EU is leading the “Greening Economies in the Eastern Neighbourhood” (EaP Green) project in six countries, including Ukraine, on behalf of a consortium of international organizations. The project is working at government and private sector levels (including SMEs) to: (i) mainstream sustainable consumption and production into national development plans, legislation and regulatory frameworks so that incentives are provided for development in line with policy commitments and good international practices, including those encouraged in the European Union; (ii) promote the use of strategic environmental assessment and environmental impact assessment as essential planning tools for environmentally sustainable economic development; and (iii) facilitate the greening of selected economic sectors (manufacturing, agriculture, food production and processing, construction).

Thus, generalizing these approaches, it is possible to form an integral definition of “green” economy as a new model of economic development. A green economy is a system of socio-economic relations that contributes to the conservation of the natural environment by improving resource efficiency, structural restructuring of the economy, the development of green sectors of the national economy and the reduction of brown, greening production and consumption. At the same time, the management system creates incentives for intensifying the investment processes in the “green” sectors of the economy and directs the overall “green” course of Ukraine.

## **2. Green Economy as the main component of European Integration of Ukraine**

Attention to the green economy in EU policy has become prominent since 2011 in particular, through the communication ‘Rio+20: towards the green economy and better governance’(1), which presented the European Commission’s approach to the green economy. It highlights the need to build an ‘economy that can secure growth and development, while at the same time improving human well-being, providing decent jobs, reducing inequalities, tackling poverty and preserving the natural capital upon which we all depend’ and stresses that ‘moving towards a green economy necessitates preserving and investing in the assets of key natural resources ... It also means making use of low-carbon and resource efficient



solutions and stepping up efforts to promote sustainable consumption and production patterns’

In the context of EU development cooperation, the Communication ‘an Agenda for Change’ (2) stated in 2011 that ‘EU development policy should promote a ‘green economy’ that can generate growth, create jobs and help reduce poverty by valuing and investing in natural capital including through supporting market opportunities for cleaner technologies, energy and resource efficiency, low-carbon development while stimulating innovation, the use of information and communication technologies, and reducing unsustainable use of natural resources.

In line with EU development policy, the EU has been supporting actions contributing to the green economy for a number of years, including programmes in relevant areas, such as natural resources management, sustainable agriculture or renewable energies, and through the integration of environmental issues in relevant sectors, such as private sector development.

EU-funded initiatives in this category include for example the UN Partnership for Action on Green Economy (PAGE), the Green Economy Coalition (GEC) and the One Planet network, i.e. the network of the 10-year framework of programmes on SCP, a global action to ‘enhance international cooperation to accelerate the shift towards sustainable consumption and production (SCP) in both developed and developing countries<sup>2</sup>.

The EU’s vision on the green economy implies that practices across many sectors of EU international cooperation contribute to the transition. This includes actions promoting green business practices in the context of private sector development; actions in environmental sectors, such as biodiversity and forestry; relevant agricultural practices that contribute to natural capital preservation; actions in the area of renewable energy production, energy efficiency and the fight against climate change; actions on sustainable cities; waste prevention (including re-manufacturing, repair, direct reuse) and management (waste collection, recycling, etc.); and actions in social sectors, notably initiatives to promote green and decent job creation

By signing the Association Agreement with the EU, Ukraine must meet a number of requirements relating to the environmental and

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<sup>2</sup> UNEP. Green Economy Initiative. URL: <http://www.unep.org/greeneconomy/>

environmental aspects of the agreement. Therefore, the development of a “green” economy in Ukraine becomes a prerequisite and an opportunity for our country's European integration.

The EU-Ukraine Association Agreement<sup>3</sup> requires adaptation of Ukraine's economy to European production standards and readiness for further prospects for integration into the European emissions trading market. For the past two decades, advanced European countries have been pursuing a greening economy that is built on the principles of sustainable development, thanks to a number of incentive mechanisms that are actively developing green sectors of the economy.

Given the direct and indirect threat of climate change, environmental pollution and inefficient use of natural resources, the European Union is actively supporting the creation of new climate policies by the six Eastern Partnership countries (Armenia, Azerbaijan, Belarus, Georgia, Moldova and Ukraine) based on countries' obligations under the Paris Climate Agreement, Association and Partnership Agreements with the EU. Accordingly, the scale of EU-Ukraine cooperation in the field of environmental protection and greening of our country's economy is outlined by the desire to minimize environmental externalities for the full existence of future generations.

The green economy includes activities that, in addition to improving production efficiency, contribute to improving the quality of life and, at the same time, significantly reducing the negative impact on the environment. The development of “green” sectors of the economy offer significant opportunities for investment, starting a profitable business, securing sustainable economic growth and job creation. First of all, we are talking about renewable energy sources, electricity, green building, waste processing and more. The green economy needs new approaches to regulation by national and regional public authorities, new business models, and specialist economists with relevant knowledge and skills. An important condition for greening the economy was the adoption of an appropriate regulatory framework harmonized with the Association Agreement with the European Union. In particular, in 2017-2019 Ukraine adopted the Low Carbon Development Strategy for 2050 (2018), the Energy Strategy for 2035 (2018), the Environmental Impact Assessment

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<sup>3</sup> Про Стратегію сталого розвитку «Україна – 2020» Президент України; Указ, Стратегія від 12.01.2015 № 5/2015 2. URL: <http://zakon2.rada.gov.ua/laws/show/5/2015>

Act (2017), the Strategic Environmental Assessment Act, the Law principles (Strategy) of Ukraine's environmental policy for the period up to 2030”(2019) and other environmental documents.

The analysis of the practice of application of these regulatory documents, the implementation plan of the EU-Ukraine Association Agreement on environmental issues shows that this area requires strengthening of the institutional capacity of both state authorities and local self-government, improvement of the legislative framework and adopted plans that form the basis of economy. in collaboration with the public sector and business.

Low-carbon development is the plan of Ukraine for the transition to a “green” economy, sustainable production, and consumption. The Government’s priority is the large-scale reformation of outdated water carriage systems, the sphere of subsoil use, ensuring transparent and open business activities of these industries. For the first time since independence, the state policy in the sphere of waste management has been formed.

Many countries use different tools of the “green economy” in their national policies and development strategies. The Environmental policy in Ukraine is considering as an investment policy aimed at increasing of effectiveness of the use of natural resources through the development and use of new resourceefficient and energy-efficient low carbon technologies. Ukraine has only begun to change the course of the state environmental policy and environmental consciousness. The Government is getting used to looking at the whole spectrum of economic problems through the prism of ecology. The Government is supporting The National Waste Management Strategy until 2030 developed by the Ministry of ecology and natural resources of Ukraine. Together with international experts, the first package of legislative changes in the sphere of subsoil use has been developed, which would allow reforming and modernizing the subsoil extraction industry. The water management in Ukraine is being implemented on a watershed management principle, as it works around the world.

The implementation of the National Waste Management Strategy in Ukraine by 2030 requires the development of an additional set of legal norms to:

- create an effective government system for preventing environmental violationsand the state of the environment monitoring;

- reduce pressure on the business community, wide involvement of the public in supervision (control);

- create a unified integrated state body of environmental monitoring and supervision (control) Services, developed on the concept of the system of government supervision (control) reforming in the field of environmental protection approved by the Ukraine's Cabinet of Ministers Decree from 05/31-2017, № 616-p.

Ukraine has substantial national resources, in particular land and minerals. The sustainable use of these resources requires the introduction of sustainable management practices with a people-centred approach. Environmental degradation, air pollution and toxic chemicals released into the environment has been contributing to a high NCD burden and other worsened health outcomes. Among occupational risks, asbestos is the most dangerous health threat.

The national policy should be based on the 10-Year Framework of the Programme on Sustainable Consumption and Production Patterns (Rio 2012), a global platform for capacity building and partnership on sustainable production and consumption. The provisions of the framework should be reflected in either the national strategy or the sectorial and regional development strategies. The framework provides for implementation of priority programmes: sustainable lifestyles and education, sustainable ('green') procurement, consumer information, sustainability in the construction and operation of facilities, sustainable food systems etc. To achieve this goal, it is necessary to create legal and institutional preconditions for the establishment of a green economy in Ukraine, which will significantly reduce the dependence of economic growth on the use of natural resources and energy.

Sustainable development of Ukraine must be comprehensive, which involves the modernization of industry, agriculture and other sectors of the national economy. It should also create conditions for the growth of the national science and innovation sector, which will help build a new resource efficient economy. The Ukraine's energy sector is one of the main polluters. Emissions of pollutants of energy complex enterprises account for about 40 % of total emissions and for 58 % of stationary sources of pollution. To meet the needs of economic growth, the approved energy strategy up to 2030 envisages extensive development of the energy industry. The energy sector will go through substantial reform to ensure it

meets consumers' interests by setting the appropriate pricing mechanisms, connecting consumers to energy networks and offering transparent billing processes in accordance with the principles of the Third Energy Package. It is necessary to start implementing the strategy of green economy development with detailed elaboration of mechanisms and ways of stimulating priority directions. The greatest positive effect of the stimulus mechanisms can be obtained by the economy of Ukraine, provided they are optimally combined in the medium and long term. The effect of incentive mechanisms should be to change the structure of the national economy in terms of an increase in the green sectors of the economy compared to the brown ones.

The formation of a “green” economy is a modern trend of ensuring the economic security of the state in the conditions of globalization. Improving the environmental situation ceases to be a line of expenditure of the state budget, and becomes the very essence of the new economic system. Thus, the state is creating new economic conditions for doing business, which attract investment precisely in the development of new “green” industries and the ecological transformation of “greening” of economic activity.

### **3. Green modernization as a priority of green growth in Ukraine**

According to the Report on Green Transformation in Ukraine, based on OECD Green Growth Indicators<sup>4</sup> progress towards green growth is dependent on several preconditions: inclusion of green transformation goals in the country's key development priorities; full support of green growth principles by relevant agencies; and a consensus based on dialogue between the authorities, the business community and the public. Political decisions should be based on multiple trade-offs required to balance such competing goals as ensuring economic growth and maintaining profitability, addressing social issues and conserving the environment.

The greening of the economy in Ukraine is taking place in the context of continuing transition to a market-oriented business environment and related institutional changes. This is a lengthy and complicated process of transition from a society based on centralised decision-making, administrative pricing, low social standards and egalitarianism (none of which encourage rational use of cheap energy and primary resources) to a

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<sup>4</sup> URL: [http://www.green-economies-eap.org/resources/2016\\_GreenTransformation%20in%20Ukraine%20ENG.pdf](http://www.green-economies-eap.org/resources/2016_GreenTransformation%20in%20Ukraine%20ENG.pdf)

society where market competition induces all enterprises to increase added value at a lesser cost in the context of higher labour and resource prices while motivating the population towards rational consumption and a more responsible behaviour. This complex transformation often means that such issues as clean environment and resource-saving are put on the back burner. For this reason, positive results in these areas may serve as an important indicator of progress in economic reforms in Ukraine.

According to the World Bank, the Ukrainian economy which is to a significant extent based on low value-added exports is largely inefficient and therefore, in terms of per capita GNI, the country belongs to the lower-middle-income group (USD 7,810 at PPP in 2015). A high degree of fixed assets depreciation (83.5% in 2014) and outdated technologies, especially in the mining and metallurgical sector, result in excess consumption of primary resources, materials and energy. As a result the energy intensity of Ukrainian economy (0.34 toe/1000 USD in 2013, according to IEA estimates) is 1.5 times higher than the EU average<sup>5</sup>.

Today Ukraine is facing a number of serious problems caused by the escalating conflict in the eastern part of the country, the occupation of the Crimea and an ongoing economic crisis. Coupled with accumulated structural problems, in 2015 this led to a 9.9% slump in the GDP and a 13.4% decline in industrial production. At the backdrop of severe resource limitations and imminent external threat, the conversion of Ukraine's economic development model and structural transformation are becoming a matter of survival.

The signing in 2014 of the Ukraine-EU Association Agreement and the adoption of the 2014-2017 action plan for its implementation (in particular, the Economic and Sectoral Cooperation section), as well as the approval of plans for implementing EU directives and regulations related to energy, environment and technical guidelines are all geared towards Ukraine's transition to the European green development model.

The Ukraine-2020 Sustainable Development Strategy adopted in January 2015 sets forward ambitious goals in respect of economic reforms designed, among other things, to ensure sustainable economic development without depleting the environment, while the Action Plan for the implementation of the Ukraine-2020 Strategy proposes integrated solutions

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<sup>5</sup> UNIDO. Green Industry Initiative. United Nations Industrial Development Organisation. URL: <http://www.unido.org/what-we-do/environment/resource-efficient-and-low-carbon-industrial-production/greenindustry/green-industry-initiative.html>

for reforming environmental management and monitoring systems. They include:

- gradual harmonisation of Ukrainian legislation with EU directives as required by the Association Agreement (Chapter 6 on Environment);
- introduction of environmental impact assessment procedures with regard to plans and programmes as required by Directives 2011/92/EC and 2001/42/EC;
- introduction of the ve-stage waste management hierarchy as required by Directive 2008/98/EC on waste and preparation of action plans in the area of waste management;
- increase in the share of utilisation of municipal solid waste and maximising reuse and recycling of such waste;
- introduction of the “polluter pays” principle and extended producer responsibility, in particular for packaging;
- reform of the system of pricing and tariff setting for energy and fuels, revision of mechanisms ensuring the balance of energy, phasing out of cross-subsidies;
- creation of a government support mechanism to promote energy efficiency measures in residential buildings and state-financed organisations.

In addition, the action plan of the Cabinet of Ministers for 2016 aimed at supporting the implementation of the Ukraine-2020 Sustainable Development Strategy and the Implementation Plan of the EU Association Agreement contains a comprehensive package of tasks geared towards the green transformation of Ukraine’s economy.

These include energy performance improvements, energy market reforms, revision of subsidies for the population, improvement of housing and utility services, development of the renewable energy sector, carrying out of the thermo-modernisation programme for the population, creation of favourable conditions for small and medium-sized businesses, modernisation of the industrial complex and the system of support for agricultural producers. Reforms of environmental and taxation policies and the government procurement system should be aligned accordingly.

It is expected that the greening of the economy will promote:

- creation of less resource-intensive sectors of the economy, new markets and new jobs;

- introduction of new energy efficient technologies and revitalisation of innovation activities;
- higher labour productivity and business competitiveness through the efficient use of energy and resources and waste minimisation.

Ukraine does have a potential for advancing green economic activities, primarily in the fields of renewable energy, energy performance and organic farming. For instance, in 2010-2014, the average annual growth in the bioenergy sector amounted to 42% while, according to the national renewable energy action plan up to 2020, the share of renewable energy in the gross final energy consumption is expected to reach 11% (8,590 toe).

In line with the national energy efficiency action plan for the period up to 2020, in 2020 final energy consumption should be 9% lower than the 2005-2009 annual average. The greatest savings in energy consumption are expected in the housing (50% of the total volume) and industrial (25%) sectors. To that end, a massive thermo-modernisation programme for residential buildings is currently underway and industrial enterprises are now more actively engaging in resource efficiency and cleaner production projects and introducing energy management systems (ISO 50001). On top of that, Ukraine has a great potential for organic farming. In 2014, the area used for growing organic crops reached 400.8 ha, the number of certified organic producers grew to 182 and the sales of organic produce were estimated at EUR 14.5 mln.

Recently, the survey of business companies titled Business and ‘Green’ Modernisation of Economy: Opportunities and Barriers was held under the Programme to Support the Green Modernisation of the Ukrainian Economy financed by the German Government and implemented by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) in the partnership with the Center for CSR Development and Ukrainian Chamber of Commerce and Industry<sup>6</sup>. The purpose of this survey was to identify key opportunities for and barriers to ecologisation of Ukrainian businesses.

The results of the survey showed that the following elements of ‘green’ modernisation are the most commonplace among Ukrainian companies:

- improved energy efficiency (installing new or upgrading existing equipment);

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<sup>6</sup> URL: <http://csr-ua.info/csr-ukraine/wp-content/uploads/2016/06/Analysis-Questionnaire-CSR.pdf>



- improved resource efficiency (minimisation of waste and rational use of water);
- ‘green office’ programmes;
- implemented environmental management system (mostly ISO 14001-compliant).

The key factor behind the implementation of ‘green’ modernisation is the attempt to improve one’s competitive advantages and opportunities. Rising energy and raw material prices also played a substantial role in this.

The key advantages for companies implementing ‘green’ modernisation include cost and resource saving and increasing competitiveness.

Ukrainian companies have poor knowledge of ‘green’ modernisation and receive no consultations on these matters. Therefore, the lack of information regarding green technologies and the high cost and inaccessibility of these technologies are the main barriers hampering implementation of ‘green’ modernisation.

The main barriers to implementation of the key elements of ‘green’ modernisation are mostly internal factors, such as:

- lack of understanding of why ‘green’ modernisation is needed;
- low environmental awareness of personnel;
- technological specifics;
- limited financial resources.

The desire to improve one’s competitive advantages and opportunities provides the impetus for Ukrainian companies to implement ‘green’ modernisation. Rising energy and raw material prices also played a substantial role in this. That was the factor that drove all surveyed companies to implement energy efficiency and resource efficiency improvement projects. Therefore, cost and resource saving and increasing competitiveness are the advantages which companies implementing ‘green’ modernisation gain.

The biggest barrier obstructing implementation of ‘green’ modernisation is, according to respondents, the lack of information regarding green technologies and the high cost and inaccessibility of these technologies. Another serious barrier is the complexity of administrative procedures and obsolete law. Most of the surveyed companies admitted that they do not possess sufficient knowledge of ‘green’ modernisation of economy and do not receive consultations on these matters; some of them said that they don’t know who provides these consultations. The

companies that do receive consultations seek them from civil and international organisations, business associations, banking institutions and own environmental management services.

Most companies in Ukraine now are trying to implement energy efficiency and resource efficiency improvement projects. Energy efficiency is being implemented mostly by installing new or upgrading existing equipment, while resource efficiency is being achieved by minimising waste and saving water.

Also many companies implement an ISO 14001-compliant environmental management system, corporate standards on environmental management, 'green office' programmes. The company's reputation and improvement of competitive advantages are the key factors prompting companies to implement environmental management system.

Few companies in Ukraine have experience in receiving reduced-interest financing or investing in 'green' modernisation. These benefits are provided by the European Bank for Reconstruction and Development. The same with implementation of eco-labeling of own products or uses alternative and renewable sources of energy

The survey<sup>7</sup> showed that almost all companies experienced obstacles or difficulties when procuring special (ecological) licenses or implementing particular elements of 'green' modernisation. In most cases, they were related to subjective factors, such as lack of understanding why 'green' modernisation is needed or low environmental awareness of personnel. Technological specifics and limited financial resources available to a company played a substantial role, too. In the opinion of respondents, the main ways of overcoming these difficulties are internal processes of substantiating the need in 'green' modernisation, effectiveness of this measure and implementation of new engineering projects. The main obstacles to the procurement of special permits to use resources, waste disposal and air pollution permits are loopholes in regulatory framework of authorisation system and excessive bureaucracy of public license issuance system.

That is why the following steps should be taken to improve the situation.

Promoting dissemination of knowledge regarding 'green' modernisation of economy:

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<sup>7</sup> Main results of the survey "Improvement of small and medium-size business environmental performance". Research & Branding Group, 2015, 49 p.

- Implementing public information campaigns promoting advantages and effect of key elements of ‘green’ modernisation on business development, including under auspices of business associations.

- Devising educational courses on ‘green’ modernisation of economy for college and university students, especially students of technical universities.

- Organising national and regional contests on implementation of green economy projects.

- Preparing, based on the Contest’s results, and disseminating collections of the best ‘green’ modernisation practices of international and Ukrainian companies (including in various sectors of economy), with calculations of effectiveness.

Implementing programs that stimulate implementation of key elements of ‘green’ modernisation:

- Promoting a dialogue between the government and businesses on stimulation of ‘green’ modernisation of economy, including improvement of regulatory framework (e.g. in waste management sphere).

- Preparing and submitting amendments to the existing legislation that introduce ‘green’ procurements.

- Introducing financial and tax benefits for companies implementing key elements of ‘green’ modernisation.

- Developing the potential of organisations offering consultations on ‘green’ modernisation of economy:

- Creating a database of consultants and organisations offering consultations on ‘green’ modernisation of economy.

- Organising regular meetings between companies and consultants under the auspices of business associations to establish contacts and partnerships.

## **CONCLUSIONS**

Therefore, the development of a “green” economy in Ukraine requires active support from the state through the use of a number of incentive mechanisms: regulatory, organizational, economic, information, communication, budget and tax. The signing of the Association Agreement with the European Union is a good and effective impetus to greening the Ukrainian economy, developing and supporting new “green” sectors of the economy with a further prospect of transition to a “green” economy.

Therefore, the following conclusions can be drawn from the analysis of approaches to defining the essence of a green economy.

1. The green economy is viewed by the world community as one of the ways of overcoming global and local problems of humanity, which offers real mechanisms for changing the modern economic model. It is one of the important tools for sustainable development that promotes people's well-being, economic growth and social justice while reducing the risks to the environment and the rational use of natural resources. Issues that arise in the process of implementing the concept of a green economy need comprehensive research to provide scientific support for the development of incentive mechanisms at the international, regional and local levels.

2. The concept of a green economy is widely promoted at the international and European levels, but unfortunately, it is not yet legally recognized in Ukraine. The development of legal support for shaping the foundations of a green economy should be one of the priority tasks of the state.

3. The implementation of a course on building a “green” economy in Ukraine through the implementation of appropriate state policy will contribute to the achievement of European standards of living, the introduction of sustainable development of the economy of Ukraine, which is extremely important task of public administration to build a welfare society, increase competitiveness and competitiveness strategies for why further research should be devoted.

Ukraine has to foster the integration of environmental sustainability principles into successful SME business activities. In some cases, this means that an existing SME may adopt a “green strategy” incorporating new environmental sustainability goals and actions into its business actions. In other cases, it means that new enterprises may be started that specifically target the provision of a “green” product or service.

Green business has developed in response to the growth of awareness about the environment, and the impacts of industry and consumers on the environment:

- Governments have established environmental norms and standards, and SMEs have developed to provide green services and products to enable these norms and standards to be met.

- Individuals have become increasingly aware of how their lifestyle and consumer choices impact the environment, and are demanding green

products and services that minimize environmental impacts. SMEs are among the suppliers of green goods and services that respond to consumer demand.

Thus, at the present stage, the basis for successful development of Ukraine is the implementation of state policy aimed at economic recovery in accordance with the latest global trends of sustainable development, namely – to the model of “green economy”.

### **SUMMARY**

This paper deals with the origins of the green economy concept, providing the context for its current traction globally. The idea of green economy declared by UNEP in 2009 in its “Global Green New Deal” report is winning ever greater public attention. Its essence as the dominant paradigm at the present stage of social development is the ability to use the available free goods more effectively on the principles of inter-regional cooperation and mutual compensation of damages. The essence and factors of formation of the Green economy are discovered. The opportunities and prospects of Ukraine relative to Green Economy as a new paradigm of economic growth are defined. The obstacles to attraction of Ukraine into the European movement of greening of social activities are detected. The Government can help small and medium-sized enterprises to change their business practices and adapt to modern requirements, by “greening” the current strategy in the industry and innovation, promoting the concept of eco-efficient businesses and products and supporting the environmental innovation.

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