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**Transformational processes
the development of economic
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globalization: scientific bases,
mechanisms, prospects**

**Collective monograph edited by
M. Bezpartochnyi**

ISMA University
Riga (Latvia) 2018

**Ekonomisko sistēmu attīstības
transformācijas procesi
globalizācijas apstākļos:
zinātniskie pamati,
mehānismi, perspektīvas**

**Kolektīva monogrāfija
M. Bezpartochnyi zinātniskajā redakcijā**

Informācijas sistēmu menedžmenta augstskola
Rīga (Latvija) 2018

Transformational processes the development of economic systems in conditions of globalization: scientific bases, mechanisms, prospects: collective monograph / edited by M. Bezpartochnyi, in 2 Vol. / ISMA University. – Riga: «Landmark» SIA, 2018. – Vol. 2. – 352 p.

The authors of the book have come to the conclusion that it is necessary to effectively use the management approaches to regulate modern international economic relations, methodological tools for analyzing international competitiveness and innovation. Basic research focuses on assessing the social-economic development of the regions, the labor market and migration processes, the startup market, the analysis of investment activities of enterprises in different sectors of the economy, the formation of environmental and economic security, features of modern euro integration processes. The research results have been implemented in the different models of strategic enterprise development and management of innovative projects, mechanisms of state regulation and policy of decentralization, development of transport infrastructure, improvement of the state migration policy, introduction of IT-projects and resource-saving technologies. The results of the study can be used in decision-making at the level of international business, ministries and departments that regulate international relations, ensuring security and overcoming risks. The results can also be used by students and young scientists in modern concepts of the formation of international economic relations in the context of ensuring the competitive advantages of actors and improving innovation policy.

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The collective monograph is approved for publication at the meeting of the Scientific Council of the Information Systems Management University of 04th June 2018, Minutes No. 1-18.

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ISBN (print) 978-9984-891-04-0

ISSN (print) 1877-0444

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INTRODUCTION

The modern paradigm of global economic development necessitates the transformation and modernization of the national socioeconomic system, taking into account not only the national peculiarities of socio-economic relations and market mechanisms, but also the world, global market, since the influence of global processes on the national economy leads to its subordination to the laws of the global market.

Therefore, the process of integrating transitive countries into the global economy depends on the extent to which the entities of the national economic system are able to develop, respond, or can oppose the actors of the global economy without destroying the features of social relations that have historically developed and have a national specificity.

In order to carry out a systemic transformation and to formulate a country's socio-economic development strategy, which involves structural modernization, it is necessary to analyze the internal potential of the national economic system, its goals and socio-economic objectives of development, as well as the requirements of the global market, its structure and development mechanisms, especially in the conditions of the global systemic crisis.

The purpose of writing this collective monograph is to substantiate theoretical-methodological foundations and to develop organizational-economic mechanisms for the development economic systems in a globalizing environment, taking into account transformational changes in the international economic environment.

The object of the authors' research was the transformational process of changes in the world, peculiarities and trends of development economic systems, generalization of world experience in the field of ensuring stability and increasing the competitiveness of economic actors in various spheres of the national economy in order to ensure the effectiveness of their further functioning and development in a globalizing environment.

The subject of study were various processes of economic systems development; substantiation of the necessity of introducing innovations by economic entities; development of organizational-economic mechanisms for ensuring the competitiveness of economic systems; substantiation of directions of maintenance economic safety in the conditions of globalization; formation of theoretical-methodological basis for the adoption of practical solutions in the conditions of socio-economic asymmetry of the world economy in the process of European modernization of reforms, university council and the implementation of norms international law.

Chapter 1

SCIENTIFIC FOUNDATIONS AND MECHANISMS FOR ENSURING THE DEVELOPMENT OF ECONOMIC SYSTEMS

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LOGISTICS AS A COMPONENT OF THE ENTERPRISE STRATEGIC DEVELOPMENT

Nowadays efficiently organized logistics processes should be considered as one of the assets that provides high competitiveness of any enterprise in the market. It concerns the organization of economic processes both in national and international markets. In international markets, processes are developing in the direction of global reformation of logistics processes. Increasingly, in international practice, enterprises not only compete, but also develop their cooperation through the development of logistics operations and services. Currently, in the world economic practice, logistics processes are no longer considered as a set of useful tools for solving purely economic problems. Most enterprises, including those in Ukraine, consider logistics as an important strategic opportunity that ensures the formation of competitive advantages. Nowadays in Europe, many studies are being carried out to find directions and opportunities for using logistics in order to create competitive advantages. To solve the economic problems associated with the formation of logistics, it is worthwhile to focus on the essence of logistics strategies as part of the overall strategy of the enterprise.

The enterprise strategy as a plan of the highest form should be clear to all participants in economic relations. This is due to the essence of this concept, which determines the behavior of the enterprise in different conditions of the environment, its environmental impact on the state of the environment. Therefore, each strategy is original; it should be deprived of perception subjectivity of economic processes reality

occurring in the market, by those who develop it and oversee the implementation. Consequently, it is always worth bearing in mind the definitions that emphasize these aspects. M. Porter understands the strategy as offensive or defensive actions aimed at creating a stable position in the industry in order to overcome the five factors of competition successfully and, therefore, guarantee the maximum return on investment firms [1, p. 51]. Strategy is often understood as a way searching of effective organization of business processes and related events that occur in the environment. According to J. Gattorna, it is important to understand “for logistics strategies to be effective, they must be consistent with the goals and objectives of corporations or business units” [2, p. 31]. However, in order to gain a deep understanding of the role of logistics in creating competitive advantages and their reflection in the strategy, it is necessary to adopt the definition of a strategy as a coherent concept of operations, the implementation of which ensures achievement of the main long-term goals within the chosen segment of the economy.

Based on this strategy understanding, four main components of it should be distinguished: an economic segment, a strategic advantage, enterprise goals and functional development programs. The functional program almost always contains elements of logistics, and most enterprises distinguish the issues of its technical and technological support as part of a separate program, which is usually called functional strategy in economic practice.

It should be noted that the key concept in the field of strategic enterprise management is one of the above mentioned elements of the strategy – a strategic advantage, because it provides the competitiveness of market participants in the course of economic activity. The essence of the strategic advantage lies in the fact that the company tries to become a more attractive partner for consumers than other enterprises during the competition. This can be manifested in patents obtaining, introduction of innovative technologies in economic practice, geographical location, conformity of products quality to current standards, etc.

Competitive advantage determines the competitiveness of an enterprise – its ability to compete, as well as the competitiveness of products or services produced or provided by a business entity. Competitiveness is a theoretical concept that has a high degree of abstraction. Therefore, the reference to this concept requires conceptualization, correspondence with other concepts of economic theory and business practice.

As a distinctive feature, competitiveness should be considered only with reference to the characteristics of similar products or services of other producers. Concept of competition and competitive advantages always means comparison. At the same time, competitiveness should be considered in the corresponding concept of an enterprise and be reflected in the formation of organizational and economic relations between market participants. From the standpoint of consumers, the issue of competitive advantage is to offer them the best combination of price and quality characteristics of goods.

Competitiveness and competitive advantages are formed in the organizational and economic relations between enterprises that arise in the process of economic activity.

We should recall that analytical schemes for assessing a valid strategy and its justification for the next period focus, as a rule, on the problems of competitive advantage forming in the competition. In economic literature, the model of M. Porter, who offers three basic alternative strategies, is known [1, p. 73]. This approach allows for a more flexible understanding of the relationship between competition and competitive advantage. These interconnections should be researched to study the correspondences between logistics and competitive advantages of an enterprise.

Owners and managers of many enterprises in Ukraine and Europe have already recognized that logistics could be considered as a strategic opportunity for the development of economic activity. Logistics can independently or indirectly influence other types of activities to gain competitive advantage. It is worth paying attention to the interconnection of strategic management and logistics and considering main tendencies in the current practice of economic activity of enterprises from these positions.

Ye.V. Krykavskiy notes that “the purpose of strategic logistics solutions of the enterprise is traditionally to reduce overall costs and increase customer service by minimizing variable costs associated with the movement and storage of logistics products; reducing the turnover cycle of capital invested in reserves; rapid increasing in revenues from an increase in the level of customer service compared with less intensive growth in logistics costs” [3, p. 212].

Nowadays logistics can be presented:

as a modern element of a competitive strategy of the enterprise, the main condition of which is a resource-saving approach to the implementation of activities;

as an integrated approach that covers the development of material, financial, labor, information resources in the flows and stocks of the enterprise;

as an algorithm for organizing the rational transfer of flows of these resources in the enterprise at all stages of its reproduction process;

as a kind of entrepreneurial activity, which provides procurement, storage, supply of raw materials, products for all categories of consumers.

Logistics as a component of strategic decisions of an enterprise can be classified in five groups:

definition of logistic standards of customer service;

determination of the optimal number and location of economic units and enterprises;

definition of the level and scope of logistics services in relations with suppliers and consumers;

substantiation of general principles of logistics stocks management in the enterprise;

formation of the organizational system of logistics in the enterprise.

All logistics solutions should be divided into two groups. For the first group, it is important to justify the optimal level of logistics services, their role in production and resource allocation for each individual market, where the company operates. Such decisions should be tightly linked to the marketing strategy; they should take into account the level of competitive status and the development of organizational and economic relations and cooperation between enterprises; provide the formation of an effective mechanism for managing the logistics system of the enterprise. In addition, in the case of coverage of logistics services and international facilities of the enterprise, it is worth ensuring the cooperation of foreign enterprises in such processes.

In the second group of logistics solutions, the most important are those built on customer relationships on the basis of service standards. The cost of logistics services in the enterprise is closely related directly to the organizational methods of obtaining competitive advantages that involve a certain set of management decisions and consistency with the financial strategy of the business entity. Consequently, the chain of relationships is distinguished, “logistics services – capital – current expenses for logistics”. Obviously, such a connection is largely determined by the state of relations that arise during the acceptance and further implementation of contracts that take into account the location and equipment of economic sites and warehouses of the enterprise. So

the decision on the formation of logistics services range corresponds to functional, financial, marketing and production strategies. At the same time, inventory management decisions are related to all of these functional strategies. Therefore, decisions on the structure of the logistics system and the level of logistics services should be checked by examining their impact on the objectives of other functional systems and units of the enterprise, as well as on the implementation of the business entity mission.

From these positions logistics can be considered as a development strategy component of competitive advantages of the enterprise. Referring to the model of M. Porter, it is possible to distinguish between logistics and logistics services in the processes of diversification of enterprise economic activity [1, p. 73]. The conception of enterprise logistics should include the desire of the business entity to reduce the cost of logistics services, which can be used in the case when the company seeks to become a price leader in a certain market, and if the competitive advantage is achieved in the field of logistics – it should try to reduce the cost of predicted parameters of the whole logistics system.

In practice, depending on the level of development of the logistics system of the enterprise and the level of management of logistics, its tasks are reduced to the following: to promote actively the corporate strategy of the enterprise; the logistics system of an enterprise should have sufficient capacity to solve the tasks envisaged by this strategy; logistics should not be a tool for those involved in the economic process and who is looking for realization of their own ambitious goals only.

The analysis of the current state of agrarian logistics in Ukraine suggests that the main obstacles to its development are:

- lack of a government program for the development of agrarian logistics at an appropriate level;
- lack of qualified logistics personnel at agricultural enterprises;
- lack of funds for implementation of logistic approaches, since software logistics products are too expensive for domestic enterprises;
- lack of funds for the construction of a sufficient number of modern warehouses;
- lack of funds for the purchase of modern vehicles;
- low quality of road surface, imperfect digital GPS software for Ukrainian roads and lack of communication networks for large-scale transport;
- low investment attractiveness of agricultural sectors in Ukraine, which is mainly due to the imperfect regulatory framework and the

unstable political situation in the country;

- corruption component [4].

Because of ineffective logistics, Ukrainian agricultural producers lose about \$20 per 1 ton of manufactured products. In the annual equivalent, according to the current size of Ukrainian exports, it reaches \$600 million. Today, the cost of logistics in the agro-industrial complex of Ukraine is 30% higher than in the United States and 40% than in the EU [4].

Therefore, since Ukraine, as a country with great potential in the agrarian sector, plans to increase its export potential of grain and other agricultural products in the near future, special attention should be paid to the development of agrarian logistics and its efficiency increasing.

In general, Germany, Luxembourg, Sweden and the Netherlands ranked first in the logistics rating. In addition, the top ten leaders in terms of LPI are Singapore, Belgium, Austria, United Kingdom, Hong Kong and the United States. China was on the 27th position (one step above the 2014 ranking). India (the fastest-growing economy) did not hit the first 30th, but it was in the 35th place, that is 19 positions higher than its 2014 figure. Ukraine is on the 80th place (2014 – 61st). Russia – 99th (in 2014 – 90th place), Belarus – 120th (in 2014 – 99th place). This list is completed by Equatorial Guinea, Mauritania, Somalia, Haiti and Syria.

From 2007 to 2016, the dynamics of the LPI indicator in Ukraine was as follows: the largest indicator was demonstrated by the country in 2014 (61st place, 2.98 points), the lowest – in 2010 (102th place, 2.57 points; although in 2007 the country was 73rd with a lower overall score of 2.55). Moreover, Ukraine had the worst indicator among all the assessed characteristics for customs handling of cargoes from 2007 to 2016, except for 2014 [5].

The considered strategy of using logistics as a component of strategic development of the enterprise as a whole is an important tool for optimizing the use of available resources, reducing the cost of production, in case of improving its quality, increasing the quality of logistics processes itself, improving performance indicators and the competitiveness of enterprises in the long term.

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**UKRAINE FACING
ECONOMIC
CHALLENGES IN
POST-INDUSTRIAL
SOCIETY**

After the World War II developed countries grew relatively rapidly due to successful rehabilitation. Having recovered, they moved to a stable growth model at the level of 2 to 2,5 % [7, p. 39]. Also later there was a surge in growth due to the development of information technology. This surge continues in 21st century. The researchers drew attention to these circumstances and began to study the problems of social reproduction under terms of accelerating technological progress and the formation of a qualitatively new society, which places the role of industrial sector in the background due to the growing technologization, bringing science to the fore as productive force. The potential of social development is increasingly determined by the scale of knowledge and information that the society has. In the late 40s American economist Colin Clark and French social scientist Jean

Fourastie formulated the basic principles of the theory of post-industrial society – the division of social production into primary (extraction of raw materials), secondary (manufacturing) and tertiary (services) sectors and statement of future growth of the share of the tertiary sector compared with the primary and secondary ones as in the total labor force of the developed countries, so in the structure of GNP. Thus, the fundamental component of the theory of post-industrial society was formulated – the principle of domination of technological aspects of social production management over the assessment of the class structure spread not only to the historical periodization, but also to a concrete analysis of the economic development of modern societies. A little earlier, the representatives of the “new historical school” formulated another fundamental component of this theory – the periodization of history not based on the principle of assessing the class structure of the societies, but on the basis of studying the technological aspects of the social production management [4, pp. 14-15].

Later, the term “post-industrial society” began to be used by other social scientists, such as Alain Touraine, Alvin Toffler, Zbigniew Brzezinski, Yoneji Masuda. They came to the conclusion that capitalism of the 50s and 60s of the 20th century model, differs from the capitalism that existed before the Great Depression (1929– 1933) and the World War II. Society in developed countries began to lose a lot of important characteristics of the industrial system and gained new features.

The current definition of the term “post-industrialism” was developed by American sociologist Daniel Bell, who in his work “The Coming of Post-Industrial Society: a Venture in Social Forecasting” (1973), thoroughly characterized the emerging society. The information factor is put in the center of the concept and the author underlines that the concept of “post-industrial society” emphasizes the central role of theoretical knowledge as the axis around which new technology, economic growth and a new stratification of society are built up. He also states: “Post-industrial society is a society of knowledge in two respects: firstly, because change is increasingly driven by research and development..., and secondly, because society attaches more and more importance to the realm of knowledge”.

In pre-industrial society the main productive resource was manual labour, in industrial it is machine technology, in post-industrial it is knowledge, intelligence. The purpose here is not the quantity of the goods produced, but their quality, and, more broadly, the quality of life. Another well-known researcher – Alvin Toffler refers to the following

features of a transition to a new type of the society: the gradual transition from traditional fossil sources to unconventional ones; replacement of mass production by the production of goods and services clearly focused on the consumer; replacement of the nucleic family (nucleus, that is the couple with children, without other family members) by “multiform” one; the shift in the organization of corporations to less bureaucratic forms, more specialized and focused on solving specific problems; the demassification of communications, which is facilitated by the development of cable television, satellite communications, etc.

Bell’s system of “post-industrialism” is endowed with five features: 1) the transition from the production of goods to the production of services; 2) prevalence of professional specialists and technicians among the “class” workers; 3) the leading role of theoretical knowledge as the basis of innovations in economics, politics and social structure of society; 4) future focus on the methods of control and evaluation of possible directions of technology development; 5) decision-making on the basis of a new “intellectual technology”. These processes, according to the American scientist, are already gaining real life forms, while the traits of traditional capitalism are gradually disappearing.

In the center of the class division of society Bell places the principle of knowledge and qualifications and accordingly defines four basic classes: specialists (scientists, engineers, economists), technicians and semi-specialists, employees, workers engaged in manual labor. In the “post-industrial society” the “meritocracy” dominates (by John Kenneth Galbraith – “technostructure”), which is a “new elite” that consists of gifted individuals from all social strata. These elite become dominant not only in production, but also in politics.

Changing the social structure of society also changes the nature of contradictions. Daniel Bell wrote: “As in an industrial society there is an inherent struggle between a capitalist and a worker in an enterprise, so in a post-industrial society the conflict arises in a collision between a specialist and a commoner in organizations and in the society” [2, p. 129]. The central feature of “post-industrial society”, according to Bell, is the domination of science, scientific knowledge. Daniel Bell separates science from economics, declares its autonomy, considers its development as a prerequisite for a new organization and structure of the society. The main elements of this structure are universities, research institutes, research organizations. Since “great science” is beyond ideology, Daniel Bell tries to oppose it to “big business”.

Clearly, the concept of Daniel Bell, like other “transformation of capitalism” concepts, is based on real facts, trends of capitalist development. However, it only reflects the surface representations of these processes. Indeed, in the process of the scientific and technological revolution, the role of science, the demand for a qualified workforce increases, as well as for the qualification of specialists. But science was not and can not be independent of social conditions as the self-sufficient force in the society.

In the 70s and 80s a number of theories already emerged, which, on the one hand, presented other definitions of a new society, based on a comparison with former one by social forms, and on the other an attempt was made to characterize a new type of social structure based on allocating the defining features within it. Thus, the French scientist Raymond Aron noted: although the industrial system that replaces the traditional agrarian society is a type of society that opens a new era in historical development, still it is difficult to determine its specific boundaries and to find out if this or that society is archaic or post-industrial. Daniel Bell noted that post-industrial society does not replace the industrial one, as well as industrial society does not liquidate the agricultural sector. As on the ancient frescoes in the subsequent epochs, new and new images are applied, so later social phenomena are superimposed on the previous layers, vanishing some features and increasing the fabric of society as a whole. Later Daniel Bell pointed out that this society is replacing the industrial system in the same way as it came to replace the agrarian one, but this should not mean the cessation of the manufacturing. Post-industrial tendencies do not substitute previous social forms as stages of social evolution. They often coexist, deepening the complexity of society and the nature of the social structure [3, p. 167].

Each of these three stages is characterized by the domination of certain forms of social institutions: in an agrarian culture it is a church and an army, in industrial one – corporations, in post-industrial – universities and other scientific institutions. Accordingly, the elite of pre-industrial agrarian culture are priests and feudal lords, industrial – businessmen, post-industrial – scientists and professionals.

Consequently, a post-industrial society is a stage of social development that replaces an industrial society. If the previous model was oriented to increase the manufacturing at the expense of additional energy, raw materials, labor, the new one implies the strengthening of the factor of knowledge, information, the use of renewable energy,

environmental protection [8].

In the mid-1970s, the concept of forming a new type of society emerged as the next step in the post-industrial society. It was called “Knowledge society”, “K-society” or “Knowledge-based society”. It is characterized, in addition to technological, by the following dimensions: social, ethnic and political. Its inseparable components are new interdisciplinary knowledge generated by scientific and social institutions, the preparation of high-quality human capital, which is provided by education, the creation of additional wealth by knowledge economy and the formation of an integrated vector of society development focused on improving the quality and safety of life of all its members.

The rapid expansion of knowledge industries has continued in the next decades and has transformed the information sector into an integral part of the modern economy, which plays an ever-increasing role in economic and social life, in its modern sense it includes the advanced manufacturing industries that provide technological advances, the industry offering communication services, the production of information technology and software, as well as, increasingly, education.

Information and knowledge as the basis of the modern post-industrial economy were introduced later than previous concepts within the service economy. The development of the service sector and the further improvement of traditional industries in the secondary sector – manufacturing and construction – results in significant progress in science, education and culture, and their achievements, in turn, are realized in raising the information and knowledge, turning them into the main resource of socio-economic development.

The production and consumption of information and knowledge as the main resource of the information society in comparison with material goods is characterized by certain fundamental features. They are not vanished in the process of consumption, they do not disappear as material goods, although they can be outdated and leave the sphere of consumption. Material goods are always rare, limited, therefore, they are consumed by a limited number of business entities. Products of information, knowledge can be used by an unlimited number of economic entities. This opens unprecedented opportunities for growth of social production and increase of its efficiency.

The second feature of information consumption is that, unlike consumption of materials or energy, which leads to increased entropy in the universe, the use of information, on the contrary, increases human

knowledge, improves environmental organization and reduces entropy. The spread and development of information technology has reached such a level that today it determines the economic potential of states and affects their position in the world division of labor. Information technology is constantly evolving and affecting all aspects of public life.

The theory of information society, in spite of its few minor flaws, can and should be considered as an integral part of the theory of post-industrial society and as a methodological basis of the theory of information economy, as well as information economy is an integral part of the post-industrial service-information economy, and the theory of information economy is its theoretical methodological basis. In the context of post-industrial information methodology, many of the concrete statements introduced in the study of the information society and the information economy considerably deepen our understanding of modern society and its economic sphere and which should be used in the development and implementation of economic policy by the government of Ukraine in the light of new world-economic realities.

Consequently, the sociological aspect of understanding within the theory of the information society of processes and phenomena occurring in society under the influence of modern information and technological revolution and the growth of information and knowledge as factors of production, is the methodological basis for purely economic analysis of these factors, which leads to the emergence of the information economy theory.

After gaining state independence in August 1991, Ukraine faced a difficult problem of further development. And in the modern world it is impossible to live and be free from the internal conditions. It is not possible to isolate, not to respond to modern “challenges”. Ukraine has largely undergone an industrial stage of development in its socialist version. In the early 90s of the last century, first in the USSR, and then as an independent state, it faced several transformational processes and, accordingly, crises associated with them. The first was the crisis of industrial society. In the developed countries of the world it occurred in the 1970s. They succeeded in overcoming it thanks to the structural reorganization of the economy based on information technology and the increase in the scope of services. The overcoming of this crisis by developed countries was a complex transition (due to stagnation, inflation and other economic problems) to a new social stage – to post-industrialism.

For the countries of the former USSR (including Ukraine), the

structural crisis dates back to the 1990s (the postponement was largely due to isolation from the rest of the world). One can not deny that in the Soviet Union great attention was paid to the development of science. However, the best scientific forces and almost all resources of the country were sent to service the defence industry, which could not be considered cost-effective. The needs of the population were funded by the residual principle. A market was considered the “blow up element” for a totalitarian society, so everything that was associated with it, of course, could not function. For decades, the authorities were creating a “new man”. Contrary to its proclaimed benefits the Soviet man did not correspond to the type of personality that could contribute to the formation of a post-industrial society. The communist system collapsed as a result of interaction of many reasons. Among them there was the failure to fit into the realities of the new world.

The basis for the transition to a new stage of development was not as much the economy, technology or high percentage of educated population as the change of the person himself, finding a new motivation for him, which makes it possible to determine the activities of the post-industrial type, according to Daniel Bell, as a “game between people”. In the conditions of the Soviet system with a government monopoly over the information, ideological control and total oversight by the competent authorities, such changes were excluded, since pluralism of thoughts, free circulation and freedom of access to information were not allowed which are the necessary conditions for a new, information society.

Independence enabled Ukraine to overcome the above-mentioned obstacles and actively move forward. Why did a quarter of a century of life in a free society not live up to expectations and not give the expected results? Recent history, all modern practice shows that a post-industrial society can not be built. The only way of its formation is evolutionary development based on the maximum realization of the personal potential of people who have attained a high level of material well-being.

Ukraine got independence without shocks, without struggle, unexpectedly and this circumstance, as noted by academician of the National Academy of Sciences Yuriy M. Pakhomov, played a certain demoralizing role. Former prisoners of conscience proved to be unable to manage the country and quickly gave way to all adapters, demagogues who demonstratively burnt party membership cards and became democrats. The problem of the quality of power, besides, was

complicated by the unexpected, too rapid and unprepared entry of the country into the market [4].

Historical experience shows that if a large country is defeated, undergoes national humiliation, it stimulates its vigorous “response” to the challenge of fate. Striking examples are the successes of Germany and Japan. They capitulated in the World War II and lay in ruins, but quickly, in historical terms, not only recovered, but also moved forward making rapid progress. The new Ukrainian elite were convinced that the republic is strong and rich of resources that were drained by the Soviet empire. It is enough to throw off the “colonial yoke”, and in the morning people will awaken in a new prosperous, civilized, happy country. However, the reality was much more severe. Ukraine has entered a deep systemic crisis in all spheres of life. The economic situation in Ukraine was far from those liberal concepts that were offered by western strategists. The one-time gap of the planned interconnectedness of the economic activities in the absence of market mechanisms led to spontaneous and chaotic development of the economy [5]. These problems are still not beaten, moreover, they are complicated by interclan struggle for power and resources.

Similar transformations started earlier in former Soviet satellites – in Central and Eastern Europe. However, they were part of an “external Soviet empire”, thus not being a firmly integrated part of the “internal Soviet empire”. At the same time, in both cases, certain similar traits were traced. There was a general all-embracing revolution. The model of “real socialism” was rejected and the return to the development of the civilized world was proclaimed (in this, the model of the developed European countries was understood). But in the transformation processes there was a lack of dynamism. This was due to several circumstances. First of all, instead of going through the modernization, Ukraine has gone through reforms. Reform is possible with some light renovations. The government tried to create something comfortable for itself from the old material. As the historical experience of some other countries shows, it can not lead to success. On the one hand there were high expectations from the public, and on the other hand the inadequacy of leaders to the needs of the time was obvious.

In some countries, especially in Ukraine, the old-fashioned elites, which were not trusted by the society, remained in their posts. In times of crisis, when the state’s role in organizing work to overcome it should grow, on the contrary, this did not happen, but disregard for institutions increased. This is due to the immaturity of societies, the poor

development of political culture, the loss of trust in the state, of the rule of law and constitution. The general feature is instability. It is primarily due to the lack of general agreement on the nature, direction, sequence and pace of change and is manifested in frequent changes of governments. This, of course, does not contribute to the dynamic and successful development of the economy. The living standard of the overwhelming majority of the population is significantly deteriorating, the feeling of insecurity and confusion increases. There is no generally accepted ideology and basic principles that promotes disarray and vacuum in morality. A general feature of the situation may be “the onset of the era of wild capitalism”.

Its most prominent feature is the extremely rapid and enormous stratification of the once almost homogeneous Soviet society. During the years of independence, living standards in Ukraine have fallen tenfold. In the territory of the former USSR, in particular in the Ukrainian SSR, there is huge capital that is transferred abroad. The “shadow economy” and criminal activity have become widespread. Initial redistribution of ownership in Ukraine has not yet come to an end. One consequence is the interest of certain circles in fuzzy legislation. This leads not only to the numerous contradictions between the various laws, which facilitates the possibility of circumventing them, but also weakens the power of the law in general. Whole society suffers from it.

Ukrainian society has been suffering because of the uncertainty in the program’s transformation course. The IMF liberal-monetarist model was chosen as one of the ways of reform. This model did not provide a strong role of the state. On the contrary, everything should happen through market mechanisms of self-regulation. “However, the price of such “self-regulation” – as pointed out by the director of the Institute of World Economy and International Relations of the National Academy of Sciences of Ukraine academician Yuriy M. Pakhomov is too high – the massive outflow of capital and disinvestment of the country’s economy in the first stage – the stage of shock liberalization, which always results in hyperinflation; the destruction of a large part of the national industrial potential, not to mention science, education, medicine and culture – in the second stage, in the course of monetary and financial stabilization; the sluggish course of development with short ups and downs, with access to only minor foreign investment ... and with insurmountable poverty in the future”

There are a lot of reasons for the failure to apply the model developed by supporters of the Washington Consensus. In the first place

is that the recommendations were made without proper consideration of the specific conditions of their implementation. In the second place there are those circumstances that are either due to lack of competence of the developers, or due to their hidden plans to draw the weakened Ukrainian economy into a globalizing world according to the rules of the West. It is indicative that developed countries in their own reforms have never fully relied solely on monetarist tools. Some of its elements were used in combination with other approaches that provided for a certain role of the national state. From the negatives of globalization, such states are protected by various protectionist measures, denying such possibility for the less developed countries, which also want to join the big game. This was almost immediately pointed out after its promulgation by well-known Ukrainian scientists. So academician of the National Academy of Sciences of Ukraine Yuriy M. Pakhomov gave such an assessment to the mentioned model: “The model of economic development proposed by the IMF is rejected officially – and not only in the whole world, but even here. But so far no relevant statements from our reformers in power have been made. There is a logical question: why is the IMF model so “accustomed” to us? I think that the answer, firstly, is in the possibility of instant enrichment of the ruling classes, and secondly, in its simplicity. After all, the government is able only to manage the monetary leverage. A very serious reason is our habit of turning any model or theory into religion. Neither Poland nor Hungary nor Romania dismantled the state – we dismantled it. The whole world uses planning. Japan has been the country of the hardest planned discipline for twenty years. We are afraid to speak aloud about planning the development. It is not about returning to our former system, which, of course, exhausted itself, but about the use of methods used by successful countries. For sure, success can be achieved through the way of synthesis of models. For example, let’s consider a problem of increasing effective demand. To do this, it is necessary to combine the ideas of monetarism and the ideas of post-Keynesianism, neo-Keynesianism in the monetary policy. One policy gives you the ability to press one pedal, and when pushed too much and you have to mitigate the situation – push the other. That is, in some circumstances, the government can hold tough policy to suppress metastases, and then use the light heating, that is the elements of Keynesianism. If overexposed, the emissions were excessive and there was a danger of uncontrolled inflation, then turn to monetarism again”. Let us quote and estimate the statement by the director of the National Institute of Economic Forecasting of the National Academy of

Sciences of Ukraine, Valeriy Heyets: “Today, the overwhelming majority of experts admit that the ideology of the Washington Consensus is developed for the Third World countries. It is now recognized that countries that implemented alternative scenarios during economic transformation have made significant progress, primarily through the active inclusion of the state in this process.

The ideology of Washington Consensus does not reject the active role of the state. But the approaches to determining this role are inherent in developed economic systems. The state can play such a role, but within a developed market environment or market environment with stable and long-standing traditions. Thus, the mechanical extrapolation of the role of the state with the developed institutional sector and the formed market environment on transition countries, where such an environment is lacking and the institutional sector is embryonic, is a very important methodological flaw in the ideology of the Washington Consensus and all the previous policy of transformation. That is why today there is a rather serious gap between Ukraine and the outside environment. Long-term growth factors need to be involved, which are largely related to society, and not just to the economy. In this, I see the problems and importance of choosing an adequate concept of the model of economic development in the modern world.

Based on the estimates and indicators characterizing the “Europeanization” of development and the economic model we have inherited, we are lagging behind with most of these indicators, are at a lower stage of our transformation and have to overcome a few transitional forms. But these transitional forms, in particular, what they should be, are unfortunately little discussed. Actually, this, as it seems to me, has become one of the reasons for the lack of successful implementation of administrative reform. There is no complete understanding of the transitional forms that would allow to reach the necessary co-ordination...”[1].

All parties and political blocs proclaim ensuring the welfare of the people and the worthy place of Ukraine in the world as their main goals, insisting that it's they who can do it. This is repeated every time before the elections – presidential, parliamentary, local. However, a careful study of their programs, and then observation of real activities, indicate that they do not understand what is happening in the modern world and how it affects Ukraine. Often, those or other inconsistent actions are caused by political and business selfishness, the desire to take advantage of the moment without responsibility for the consequences. This

position is very dangerous under current conditions. And the danger grows very fast, due to the harsh challenges posed by postmodernization and globalization.

The released report of World Intellectual Property Organization Global Innovation Index 2016 (GII 2016) contains innovation performance rankings of 128 countries around the world, based on 82 indicators. The report examines the impact of innovation policy on economic growth and development. Theme of GII 2016 is “Winning with Global Innovation”. Fifteen of the top 25 countries rated in GII 2016, including the top three, belong to the European region. Switzerland is in the first place, followed by Sweden (2nd) and the United Kingdom (3rd). The three top are followed by Finland (5th), Ireland (7th), Denmark (8th), the Netherlands (9th) and Germany (10th), which in 2016 entered the top ten leading countries. In 2017 Switzerland, Sweden, the Netherlands, the USA and the UK are the world’s most-innovative countries. Ukraine ranked 50th in 2017 compared to 56th in 2016. This is the biggest success for our country during the existence of the GII [8].

In the last three or four years, the economic model has changed considerably in Ukraine. While talking about the expediency of building a new post-industrial economy the share of processing industry, the scientific sphere and services continue to decline in the structure of GDP of the country. The share of agriculture, extractive industry and taxes is growing. Wholesale and retail trade remain the only to be almost stable.

The beginning of liberal reforms in the 90s of the last century occurred under the slogans that society should not be afraid of the destruction of production. After all, we can buy almost everything in the global market. Then the IMF came to the country with a tight monetary policy, which included limiting the inflow of money into the economy, which results in inflation and budget deficits. Taxes and tariffs grew, but it turned out that there is still a lack of money for the reconstruction of the housing and communal services. This was accompanied by leaders’ proclamations of innovative development, which for some reason was followed by a reduction in investments in science and education.

As a result, after more than a quarter of a century after the start of reforms, the country does not produce enough, the economy lacks a fixed capital, our cities and villages are often on the verge of civilized existence. In the first decade of market transformation Ukraine did not limit itself to dumping unwanted or surplus productions. Many enterprises and entire industries were stopped, and often simply

destroyed, without which the national economy can not develop effectively.

The liberal elite admired the tales about the post-industrial era. The unprecedented freedom of import for hundreds of thousands of players and the high prices for raw materials in the early 2000s supported the illusion that we should not miss the lost production. Economic growth before the crisis of 2008 largely occurred in nonindustrial sectors of the economy – construction, trade, communications, real estate and financial services, while the manufacturing grew at a moderate pace.

The explanation is: the post-industrial euphoria captivated the whole world. A fairly moderate renewal of fixed capital is a characteristic feature for the whole of the West, both in the 1990s and 2000s. However, if you turn to the facts, then it turns out that the post-industrial nature of the economy of the leading old, as well as of some new industrial states does not mean their deindustrialization. The growing sector of services and industries that are not related to the physical processing of inputs and their use for the production of useful goods is mainly based on powerful and diversified industrial bases. The post-industrial world has questioned the role of a person who produces, and, consequently, labor and capital as the basis of any economy. However, the post-industrial superstructure, where a large share of the population work in the non-productive sector, remains a highly volatile element of economic activity that is unable to fully enrich the country, provide its stability and wealth, and often even support a civilized standard of living.

That is why the post-industrial world is possible only in those countries, which, firstly, have accumulated a powerful industrial capital and, secondly, are working on updating it. The United States, for instance, – the center of the post-industrial world – after the crisis, carry out an active renewal of capital.

The phenomenon of ideological obedience of countries that failed in world competition arose in the modern era. Ukraine is one of the examples. During the years of Ukraine's independence, its real GDP fell by 35 %. According to the World Bank, this is the worst result in the world over the past 24 years. Domestic production bottomed in the 90s. Due to its annual contraction in the first 9 years of independence, Ukraine lost almost 60 %. The Ukrainian economy never recovered from this shock.

Serhiy Korablin, the deputy director of the Institute of Economics and Forecasting of the National Academy of Sciences of Ukraine, said:

“Ukraine is following the model of depressed growth, which is satisfied with the minimum of aging technologies, does not need a science, is aimed at raw rents, generating monopolies, unemployment and poverty. Viewing the development element in this model is extremely difficult. It does not imply an independent economic policy – it has been replaced by the dependence on raw material external prices. For the overwhelming majority of the population and business, this model is unattractive. For the rest – it is unacceptable, as evidenced by a steady outflow of labor and capital from the country”. Ukraine needs a new industrial policy that will inevitably emerge after the change of power and economic course. Otherwise, we run the risk of becoming a banana republic, in the true sense of this word, but with no bananas.

Ukrainian science in the 20th century demonstrated great opportunities for development and, in the beginning of the 1990s, had considerable opportunities for successful development in the scientific and technological spheres. In Ukraine, the scientific and technical potential was created, which by many parameters corresponded to the level of the most developed countries. Domestic science and technology in selected priority areas, for example, material science, theoretical physics, mathematics, welding production, protective and strengthening coatings, biotechnologies, etc., retain the leading positions in the world. However, this transition was restrained by the general focus of economic development on the extensive type of reproduction, which is due to the obsolete forms and methods of policy planning, limited access of general-purpose industries to innovative results, imperfection of the criteria of the economic development effectiveness, the limited financial resources and the lack of well-established and permanent mechanisms for their focus on innovation priorities.

Here are some examples of the achievements that illustrate Ukraine’s role in the past and could determine the potential for the future. So the first digital computer in continental Europe was developed and created in one of the world’s largest centers of computer research – at Glushko Institute of Cybernetics in Kyiv. The first controlled nuclear reaction in continental Europe was carried out at Kharkiv Institute of Physics and Technology. The world’s largest rocket design and rocket construction company is Pivdenne (formerly Yuzhnoe). Design Bureau and factory in Dnipropetrovsk were responsible for the development and production of more than half of the Soviet space and military missile systems. Even today, only about ten countries in the world are able to develop and do develop their own missile systems.

The achievements of Ukrainian aircraft are acknowledged in the world. Among them, the world's largest airplane is the giant An-225 Mriya, and the small An-2, designed to work in severe conditions and remote northern areas. The main world research center for welding problems is E. O. Paton Electric Welding Institute of the National Academy of Sciences of Ukraine, where the most diverse technologies were offered – from space to surgical ones. These examples cover only a few branches of research, where Ukrainian scientists have world-class achievements.

Ukraine still retains sufficient intellectual potential that is capable of generating world-class scientific ideas. However, every year, it increasingly loses the opportunity to ensure the effective use of this potential on the path to innovation and the transition to building a knowledge society, a new technological mode of production. Without real steps by the state in this direction, its active pro-European position on the Lisbon Strategy, Europe 2020 Strategy – Initiative Innovation Union, Dublin Declaration 2013 – Open Innovation 2.0, European Cloud Initiative, Digital Single Market Strategy, it is almost impossible to prioritize and increase investments in research and development. The main directions of the strategy for the development of the Ukrainian intellectual property market should be the questions of the state's policy of full-scale protection of intellectual property, as well as protection of rights to these objects from unauthorized use; state policy on the results of development, created at the expense of the state; organizational and economic mechanism of intellectual property market functioning.

In general, the four major players in the global intangible asset market are the United States, the European Union, Japan and China. In 2015, the top five most innovative countries included South Korea, Japan, Germany, Finland and Israel. The United States was in the sixth place, Russia was in the 14th. Ukraine ranked 33rd place in the list of top 50 most innovative countries in the world according to Bloomberg. The index takes into account four other measures: the number of high-tech companies (Ukraine found itself on 35th position in this category), R&D centers (42nd), research personnel (41st), and manufacturing (50th). Ukraine ranks 41st in 2016 and 42nd in 2017. According to the 2018 Bloomberg Innovation Index published on Jan. 23, Ukraine is in 46th place, one place above Cyprus and one below Thailand.

For the first time, Ukraine's orientation towards the creation of an "information society" was officially documented in the Strategy of Ukraine's Integration into the EU (Section 13), adopted in 1998. It

should be noted that at the same time, in 1998, two Laws of Ukraine “On the Concept of the National Program of Informatization” and “On the National Program of Informatization” were adopted, which determined the principles and the program of informatization of Ukraine, and not the formation of an “information society” in the state. Such a contradiction towards conceptual framework between different groups of specialists and politicians at the highest level of political decision-making in Ukraine means uncritical perception of foreign innovations. It greatly damaged the practice of information and communication development of Ukraine.

The popularity of using of the terminology “information society” increased again in Ukraine in the early 2000s, during the preparatory work for the participation of the Ukrainian delegation in the first and second meetings of the World Summit on the Information Society, as well as during the attempts to implement the Summit Decisions after 2005. In accordance with the first Decisions of the Summit (Geneva Action Plan, 2003), Ukraine had to develop the National Strategy for the Development of the Information Society and begin its implementation. In 2005, Parliamentary hearings on this issue were held in Ukraine, and as a result, in early 2007, the Law of Ukraine “On General Principles of the Information Society Development in Ukraine for 2007-2015” was adopted. In August 2007, an Action Plan on the implementation of the objectives of this law was adopted (Order of the Cabinet of Ministers of Ukraine No. 653-p of August 15, 2007). According to this Plan, only in 2012 the National System of Indicators for the Development of the Information Society in Ukraine (CMU Resolution No. 1134) and in 2013 the Strategy for the Development of the Information Society (Regulations No. 386-p of the Cabinet of Ministers) were adopted. At the same time, the above-mentioned laws on informatization of Ukraine continue to be in force.

The convincing evidence of the inadequate state of the information society concept implementation in Ukraine is the holding of follow-up Parliamentary hearings on “Legislative support for the development of the information society in Ukraine” in July 2014. The recommendations address issues in the areas of legislation, information security, education and qualified personnel provision in information sphere, electronic management and electronic services for business and citizens, the development of the electronic economy, technical support of telecommunications, scientific and technical support.

Ukraine still has to perform a considerable amount of work on

understanding and adapting the concept of “information society” in Ukrainian realities, developing and implementing the National Strategy for Modern Information and Communication Development.

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**DEVELOPMENT OF
LABOR MARKETS
OF UKRAINE'S
BORDER
TERRITORIES:
PROBLEMS OF
INFORMAL
EMPLOYMENT**

In today's conditions of socio-economic development of Ukraine, the problem of employment of the population remains one of the key issues. Economic growth creates preconditions for increasing employment of the population. After a significant decline in employment in 2014, the Ukrainian labor market is characterized by a gradual increase in the level of economic activity and employment among people aged 15-70. According to the official data of the State Statistics Service of Ukraine during 2008-2016 the employment rate in Ukraine grew by 5.2% and was 64.5% in 2016 [2]. However, the objective uneven recovery from the crisis by individual industries and enterprises, noticeable differences in the ratio of demand and supply in the labor market cause disproportions in both the national labor market and the regional one, in particular, border labor markets. A lack of jobs coupled with low wages and a generally ineffective employment policy has caused a number of problems.

First of all, the decrease in the number of jobs and the length of a working day, the deterioration of employment conditions and the prospects of professional and personal development, all of these factors negatively affect the quality of working life. This indicates that a significant part of the population cannot fully fulfill their professional knowledge, skills and abilities and find decent work [6]. Skilled workers and professionals must seek informal employment and receive informal wages in search of means for better welfare.

Informal employment and the informal sector are characteristic

features of the economy in all countries, but their role in Ukraine in the conditions of the economic crisis has increased. According to the ILO definition, **the informal sector** is a collection of very small business units that produce and distribute goods and services and consist mainly of independent, self-employed producers.

The guiding principles for the statistical determination of informal employment were adopted at the 17th International Conference of Labor Statisticians in 2003. Taking into account the provisions of this document, as well as in accordance with the Methodological Regulations on the Determination of Informal Employment of the Population, approved by the Decree of the State Statistics Service of Ukraine of January 23, 2013 № 16, the following categories of population belong to **the informally employed** persons [3]:

- employed at enterprises of the informal sector (unregistered self-employed, employers and their employees);
- hired employees working in informal workplaces of the formal sector (persons who work under an oral arrangement and do not have any social guarantees, in particular: they are not paid for a single contribution to compulsory state social insurance, they are not entitled to annual leave and paid sick leave);
- hired domestic workers in households;
- members of informal production cooperatives;
- unpaid family members, regardless of whether they work in formal or informal sectors;
- self-employed workers who produce goods exclusively for their own final consumption of a household.

In Ukraine, the determination of the employment volume in the informal sector of the economy and informal employment has been carried out since 1999 in accordance with the “Methodology for Determining the Employment in the Informal Sector of the Economy of Ukraine”, approved by the Decree of the State Statistics Committee of Ukraine of February 29, 2000 №73. The indicated methodology is developed on the basis of the provisions of the Resolution on Employment Statistics in the Informal Sector, adopted at the above-mentioned conference.

According to the national methodology, the informal sector includes all persons who have been employed at unregistered enterprises, which by their size (number of employees) belong to the household sector. The attributing of enterprises to the informal sector must simultaneously meet the following criteria:

- market orientation of economic activity;
- limited number of employees;
- absence of the state registration of entrepreneurial activity [7].

The research of the informal sector and informal employment is conducted by the State Statistics Committee of Ukraine through random surveys of the population (households) using the data of state statistical surveys of enterprises, institutions and organizations and the data of the State Employment Service and on the basis of statistical reporting in each region, which makes it possible to analyze and research informal employment not only at the national level, but also at the regional one.

Indicative is the analysis of the informal sector of the labor market (informal employment) in the regions of Ukraine bordering on the countries of the European Union (Volyn, Lviv, Transcarpathian, Ivano-Frankivsk, Chernivtsi, Odesa regions).

The labor market in the border regions of Ukraine has the same characteristics as the national one. First of all, this is an imbalance between the demand and supply for labor forces. Other features include the acute problem of reducing the level of business activity of the population, the underdevelopment and deformity of regional labor markets, a high level of sectoral unemployment, an increase in the number of the unemployed among rural population and residents of small towns, the disturbance of the moral and psychological climate in society due to the unemployment of youth and women, an increase in the scope of the migration of labor resources [1].

In general, in Ukraine, as of 2016, 16,276.9 thousand of people were employed in the economy, of which about 25% were employed informally or in the informal sector (Table 1.1).

The dynamics of informal employment in 2008-2016 in the regions bordering on the EU is shown in Figure 1.1.

The data analysis in the context of the regions bordering on the EU showed that in 2016 the number of citizens involved in the informal sector in Ukraine on the whole amounted to 3,961.2 thousand people, while the highest level of informal employment falls strictly on the border regions of the Carpathian region: Ivano-Frankivsk (296.3 thousand people or 53.2% of the total employed population), Chernivtsi (185.1 thousand and 49.9% respectively), Transcarpathian region (181.4 thousand, 35.9%). That is, half of the employed in Ivano-Frankivsk and Chernivtsi regions are employed informally. Whereas the lowest level of informal employment is in Odesa region, where only one of five of the working population (185.1 thousand, 18.5%) is informally employed.

(Figure 1.2).

Table 1.1

**Number of the employed population aged 15-70 in the regions of
Ukraine bordering on the European Union in 2014-2016, thousands
persons**

Year		Volyn	Lviv	Transcarpa thian	Ivano- Frankivsk	Chernivtsi	Odesa	Regions bordering on the EU	Ukraine
2014	<i>Total</i>	410.5	1,038.2	521.4	547.8	370.6	1,009.4	3,897.9	18,073.3
	including informally employed	47.6	118.4	32.3	132.5	39.3	187.3	557.4	2,129.3
	including of the informal sector	55.8	83	228.1	154.3	149.6	117.1	787.9	2,411.6
	<i>Total</i>	397.3	1,042.0	519.3	558.3	367.2	1,016.20	3,900.3	16, 443.2
2015	including informally employed	55.0	156.9	24.7	153.3	37.8	200.9	628.6	2,075.1
	including of the informal sector	56.0	67.6	220.7	147	145	111.3	747.6	2,228.2
	<i>Total</i>	382.1	1,047.0	505.5	556.9	376.1	1, 000.6	3,868.2	16,276.9
2016	including informally employed	52.8	174.7	16.8	146.3	37.1	102.4	530.1	1,830.2
	including of the informal sector	57.6	72.2	164.6	150	150.6	82.7	677.7	2,131.0

Source: made by the authors according to the data [2]

Among the border regions the highest level of citizens involved in the informal sector is in Chernivtsi region (53.7% in 2008 and 49.9% in 2016), while the lowest indicators are in Odesa (22.2% and 18.5%) and Lviv (19.3% and 23.6%) regions.

However, there are reasons to believe that the data provided by the State Statistics Service of Ukraine, based on a sample survey of the population (households), are lower than real ones. The collective of scientists of the State Institution “Institute of Regional Research named after M. I. Dolishniy of the NAS of Ukraine” carried out the analytical study “Economic activity of the population of Lviv region: formal and

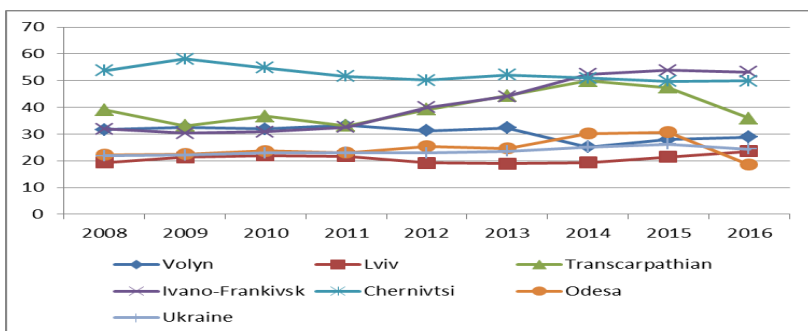


Figure 1.1 Share of the employed in the informal sector in the regions bordering on the EU and in Ukraine (2008-2016, %)

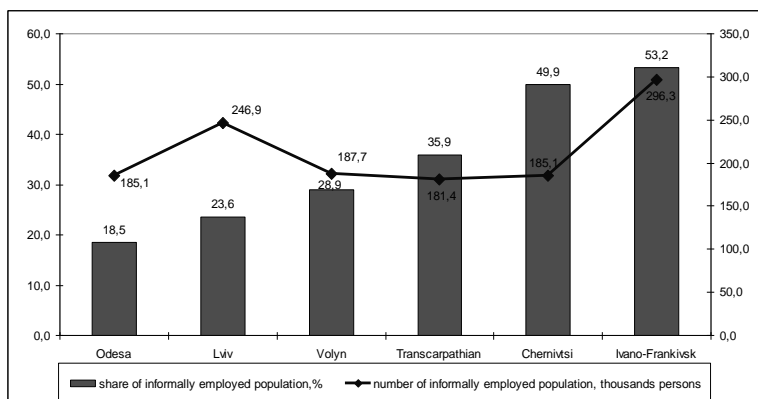


Figure 1.2 Number of informally employed population and the level of informal employment of the population in terms of regions bordering the European Union in 2016

Source: made by the authors according to the data [2]

informal employment”[8]. Its results showed a much larger number of informally employed populations in this border region. Using the official statistics data, it is established that in Lviv region as of January 1, 2016 the potential of informal employment and unregistered unemployment among the population aged 15-70 is: 1) 583.7 thousand people, which is 31.47% of the population of the corresponding age (calculated according to the data of the Main Department of the Pension Fund of Ukraine in Lviv region); 2) 479.5 persons, which is 25.85% of the population of the corresponding age (calculated according to the data of the Main Department of the State Fiscal Service of Ukraine in Lviv

region). In absolute terms, the largest number of such population aged 15-70 is in Yavoriv, Zhovkva and Pustomyty districts. The relative share of informal employment and unregistered unemployment is the highest in Sambir, Stryi and border districts of Zhovkva, Mostyska and Staryi Sambir [4].

In general, the analysis of the official statistical data for 2008-2016 showed that the level of employment in the informal sector of the economy in the regions bordering on the EU states is on average 1.5 times higher than in Ukraine in general and tended to decline in 2016 compared to 2008 (Figure 1.3).

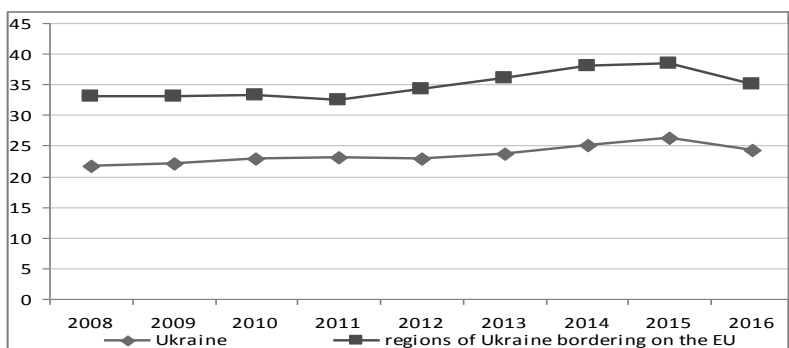


Figure 1.3 Dynamics of the employment rate of the informal sector in Ukraine on the whole in Ukraine and the regions bordering on the EU in 2008-2016

Source: made by the authors according to the data [2]

In sectoral terms, a traditionally high share of the informally employed is in agriculture (private plots and small unregistered farming), trade (informal employment is predominant in the formal sector – unregistered sellers and goods), construction (private house repairs and unregistered auxiliary work in the formal sector). The growth of the informal employment in Ukraine should be considered alarming for the division of the economy by sectors (Figure 1.4).

As there are disparities by the types of economic activity, the highest level of informal employment of the population accounts for agriculture (40.8%), trade (20.9%) and construction (15.5%).

As stated above, a high share of the informally employed and employment in the informal sector reduces labor market tension influencing officially registered unemployment levels (Figure 1.5).

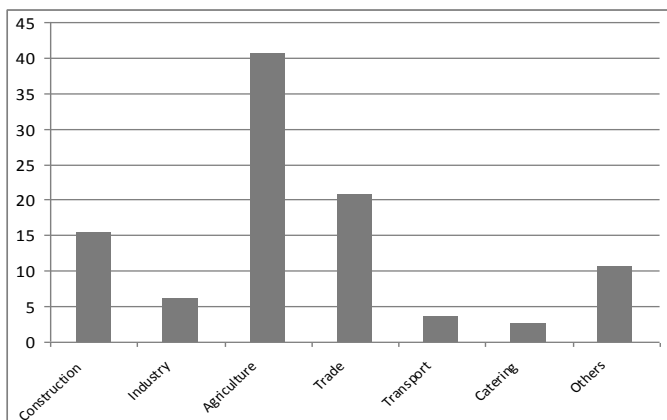


Figure 1.4 Share of informal employment of the population of Ukraine by types of economic activity in 2016, % of all the employed in the sectors

Source: made by the authors according to the data [2]

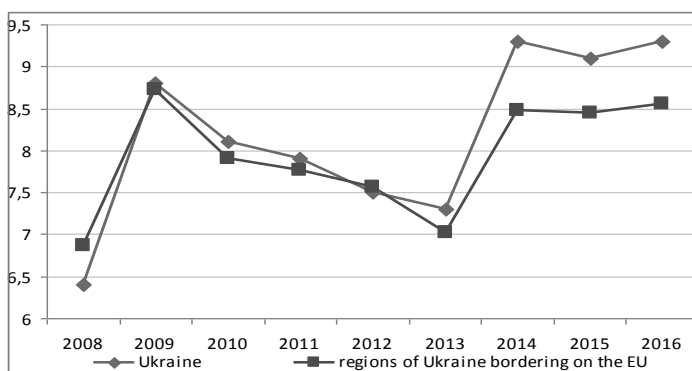


Figure 1.5 Dynamics of the unemployment rate of the population in Ukraine on the whole and in the areas bordering on the EU in 2008-2016

Source: made by the authors according to the data [2]

The territorial closeness to the European Union directly affects both the number of employed population and the unemployment rate in the direction of its reduction due to the absorption of labor resources surplus by the labor markets of neighboring countries. This is an essential lever for labor or shuttle migration in these areas to be increased. The highest

unemployment rate is in Volyn region (8.3% in 2008 and 11.5% in 2016), and the lowest – in Odesa (in 2008 – 4.5% and in 2016 – 6.8%). It is noteworthy that the unemployment rate in the regions bordering on the EU in 2014-2016 was on average 10% lower than in the country on the whole. However, there is a tendency towards the general increase in unemployment, which in turn will lead to an increase in the departure of our citizens in order to improve prosperity.

The main determinant of informal employment is a lack of paid formal employment for employees, which is adequate to their needs. The increase in the size of the minimum wage allowed legalizing some of the revenues paid in “envelopes”, but in general it did not solve this problem, since the wage of the informally employed in certain sectors is dictated by the market, in particular, it concerns trade and construction workers.

The practice of paying salaries (or their part, usually a bigger one) in envelopes is a very common phenomenon. According to the data reported by the State Labor Service of Ukraine with reference to the research of the International Labor Organization [9], about 5 million workers receive an “envelope” salary. As a result, there is the situation when thousands of the unemployed, mostly skilled workers, are registered at regional employment centers and are offered an official job with the monthly salary of 5-6 thousand UAH, but they do not work there for a long time [5], because their work in the informal sector (and informal employment at official, registered enterprises) can bring them 1.5-2 times more income.

The directions of reducing the number of people employed in the shadow sector at the border:

- on the part of regional authorities – an increase in requirements to foreign investors who opened or open new enterprises on the remuneration of workers employed there;
- on the part of the state – consistent increase of the minimum wage; improvement of legislation and regulations on tax reduction for employers, which will stimulate the legalization of informal workplaces by reducing employers' costs;
- development and implementation of regional programs on the return and reintegration of domestic labor migrants, the main direction of which should be the promotion of entrepreneurial activity and the creation of new jobs in the border areas of Ukraine;
- stimulating the development of efficient specialized agriculture (especially horticulture and berry picking), in particular, involving

Polish businessmen in the creation of small and medium-sized farms in cooperation with established united territorial communities;

- promoting the development of small and medium-sized businesses in the non-agricultural sector as the main area of diversification of the rural area economy.

However, these directions can only be effective if decent pay. The experience of opening large enterprises in Lviv region shows that a monthly salary of up to 6-8 thousand UAH is not an incentive for the transfer of a large share of citizens from the informal sector to the official one.

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MECHANISM FOR PROVIDING SUSTAINABLE DEVELOPMENT OF TRANSPORT INFRASTRUCTURE IN UKRAINE

In the context of transformational transformations of the national economy in the context of globalization and European integration into international production-supply chains, significantly enhanced the role of the transport sector. This is in line with the Strategy Sustainable Development “Ukraine-2020”, which provides for the implementation of transport infrastructure reform [1].

However, according to the results of the research, today the transport sector of Ukraine is currently showing a negative development trend due to lack of money for the reproduction of fixed assets due to their underestimated value and insufficient level of depreciation; limited funding from the state and local budgets [2, p. 63]; losses of enterprises of the transport sector (for example, losses of PJSC “Ukrzaliznytsya” in 2017 amounted to 5 billion UAH); lack of effective management of logistics activities as a result of the low indicators quality and efficiency of cargoes transportation [3, p. 410].

It was established that PJSC “Ukrzaliznytsia” is able to satisfy the logistic needs of the Ukrainian industry by only 10-30% [4]. This is clearly evidenced by the logistics efficiency index which used to assess international supply chains. So, according to this index Ukraine occupied in 2016 the 80th place among 160 countries in the world (in 2014 – 61st place), including in terms of customs clearance of goods –

116th, and timely delivery of goods in points destination – 54th place [5].

In 2017, in the Global Competitiveness Rating prepared by the World Economic Forum, by the indicator “quality of infrastructure” Ukraine ranked 88th among 137 countries in the world, including indicators “quality of roads” – 130th, “quality of the port infrastructure” – 93th, “quality of air transport infrastructure” – 92th, “quality of railway infrastructure” – 37th place [6, p. 297].

In addition, to the key issues the lack of effective development of the domestic transport sector can be attributed to the lack of financing of the state-owned property sector, low level of private investment and investment attractiveness of transport enterprises, limited resources for private investment in infrastructure objects, etc.

This is confirmed by statistical analysis. Thus, according to the data of the State Statistics Service of Ukraine, the total volume of cargo turnover decreased for 2010-2017 by 15.2% (Figure 1.6).

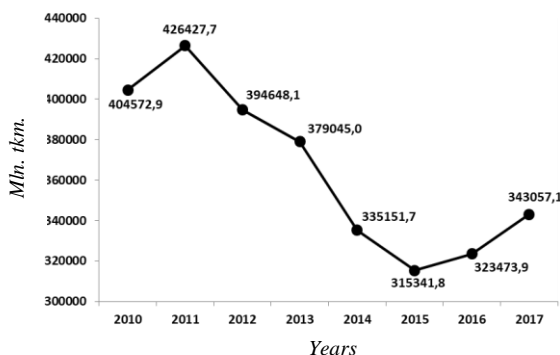


Figure 1.6 Dynamics of volumes of cargo turnover

Source: built by the author on the basis [7]

This happened as a result of a decrease in volumes of cargo turnover the water transport by 52.8%, aviation – by 27.9%, pipeline – by 23.8%, rail – by 12%. At the same time, volumes of cargo turnover of motor transport increased by 6.4% (Table 1.2).

At the same time, the share of volumes of cargo turnover of motor transport in the total Ukrainian cargo turnover increased by 2.4% (from 9.6 to 12%); railways – by 2% (from 53.9 to 55.9%), while the pipeline, by contrast, decreased by 3.5% (from 34.2 to 30.7%); water – by 1% (from 2.2 to 1.2%). Specific weight of volumes of cargo turnover of aviation transport is insignificant and in 2017 it was almost 0.1%.

Table 1.2

Dynamics of volumes of cargo turnover by types of transport

Years	Types of transport, million tkm				
	railway	motor	pipeline	water	air
2010	218037,6	38697,2	138445,4	9014,5	378,2
2011	243556,4	38438,9	136700,4	7365,2	366,8
2012	237274,6	39194,1	112505,1	5324,8	349,5
2013	224017,8	40487,2	109651,8	4615,2	273,0
2014	209634,3	37764,2	82050,9	5462,3	240,0
2015	194321,6	34431,1	80944,1	5434,1	210,9
2016	187215,0	37654,9	94378,9	3998,6	225,9
2017	191914,1	41178,8	105434,1	4257,1	272,7

Source: compiled according to the data [7]

The total volume of cargo turnover in Ukraine decreased for 2010-2017 by 15.8% (Figure 1.7).

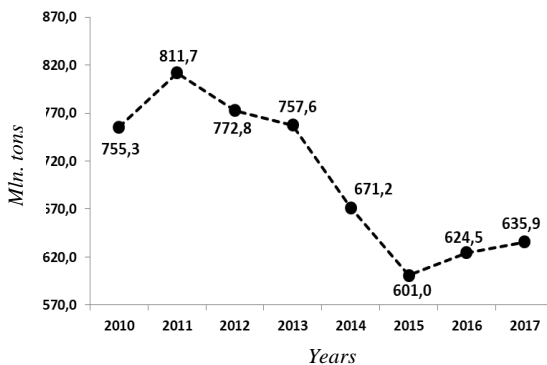


Figure 1.7 Dynamics of volumes of cargo turnover

Source: built by the author on the basis [7]

This reduction is due to a decrease in volumes of cargo turnover by water transport by 46.8%, pipelines – by 25.2%, railways – by 21.5%. The volumes of cargo turnover by aviation transport during this period remained unchanged. The share volumes of cargo turnover by motor transport increased by 6.7% of the total Ukrainian volumes of cargo turnover (from 20.9 to 27.6%), while the railways, by contrast, decreased by 3.9% (from 57.3 to 53.4%); pipelines – by 2.2% (from 20,3 to 18,1%); water – by 0,6% (from 1,5 to 0,9%). The share of volumes of cargo turnover by air transport is insignificant and remains

unchanged in recent years (Table 1.3).

Table 1.3

Dynamics of volumes of cargo turnover by types of transport

Years	Types of transport, million tons				
	railway	motor	pipeline	water	air
2010	432,5	158,2	153,4	11,1	0,1
2011	468,4	178,3	155,0	9,9	0,1
2012	457,5	179,0	128,4	7,8	0,1
2013	441,8	183,5	125,9	6,3	0,1
2014	387,0	178,4	99,7	6,0	0,1
2015	350,0	147,3	97,2	6,4	0,1
2016	344,1	166,9	106,7	6,7	0,1
2017	339,5	175,6	114,8	5,9	0,1

Source: compiled according to the data [7]

The lack over the last decades of sustainable financing of the transport sector has led to large-scale depreciation of fixed assets. This is confirmed by the calculation of the Spearman rank correlation coefficient, on the basis of which it was found that there is a reverse correlation between the value of fixed assets and capital investments in the development of the transport complex (the value of the Spearman correlation coefficient $r = -0,8$, which is within range $(-0,5 \leq r \leq -1)$.

As the analysis shows, the degree of depreciation of fixed assets at transport enterprises is considerably high compared to some types of economic activity in Ukraine, despite the tendency of its reduction: for 2010-2016 this indicator decreased by 43.8% (Table 1.4).

It should be noted that, according to calculations of experts, wear of freight cars of PJSC “Ukrzaliznytsya” varies in the range of 84-99%, passenger – 87%, suburban trains – 95% [4]. This means that by 2022 almost all the freight cars should be decommissioned or taken out to major repairs.

In 2016, the share of sphere transport, warehousing, postal and courier activities was only 6.7% of the total GDP. The volume of financing of the transport sector by the general and special funds of the state budget amounted to 17.6 billion UAH, or 2.6% of the fact expenditures of the consolidated budget of Ukraine. Despite on the reduction in the share of enterprises that have suffered losses in the sphere transport, warehousing, postal and courier activities, the value of this indicator is high compared to the main types of economic activity (Table 1.5, Table 1.6).

Table 1.4

Degree of depreciation of fixed assets by main types of economic activity, %

Types of economic activity	Years						
	2010	2011	2012	2013	2014	2015	2016
On average in Ukraine	74,9	75,9	76,7	77,3	83,5	60,1	58,1
Industry	63,0	56,8	57,3	56,9	60,3	76,9	69,4
Transport, warehousing, postal and courier activities	94,4	96,3	96,5	96,7	97,9	51,7	50,6
Real estate operations	44,2	40,7	42,5	40,4	36,2	37,7	45,8
Temporary placement and organization of nutrition	43,4	32,4	33,4	34,8	35,9	35,6	41,9
Wholesale and retail trade	32,1	37,1	42,0	39,5	37,3	44,7	39,3
Financial and insurance activities	28,7	35,3	45,6	40,2	38,5	41,9	39,1
Agriculture, forestry and fisheries	40,8	32,6	34,6	35,8	38,8	38,9	37,3
Construction	50,1	58,8	55,1	51,9	54,4	53,0	36,0

Source: compiled according to the data [8]

Table 1.5

Financial results of enterprises before taxation for major types of economic activity

Types of economic activity	The share of enterprises, who have get a profit, %		The share of enterprises, who have get a loss, %	
	2010	2017	2010	2017
On average in Ukraine	59,0	70,3	41,0	29,7
Transport, warehousing, postal and courier activities	54,6	59,0	45,4	41,0
Temporary placement and organization of nutrition	57,3	61,2	42,7	38,8
Real estate operations	49,9	64,1	50,1	35,9
Industry	58,7	69,5	41,3	30,5
Construction	55,3	72,8	44,7	27,2
Financial and insurance activities	58,9	73,7	41,1	26,3
Wholesale and retail trade	62,5	75,8	37,5	24,2
Agriculture, forestry and fisheries	69,5	90,1	30,5	9,9

Source: compiled according to the data [9]

Table 1.6

Net profit (loss) of enterprises by main types of economic activity

Types of economic activity	The share of enterprises, who have get a profit, %		The share of enterprises, who have get a loss, %	
	2010	2017	2010	2017
On average in Ukraine	57,3	69,7	42,7	30,3
Transport, warehousing, postal and courier activities	52,8	58,5	47,2	41,5
Temporary placement and organization of nutrition	56,4	60,8	43,6	39,2
Real estate operations	48,8	63,9	51,2	36,1
Industry	57,0	69,0	43,0	31,0
Financial and insurance activities	56,8	69,3	43,2	30,7
Construction	53,9	72,5	46,1	27,5
Wholesale and retail trade	60,3	75,2	39,7	24,8
Agriculture, forestry and fisheries	69,2	89,9	30,8	10,1

Source: compiled according to the data [10]

It was established that the share of net income from the sale of products in the transport, warehousing, postal and courier activities was insignificant and amounted in 2017 the 6.7% of the total net sales revenue from Ukraine (in 2010 – 5,6%). For 2012-2017 the share of net profit in the transport, warehousing, postal and courier activities decreased by 49.2%, or from 52.7% to 3.5% of the total net profit for all types of economic activity.

Based on the calculation of the Fechner coefficient (used to estimate the tightness of the connection by comparing the signs of deviations of the values of factors of effect and factor from their mean value), determined the presence and direction of the correlation between net income from sales of products and the volume of capital investments in the development of the transport sector. It was found that between these indicators there is a moderate inverse correlation relationship ($k=-0,33$).

Thus, the lag in the development of transport-logistics technologies leads to a high share of transport costs in the cost of production, which is reflected in the financial results. The level of profitability of operating activities of enterprises in the sphere transport, warehousing, postal and courier activities in 2017 was only 6.6%. While on average in Ukraine this indicator in 2017 was 10.1%; in wholesale and retail trade – 25,9%; in the field of real estate operations – 22.1%; temporary placement and organization of nutrition – 10.8%; industry – 8,3% [11].

According to the analysis of statistical data, the volume exports of

transport services decreased for 2010-2017 by 23.5%. There is a tendency to decrease the volume of export of services in rail transport by 60.8%, sea – by 45.4%, pipeline – by 10.7%, air – by 6.4%. The volume exports of services by motor transport increased by 8.4%. The share of volume exports the services of pipeline transport increased in 2010-2017 by 7.4%, or from 43.8% to 51.2% of the total Ukrainian volume export of transport services; air – by 3.4%, or from 15.2 to 18.6%; the motor – by 1.4%, or from 3,3 to 4,7%. The share of volume exports the services of rail transport decreased during this period by 9.4%, or from 19.3 to 9.9%; sea – by 4.2%, or from 14.6 to 10.4% of total export of transport services (Table 1.7).

Table 1.7

Dynamics of volume export of transport services

Years	Total volume export	Including by type of transport				
		sea	air	railway	motor	pipeline
2010	7662,9	1120,5	1166,3	1481,0	252,5	3357,7
2011	8848,1	1104,6	1481,8	1772,9	391,9	3755,0
2012	8287,1	1099,4	1485,1	1574,3	447,3	3247,3
2013	7981,8	1022,3	1299,1	1531,9	438,9	3329,0
2014	6101,9	850,9	1071,3	1098,8	459,6	2207,9
2015	5263,2	735,9	853,6	751,3	249,1	2258,0
2016	5300,5	661,6	882,8	561,1	237,9	2630,7
2017	5861,4	612,1	1091,8	580,9	273,8	2998,2

Data: million dollars USA

Source: compiled according to the data [12]

The total volume import of transport services increased for 2010-2017 by 4.1%. This is due to an increase in the volume imports of pipeline services by 132.8 times, sea – by 71.9%, motor – by 22.6%, air – by 1.1%. At the same time, the volume of imports services of rail transport decreased by 35.7%. At the same time, the share of volume imports of services by sea transport increased for 2010-2017 by 7.3% (from 11.1 to 18.4%) of the total volume of import of transport services, pipelines – by 6.5% (from 0.1 to 6,6%), motor – by 1,6% (from 9,3 to 10,9%), while by rail transport, by contrast, it decreased by 15,3% (from 39,8 to 24,5%), air – by 1.1% (from 38.4 to 37.3%) (Table 1.8).

Based on the calculations it was established that the balance of export-import operations in the transport sector decreased for 2010-2017 by 28.5%, or from 6498 to 4,648.3 million dollars USA. During this period decreased the ratio of export and import of transport services: if in 2010 this indicator was 6.58 times, then in 2016 – 4.83 times.

Table 1.8

Dynamics of volume import of services by types of transport

Years	Total volume import	Including by type of transport				
		sea	air	railway	motor	pipeline
2010	1164,9	129,6	447,6	463,3	108,3	0,6
2011	1581,5	137,4	685,9	599,7	141,2	0,5
2012	1713,5	196,4	635,9	641,9	193,6	0,9
2013	1689,8	187,8	628,3	626,3	194,9	3,5
2014	1376,6	243,7	431,0	431,3	189,8	52,6
2015	1153,4	191,7	466,9	287,0	91,8	98,1
2016	989,3	141,2	357,5	259,9	114,9	87,2
2017	1213,1	222,8	452,4	297,7	132,8	79,7

Data: million dollars USA

Source: compiled according to the data [12]

Analysis of statistical data shows that the volume of direct investments in the sphere transport, warehousing, postal and courier activities decreased for 2011-2016 by 8%, or from 1145.4 to 1054.0 million dollars USA. The share of this sphere in 2016 was only 2.8% of the total in the economy of Ukraine (in 2010 – 2.3%) [13, p. 16].

However, there are some positive trends. Thus, according to data the State Statistics Service of Ukraine, the total volume of capital investments in the sphere transport, warehousing, postal and courier activities grew in comparable prices for 2010-2017 by 29.9%, as a result of an increase in the volume of capital investments in terrestrial and pipeline transport by 121.5%, water – by 48.1%, air – by 19.8% (Table 1.9).

Table 1.9

Dynamics of volume of capital investments in the sphere transport, warehousing, postal and courier activities

Years	Volume of capital investments (in comparable prices, million UAH)			
	total	including by type of transport		
		terrestrial and pipeline	water	air
2010	19322,4	6725,5	152,4	614,9
2011	22230,3	7732,1	76,7	706,1
2012	28111,9	9899,5	63,2	714,3
2013	32522,2	11903,1	147,1	761,6
2014	21465,7	6581,8	120,8	825,4
2015	20111,8	4871,1	234,0	389,1
2016	18570,9	8840,8	389,2	612,4
2017	25107,0	14897,0	225,7	736,7

Source: compiled according to the data [14; 15]

At the same time, the volume of capital investments in warehousing and auxiliary activities in the transport sector decreased by 21.9%, or from 11705.1 to 9145.5 million UAH. At the same time, the share of volume capital investments in sphere transport, warehousing, postal and courier activities decreased for 2010-2017 by 3.3% (from 10.7% to 7.4%) due to a decrease in the share of capital investments in warehouse economy and auxiliary activities in the field of transport by 24.2% (from 60.6 to 36.4%), air transportation – by 0.3% (from 3.2 to 2.9%). The share of volume capital investments in the development of terrestrial and pipeline transport increased during this period by 24.8%, or from 34.8 to 59.3%.

In purpose to improve the investment climate has been developed and approved the Transport Strategy of Ukraine for the period till 2020. The main direction of the implementation of this strategy is recognized improvement of the investment climate by creating favorable conditions for attractiveness of the transport industry for attraction of investments, in particular foreign ones, in order to update and modernize the material-technical base.

At the moment, the Ukrainian Ministry of Infrastructure has developed the National Transport Strategy of Ukraine for the period till 2030, where one of the priority directions is to ensure sustainable financing of transport.

For the implementation of this direction it is planned to develop a complex of measures for:

- ✓ attracting private investment in the transport sector, including public-private partnership projects, and funds from international financial institutions;

- ✓ ensuring targeted financing of the transport industry;

- ✓ introduction of innovative financial instruments and mechanisms for attracting private investment in the development of transport infrastructure (green investments, interim financing, project financing, including bonds and major risk-sharing instruments and increase in value) with the support of the state or international financial institutions.

Consequently, the current conditions of activity enterprise in the transport sphere require the implementation of fundamental reforms, which should be to increase the efficiency of management of transport and financial flows, innovation-investment and logistics activities, the introduction of e-commerce mechanisms in the context of modernization and development of the digital economy.

To improve the management of transport flows it is expedient to

implement cargo turnover management systems (Gonrand, Videotrans, CTC, GIS, GPS), to apply automated document processing during the process of cargo turnover transportation, to develop proposals for optimizing the loading of transport and to use Internet technologies for automation of transport processes.

This will contribute to ensuring the sustainable development of transport infrastructure in Ukraine based on attracting investment resources in the functioning of the transport sector, rolling stock, improving the quality of transport services and level transparency of financial flows of PJSC “Ukrzaliznytsya”.

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THE ROLE OF INNOVATION IN THE DEVELOPMENT OF ECONOMIC SYSTEMS

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INCREASING THE EFFICIENCY OF ENTERPRISES THROUGH THE IMPLEMENTATION OF IT-PROJECTS

In modern economic conditions, the implementation of IT-projects, using of the information support system (ISS) is a key resource for increasing the efficiency of any enterprise. At the same time, investments in the processing systems of relevant information and the implementation of modern information technologies make it possible to automate the activities of enterprises, but directly contribute to increasing their profitability. Operational control of production activities, analysis of the current production situation, management decisions – all these functions are reduced, ultimately, to the processing of information. And from the fact that this information is operational,

reliable and complete, the success of the whole enterprise depends.

Reliable and timely information about the state of the enterprise is needed at all levels of management. It should be noted that profitability of production, reduction of costs, increase in labor productivity are primarily ensured by timely management decisions based on prompt and reliable information. In this case, it is necessary to implement a qualitative implementation of the system for supporting such decisions by developing and implementing modern information technologies.

When implementing the IT project, there are some difficulties and problems associated with the impact of various kinds of risks. It is possible to increase business efficiency by controlling the risk management of the project for implementing automated information systems. Thus, the study and modeling of the management process of any risk management project of the IT implementation project is an urgent problem and requires further solutions.

The work of many scientists is devoted to the research of theoretical and methodological aspects of automation of management, the formation of information-analytical systems and IT in business planning. In these works, automated information processing systems [1] are described, the stages of the software life cycle in the form of information systems in the subject domain of the economy, approaches to software design [2] are investigated.

In [3] it is proved that companies need lightweight project management techniques. Methods should be less structured for micro and small enterprises and more – for medium-sized enterprises [4].

Special attention is also paid to the need to implement a project approach in enterprises. The most convincing proofs of this kind are given in [5, 6]. The results of these studies show that project management positively affects the increase in productivity, profitability and sales volume in the surveyed enterprises along with other necessary business skills.

In [7, 8] the authors summarized the ways of implementing the project management system at the enterprise into two groups. The “top-down” approach provides for the adaptation of modern methods and standards for project management to the specifics of enterprises. The “bottom-up” approach assumes, on the contrary, the creation of its own project management methodology for each enterprise from scratch. The authors believe that the second approach will more fully meet the needs of enterprises.

But since all projects of implementation, as a rule, are unique in

connection with the specifics of the organization of the company, its structure and existing business processes, there are always some moments that are not fully suitable for a particular enterprise [9].

Many authors who consider the issues of the effectiveness of project management at enterprises in their works highlight a number of problems that make it difficult to implement or operate the project management system. The author of [10] singles out yet another problem related to the organizational culture of the enterprise: psychological resistance of employees to changes, rejection of bureaucratization and an increase in workflow. As a rule, any innovation is negatively perceived by employees, and the implementation of a project management system inevitably leads to an increase in the workflow.

There are many methods that offer different options and methods for managing project risks. If we talk about corporate risks, then as a problem for the implementation of the project management system, the lack of a long-term strategy of enterprise management. According to the authors of [11], the employees of the company performing operational activities do not often think about the long-term goals of the enterprise they work for. This is due to the fact that their own goals rarely coincide with the goals of the company itself. In this case, the owner, who has a monopoly on information, has his own strategy for the development of the enterprise and prefers to implement it with the help of authoritarian management tools.

So, the basic researches on the project management at the enterprises of small and medium business are considered, the basic theoretical models that adapt the methodology of project management to industry specific features of enterprises, as well as the ways of implementing the standards in such companies are determined. In addition, the main characteristics of the projects are considered and the main problems arising in the project management process are identified. But many applied issues related to the modeling of the risk management process in the IT implementation at the enterprise, the cost-effectiveness of managing the risks of IT implementation, taking into account the specifics of management at enterprises, still require a constructive denouement. They acquire special acuity in the context of the increasing importance of information support in the management of the enterprise and the impact of risk management on the competitiveness of the enterprise.

During the execution of the work general scientific and special research methods are applied:

- analysis and synthesis – for the preliminary analysis with the formation of the problem, the definition of goals, the definition of assumptions and risks; planning the IT development and operation with the definition of stages and their sequence; for the study of features, analysis of the current state of the market for enterprise management software, the conditions for the implementation of various types of information systems;

- analogies and comparative comparison – to determine the characteristics of implementation, the ratio of costs and cost estimates of existing corporate enterprise management systems;

- decomposition method – for IT development decomposition, which includes marketing research, database design, software development, IT advance planning; detailing the stages of modeling the risk management process of the IT implementation project.

In addition, it should be noted once again that the efficiency of production, increasing labor productivity, reducing costs are primarily ensured by timely management decisions.

Only that decision can be justified, which is made on the basis of reliable, systematized and scientifically processed information is achieved using scientific methods of developing and optimizing solutions. To fulfill these tasks, it is necessary to ensure the high-quality IT implementation at the enterprise by developing and implementing information systems for making managerial decisions in the enterprise's operations [12].

The main task in designing information systems for making managerial decisions is recording and managing the production and economic processes of the enterprise on the basis of methods for processing and analyzing information on the actual state of its production and financial activities. ISS must be able to complete the task. These include automation of the main tasks of accounting and the preparation of standardized reporting. Solve the tasks of financial management; to automate work with orders and purchases. To improve certain problems of warehouse accounting and various production tasks. Carry out planning of personal relationships with customers and suppliers.

An important component of information support of the enterprise's activities are technologies that represent a combination of methods and means of collecting, registering, processing, meeting and bringing to the user the necessary data through the system of organizational management of computer facilities. In this process, an important role is

assigned to the means of telecommunications with the use of Internet technologies, as well as information technologies for decision support and expert systems. Today, such tools are widely used based on information processing technologies. Examples of such can be, in particular, MS Access, OracleParadox, Clipper, SQL2; management: “1C: Enterprise”, “Parus”, “Galactika”. Also, office automation technologies, in particular, MS Word, MS Excel, Outlook, PowerPoint, Socrate, FineReader, Internet Explorer. Also teleconferences and decision support technologies, in particular, Project Expert, ArcviewMarketingAnalytic, Tier, SAP R/3 (SAP ERP).

For example, for five years of observations in the European software market, SAP is the largest vendor on the ERP systems market, with a 22 % share, followed by Oracle with 15 %, and Microsoft Dynamics with 10 %. Vendors of the Tier II group (including Infor and Epicor) occupy another 16 % of the market, vendors of the Tier III group – 37 %. In the Ukrainian market: SAP – 43.4 %, “Information Technology” – 15.7 %, 1C – 13.9 %, Oracle – 11.7 %, Microsoft – 6.1 % [13].

In the practice of the selection process or the technology of developing the necessary software, considerable attention is paid. First, the enterprise needs to determine the expected results from the potential ISS: what functions to perform, what stages of production should include, which to use the software platform, prepare reports. Secondly, an enterprise must have requirements for a computer system in which all indicators and characteristics of the new system are formalized and presented in accordance with priorities. To define objective criteria for comparing systems according to predetermined parameters. Modern problems associated with the solution of automation and control tasks in industrial systems, encourage the development of new methods of modeling and criteria for the application of information technology.

Today, a large number of various software for collecting, storing and processing information for solving applied problems is operating at various industrial enterprises. Among them it is possible to distinguish corporate systems, problem-oriented systems and software packages. All of them have certain properties, which under various conditions can be considered as advantages and disadvantages. The effectiveness of the application of particular software is determined by its functionality, cost and ratio: license – implementation – equipment. It should be noted that industrial facilities are characterized by a complex structure of flows, for example, a multitude of technological stages, the availability of a variety

of equipment, a variety of products, etc.

The current state of the computer systems market in Ukraine is due, first of all, to the historical development of domestic and post-Soviet systems, as well as the emergence of Western developers on the Ukrainian market. Simultaneously, there is a process of integration of post-Soviet and Western systems that create competitive software products, are implemented at enterprises of Ukraine to automate their management [14]. Along with production management systems, there appeared control systems for individual processes. Since these processes are interrelated, the vast majority of management systems are part of corporate information systems designed for medium-term, short-term planning and operational management of production. For large enterprise systems, R/3 (SAP AG), BAAN (BAAN), BPCS (ITS/SSA), Oracle Applications (Oracle) are often used [15]. Such systems have great functionality, which determine their considerable cost. Representatives of medium and small corporate systems in European countries, the United States and individual enterprises of Ukraine are: Mfg-pro (QAD/BMS), JD Edwards (Robertson & Blums), Platinum 14 (Platinum Software Corporation), MAX (ISL) , BOS ("IT"), Scala (Scala CIS), Galactika ("Galactika-Parus"), CA-PRMS (Acacia Technologies), etc. [16].

It should be noted that large and medium-sized corporate systems have a relatively high relative cost, and their implementation and adaptation in production is a complex and time-consuming procedure due to the possibility of forming alternative circuits of software modules. Systems, developed by foreign firms, often do not take into account the organizational specifics of existing Ukrainian enterprises, in particular, their industry. Usually, they have to develop additional software add-ons, compensate for this discrepancy.

Small systems are mostly limited functionally and solve only the tasks of integrated accounting and financial management, and, as a rule, they are not actually applied in production.

In connection with these shortcomings of corporate systems, enterprises often use problem-oriented packages of application programs designed to solve specific production tasks. Currently, there is a class of programs for various developers, for example, Factory Suite, TRIM-QM, 1C, etc. Of course, problem-oriented application packages are developed by the principle of integrating components into a single system based on network client-server architecture or distributed database architecture with the ability to work within local, corporate or

global computer networks [9]. Therefore, when performing production tasks, enterprises often have to give preference to integrated systems and mathematical packages of application programs for processing and computing data that are not tied to production. For example, among the available packages are Statistic (Statsoft), SAS (SAS Institute), SPSS (SPSS), Statgraphics (Statistical Graftes). But the production personnel who do not have a special mathematical preparation, when working with such packages objectively experience certain difficulties, moreover, this software tool does not take into account the specifics of production and does not realize the function of optimization of risk management of implementation.

Most integrators on the market provide their services in the implementation and maintenance of information systems, build their solutions on the basis of boxed products (SAP R/3, BAAN, Oracle EBS, Parus, 1C), adapting the systems to the needs of the client. This imposes certain restrictions on the final product – sometimes it is impossible to change the logic of the program, so it is necessary to use workarounds or adapt to the logic of the software. However, using a boxed product reduces the time to implement the system, allows predicting the timing of the completion of the project and provides a certain level of guarantees from the developer.

Analysis of approaches to the use of information technology development technologies allowed create ISS, the purpose of which is implementation of rational management in enterprises and is based on a comprehensive study of relevant dynamic processes during the life time of the project using modern IT tools. The software implementation of ISS is performed in the Java environment using the Spring MVC web technology. The developed system is a web resource, which includes a set of object-oriented program modules and provides transactions with the database.

As it is noted, the implementation of the IT-project is accompanied by the impact of various kinds of risks. The groups of factors interfering with the IT implementation project at the enterprise.

1. Economic. These include a lack of funds and inadequate measures to conduct research, implement information technology, invest in information projects.

2. Technological, in particular, insufficient material, scientific and technical base and obsolete technologies; obstacles from patent and license provision and the like.

3. Organizational and management. Organizationally inflexible

structures; the dominance of vertical information flow; orientation to short-term payback; difficulties in agreeing the goals of the project participants; prevalence of the interests of current production.

At the initial stages of ISS creation, it is necessary to understand how the organization that is going to automate works. The manager is well aware of the work as a whole, but is not able to delve into the details of the work of each ordinary employee. An ordinary employee is well aware of what is happening in his workplace, but may not know how colleagues work. Therefore, to describe the work of the enterprise it is necessary to build a model that will be adequate to the subject area and will include the knowledge of all participants in the business processes of the organization. Modeling of business processes, as a rule, is carried out with the help of case-tools. One option for using this tool is BPwin [18].

This process also includes a risk management procedure for the IT implementation project. The purpose of this procedure is identification and analysis of risks, and development of a methodology for responding to risks in order to minimize their impact on the project. Implementation of the procedure for risk management of the IT implementation project includes the main stages:

1. Identification and evaluation of project risks.
2. Analysis of key risks and opportunities.
3. Determination of the strategies and methods for responding to risks.
4. Development and implementation of action plans to minimize risks.
5. Measurement, monitoring and reporting of risk management activities.
6. Results/iteration with the process of making managerial decisions.

Each of these subfunctions is decomposed into component parts by implementing the procedures of the next, lower level. So the stage of identifying and assessing the risks of the project contains the following procedures:

- development of methods for identifying risks;
- development of appropriate procedures;
- documentation of the initial list of risks and coordination with management.

The second stage “Analysis of key risks and existing opportunities” is carried out on the basis of the components:

- analysis and development of risk assessment methods;

- analysis of existing opportunities of the company;
- documentation and structuring of the findings.

The third stage of defining a strategy and methods for responding to risks contains:

- analysis of existing methods of impact on risk;
- development of new methods;
- decision-making on the implementation or refusal of actions.

The next stage is development and implementation of action plans to minimize risks, which is implemented on the basis of the following procedures:

- making decisions on the nomenclature of risks;
- analysis of methods for influencing risks and making decisions on the impact method;
- carrying out activities to minimize project risks.

The stage “Measuring, monitoring and reporting of risk management activities” consists of sub-tasks:

- risk monitoring;
- risk identification;
- implementation of the project risk management plan;
- evaluation of the effectiveness of actions to minimize risks.

The last stage of modeling the process of risk management of the IT implementation project, namely «Results/iteration with the process of making managerial decisions» contains the components:

- correction of databases on risks;
- analysis of the effectiveness of the used methods and decisions about the need to change the method;
- adherence to the implementation technology.

To model the risk management process of the IT implementation project, a standard BPwin program procedure is proposed. This program provides an analytical tool for evaluating the model – value analysis (ABC). Functional ABC analysis is a technology for detecting and investigating the cost of performing a particular function (action) [18]. Typically, ABC is used to understand the origin of output costs and to facilitate the selection of the desired model of work in the reorganization of the business (Business Process Reengineering, BPR). With the help of cost analysis, it is possible to solve such tasks as determining the actual cost of producing a product. It is also possible to calculate the actual cost of customer support, identification of the most expensive works. It means those that need to be improved in the first place. This includes also providing managers with the financial degree of the

proposed changes, etc. [18].

To set the cost of work (for each work on the decomposition diagram), the frequency of this work within the overall process and duration is indicated. Then amounts are assigned for each type of expenditure. That is, the cost of each work is assigned for each item of expenditure. Total cost of work is calculated as the sum of all cost centers. When calculating the labor costs of the higher level (the parent), first the amount of expenses of the child's work is calculated for the frequency of work (the number of times that work is performed as part of the parental work), then the results are added. Based on the results of the ABC analysis, the final cost of risk management of the IT implementation project can be found.

Conclusions. 1. The analysis of the current state of the enterprise management software market is carried out. The main characteristics of the implementation, cost ratio and cost estimates of information systems of enterprise management are determined. The implementation of the ISS project at the enterprise is complicated by the impact of implementation risks and is a complex and lengthy procedure.

2. Stages of modeling the process of risk management of the IT implementation project are determined. They include the identification and assessment of project risks, an analysis of key risks and opportunities, the definition of strategies and methods for responding to risks. As well as the development and implementation of action plans to minimize risks, measure, monitor and report on risk management activities with an analysis of the results of management decisions. This makes it possible to reduce production costs at each stage of the ISS implementation.

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**ANALYSIS OF THE
UKRAINIAN NATIONAL
STARTUP MARKET AS THE
BASIS FOR INNOVATION-
ORIENTED ECONOMY IN
THE EUROPEAN
ENVIRONMENT**

Introduction. For Ukrainian enterprises, acceleration of the innovative activity is not only a key success factor in competition, but also the condition for survival at the market. The main trends of the national start-up market development were investigated, the main priority sectors of the national economy were analyzed along with motivation for creating innovative infrastructure (technology parks, innovation centers, technological incubators); the legal framework for state regulation of innovation was determined. Comparison of

investment and project support systems in the leading countries has been made. On the basis of the obtained results the main difficulties encountered in startups implementation have been revealed.

Analysis of recent researches and publications. The term “innovation” was first used in 1930 by Joseph Schumpeter. He defined innovation as commercial or industrial application of something new – a new product, process or method of production, a new market or source of supply, a new form of commercial, business or financial organization. [1].

In the research by Blokhin T.K., Bykova O.N. [2], Ermolaeva T.K., Avsyannikov N.M. [3] innovation is presented as an integrated process of creating, disseminating and applying a new idea that helps to improve organization efficiency.

Semenova A.A., Maruschak I.I. emphasize that the term innovation refers to a new product or service, the way of their production, innovation in organizational, scientific and technical and other fields, and any improvements that provide cost savings or create grounds for such savings [4].

Innovations were identified by Igolnikov G.L. and Patrusheva E.G., who conducted research in the field of industrial enterprises’ innovation policy, as the ultimate result of organizational activity. In their opinion, enterprises’ innovative activities development should obtain substantial and comprehensive support from the state, which should also provide real guarantees and incentives for domestic and foreign investments.

For the first time, the concept of a national innovation system was described by Chris Freeman in 1987 (Research Group on Scientific Policy, Sussex) in his study of technological policy in Japan (Freeman, 1987) [5]. In the study, the author described main elements of the Japanese national innovation system, which ensured the country's economic success in the post-war period.

One of the first definitions of the national innovation system was presented in the official documents of the Organization for Economic Cooperation and Development (OECD) as a set of distinct institutions which jointly and individually contribute to the development and diffusion of new technologies and which provides the framework within which governments form and implement policies to influence the innovation process [6].

Enhancing innovation as a basis for long-term sustainable development is considered in The Global Competitiveness Report 2017-2018 [7].

The World Bank states that the 4th Industrial Revolution will require not only enterprises' will and ability to innovate, but also strong institutions and well-functioning capital market [8]. UNESCO Science Report [9] suggests the 2030 Agenda for Sustainable Development including trends in innovation and mobility as a springboard for moving forward; reports of the European Commission Peer Review of The Ukrainian Research and Innovation System [10] are focused on developing recommendations for the Ukrainian authorities on reforming the economy on the innovative basis. The World Bank Group report by D. Cheney [11] analyzes the problems that impede implementing innovations in Ukraine aiming at policy and government reforms.

Formulation of the problem. Corruption, excessive state control and poorly developed regulating system, lack of effective law, and insufficient implementation of reforms altogether impede effective cooperation between government and the real sector of economy as well as discourage innovation, foreign investments and international trade. The state bureaucracy either passively resists innovations, or actively hampers changes that threaten interested parties. Also, technical regulations that are related to the former Soviet Union period prevent local companies from participation in the international value chains. Therefore, it is necessary to analyze the current state of the startup market in Ukraine, identify current trends in its development and the further prospects.

The main results of the study. Innovations are closely related to the growth in economic efficiency, products' quality, employment rate, living standards and general aggrandizement of the country competitiveness. In the long term it implies the ability to develop or introduce new technologies and apply their most appropriate factors that will determine the country's economic strength and standards of living. Let us define the innovation unit – a startup. “A startup is a company working to solve a problem where the solution is not obvious and success is not guaranteed,” says N.Blumenthal, cofounder and co-CEO of Warby Parker [12]. According to Merriam-Webster, startup means “the act or an instance of setting in operation or motion” or “a fledgling business enterprise.” The American Heritage Dictionary suggests it is “a business or undertaking that has recently begun operation” [13]. There is no clear definition of the startup concept in the legislation of Ukraine. However the legal and regulatory framework for startup and investment activities in Ukraine exists, including the Laws of Ukraine “On Investment Activity” of September 18, 1991 No. 1560-XII; “On the

Regime of Foreign Investments” of March 19, 1996 No. 93/96-BP; “On Innovation Activity” of 04.07.2002, № 40-IV; “On Scientific Parks” of 25.06.2009, No. 1563-VI etc.

Since innovation is characterized by creation of a unique product, and is always associated with know-how, inventions and technology, it is necessary to pay attention to the legal acts regulating relevant social relations, in particular: the Laws of Ukraine “On Copyright and Related Rights” of 23.12.1993 No. 3792-XII; “On Protection of Rights to Inventions and Utility Models” of December 15, 1993 No. 3687-XII; “On Protection of Trademarks Rights for Goods and Services” of December 15, 1993 No. 3689-XII.

In Ukraine, there is a generally great potential for innovative economy development based on talent and entrepreneurial skills. One can single out the following advantages of the current business environment in Ukraine: well-educated and talented workforce; existing research infrastructure in the field of science and technology, natural resources and opportunities for agricultural production, successful IT industry. The main innovators are companies – as they introduce new products, services or processes. However, the share of innovation activity of the Ukrainian companies is significantly inferior to the average in the European Union countries – 17 percent compared to 49 percent [14].

Large firms constitute only 0.1 percent of the total amount of all companies in Ukraine, but they account for almost 50 percent of revenues and employ about 40 percent of hired workers. Local competition is weak, and lack of competitive pressure has been delaying development of new technologies. Small and medium-sized enterprises (SMEs) in their innovation activity are facing numerous challenges – lack of skills, knowledge and funding, weak competition policies. There is also a clear lack of the state system of innovation support that would help enterprises to gain access to knowledge and technology. In addition, comparatively sufficient size of the domestic market reduces the need for firms to export, which creates pressure on innovation to withstand international competition. As the result most Ukrainian companies have little interest in innovation and, consequently, invest little in it.

By dint of the European Innovation Scoreboard we can evaluate the country’s innovative activity. In 2017 Ukraine was in the fourth group – “Modest Innovators” with an index of 0.128. (maximum 1). Ukraine was ahead of Macedonia – 0.1636 and Turkey – 0.1880. Compared to

other EU countries, the lagging behind of Ukraine is: compared to the first group of “Leaders of Innovation” – more than 4 times (Sweden ranked first with 0.796), the second group of “Strong innovators” – 3 times (Ireland – 0.5843), the third group of “Moderate Innovators” – 1.6 times (Estonia – 0.4161) [15]. The country’s low innovation activity is confirmed by rating by the international agency Bloomberg Rankings in 2017. Thus, Ukraine ranked 42nd in terms of innovation among the 50 countries considered [16].

The level and structure of investment into new businesses gives an idea about the market potential development. According to the 2nd International Forum “Innovation Market – the technology of the future today” about \$ 88 million were invested in startups in Ukraine over the last year [17]. Dozens of Ukrainian startups participated in international exhibitions and conferences. Generally there were around 20 exhibitors from Ukraine at CES 2017: some of them, like Petcube, Conceptor, LaMetric, were participating not the first time, but also there were those that showed up only in 2017 – such as Mevics, ARTKB, which was presenting HushMe and Clovitek and IoT Hub, gathering 5 startups [18].

Analyzing innovation activity indicators, it is worth noting that Ukrainian projects are increasingly raising on crowdfunding platforms (almost \$ 2 million in 2017), including the world's largest ones: Kickstarter and Indiegogo [19]. Most of the projects (77%) were launched on the Kickstarter platform; 83% of them successfully collected the necessary funds. The most active period occurred in May-June 2017 (15 companies were launched). The total amount of collected funds was 3.9 times higher than the declared amounts (stated 454,300, collected – 1 778 099 thousand dollars). According to the Research committee of the Ukrainian Venture Capital and Private Equity Association (UVCA), on this platforms 35 campaigns have been launched since the beginning of 2017. Record high 83 % functioning successfully. As of mid-August 2017, Ukrainian projects have already collected \$ 1,895,252, which is four times more than the initial goal [20].

During the last 5 years (since 2012) Ukrainian VC & PE invested \$ 407 million in national startups in total. In 2016, 87 investment transactions were concluded with Ukrainian companies, which is 32% more than in 2015. The volume of investments for the last 5 years increased to 400 million. At the same time, the volume of investment transactions decreased by 33% from 2015, including another 13% in undisclosed transactions, but still higher than in 2014, at 125% [20].

At the beginning of 2018 there were about 970 academic and industrial research institutions in Ukraine. The majority of Ukrainian research institutions are located in Kyiv (26%), Kharkiv (16%), Lviv (6%) and Dnipro (6%) [23]. From 2005 to 2016, the number of research universities fell by 37%, in 2014, their number was 999 institutions (decreased by 144 entities compared to 2013). The largest changes occurred in the field of technical institutions, which declined by 54% from 2005 to 2016 [23]. There are totally 31 innovation supporting funds operating in Ukraine, consisting of 5 incubators and accelerators, 1 corporate fund, 17 venture capital funds, and 8 private equity funds. Foreign investments into Ukrainian start-ups by geographic location are shown in Figure 2.1.

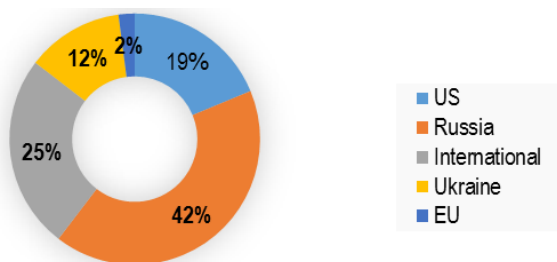


Figure 2.1 Capital structure in Ukrainian start-ups by foreign country in 2016, \$M UAH

Source: developed by authors based on [23]

Venture capital is fundamental for financing companies at an early stage and therefore crucial for the growth of startup companies with high potential. As it can be seen from the Figure 1, Ukraine invested in 18 projects (12%), the US in 11 start-ups (19%), International – 9 (25%), EU – 5 (2%), and Russia – 1 (42%). Most projects cannot be attributed to the legacy of Ukraine, because they are registered in the USA [24].

Crowdfunding platform can be an excellent alternative for a project earlier stage. Let us consider the life cycle of the startup and the stages of its financing. Each startup project goes through several basic stages of development:

Step 1: Pre-seed, or sowing, which is characterized by understanding of the idea itself. The team studies the prospects in the market and making an initial plan that provides recommendations how to start the business and develop it in the future.

Step 2: Startup stage – these are the first and most troublesome weeks of work. The best tool to find investors on this stage is a self-promotion. In the absence of good business acumen and perseverance, it may not cause the proper interest. It is at this stage that many projects fail.

Step 3: The Growth stage provides further promotion and consolidation of goods and services in the market. At this stage the product is already known among consumers, and the work is carried out according to the business plan.

Stage 4: Expansion stage: the startup is well known, brings profit and gradually goes beyond its niche in the market. The team becomes a real production or financial company, which is engaged in the purchase of new similar projects.

Step 5: Exit stage: in the case of successful business and the development of a start-up at this stage, many investors leave the project, and the business is sold to strategic partners. If the company failed, and the project did not interest the customers, the exit phase may end with the closure of the start-up [33].

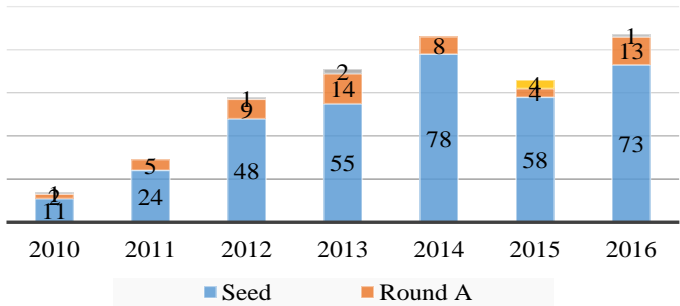


Figure 2.2 Number of deals on different start-up stages
Source: developed by authors on the basis of [20]

In the Figure 2.2, we analyze the dynamics of changes in the number of projects at each stage of the project. The most extensive and difficult for the team is the Sowing stage. Here it is necessary to develop a prototype of a new product, to decide how to attract investments into a startup. According to the UVCA annual survey of the investment market – most startups received investments in the initial stages in 2016 [20]. A

distinctive feature of the market in 2016 was the predominance of transactions at the stage of Seed. Thus, among all 87 deals 73 were made at the initial stage with an average amount of more than 500 thousand US dollars. Therefore, we can expect that these initially invested companies will attract large investments in the future [20].

International cooperation in the field of R&D is becoming increasingly important in Ukraine. Cross-border cooperation with the European Union and its member states (RS) on a bilateral basis is one of the pillars of Ukrainian international cooperation in the field of R&D [34]. One of the main priorities of international cooperation in the field of R&D is integration into the European Research Center (ERA). This is facilitated by multilateral and bilateral cooperation with the EU and its member states. There are 25 intergovernmental agreements on scientific and technical cooperation between Ukraine and the EU and countries associated with the Horizon 2020 [10]. The cooperation partners in EU are: Austria, Belgium, Bulgaria, Canada, Czech Republic, Finland, Germany, Greece, Hungary, Lithuania, Italy, Poland, Portugal, Romania, Moldova, and Turkey. The number of grants received for research work from international funds in 2015, decreased by 12.2% compared with 2014. In addition, 4,513 individual scientists used international grants, which is 11.2% less than in 2014 (Figure 2.3).

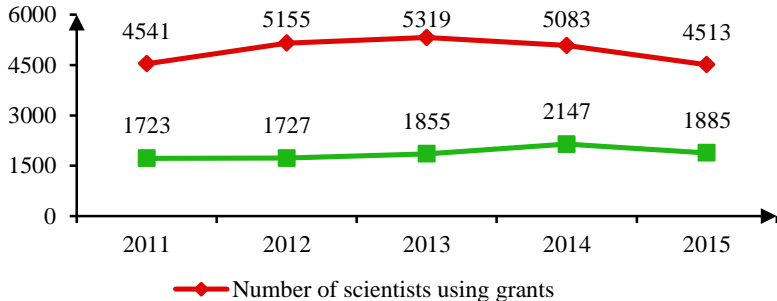


Figure 2.3 The dynamics of cooperation with international funds
Source: [23]

Evaluation of the Global Innovation Index [7] (GII) is part of a major study that examined both the commercial results of innovation in countries and the activity of governments to promote and support innovation in their public policies. The indicator consists of 113 variables, united in 12 key indicators: 1) quality of institutions, 2) innovation potential, 3) infrastructure, 4) competitiveness of companies,

5) macroeconomic stability, 6) domestic market size, 7) health care and initial education, 8) the level of technological development, 9) higher education and training, 10) financial market development, 11) efficiency of the market of goods and services, 12) labor market efficiency. In 2017, the GII remains relatively stable at the top. Switzerland leads the rankings for the seventh consecutive year, while Sweden maintains at the 2nd place. The Netherlands is ranked 3rd, although most of this improvement is the result of methodological changes and improved data availability. The USA remains stable at the 4th place, while the UK has moved down two positions to take 5th place. Denmark improved its position this year, ranking 6th. Singapore, Finland, and Ireland moved down, occupying the 7th, 8th, and 10th places, respectively. Germany, which entered the top-10 in 2016, has continued its advancement, moving up one position from last year and occupying the 9th spot. Hence, despite some movement, the top 10 does not have any new entrants this year [7]. As of 2017, Ukraine ranked 81st out of 137 countries, improving its result by 4 positions compared to 2016 [7]. The biggest losses, namely 13 points, occurred in the field of labor market efficiency. Ukraine also lost 9 points in innovations, 3 points in infrastructure and 2 in higher education. The lowest rates in Ukraine on the strength of the banks (130th place), the regulation of stock exchanges (134th place), the quality of roads (130th place), inflationary changes and the country's ability to hold talent (129th place) and property rights protection (128th place) [7].

Ukraine is making significant strides in the field of innovative technologies. At CES-2017, the Ukrainian section was first opened, and 8 Ukrainian start-ups are represented: Ecoisme, Raccoon.world, Cardiomo, Hideez, Luciding, Technovator, SolarGaps, Wider [35].

The funds are ready to invest in the development of the project from 50 thousand dollars to tens of million dollars, depending on the stage of the project and the type of the fund. Most of them (37%) are ready to invest from 100 thousand to 1 million dollars. 13% of funds are ready to invest in the development of the project more than \$ 10 million [36].

It is necessary to analyze the structure of investments in Ukraine in different sectors (Figure 2.4).

Analyzing the structure of general investments in 2011-2016, it can be noticed that in 2016 the sectors of enterprises and online services were most financed. Investment in E-commerce area reduced (by 95% in 2016 compared to 2015), while investment in software decreased 3 times.

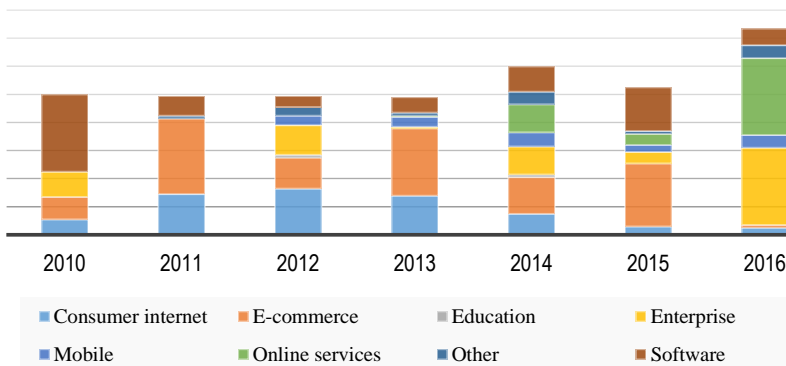


Figure 2.4 Total investments in Ukrainian start-up by field, UAH
Source: developed by authors based on [14]

Ukraine also cooperates with foreign organizations. U-Inn is an initiative of the United Nations Development Program in Ukraine in partnership with the Ministry of Youth and Sports of Ukraine under the project “Civil Society for Democracy and Human Rights in Ukraine”, which is financially supported by the Danish Ministry of Foreign Affairs. According to the U-report, 64% of men and 50% of women have ideas about community development, and 62% are ready to put them into practice. The U-Inn initiative is aimed at these young innovators from all regions of Ukraine and helps them to develop their ideas for improving human rights and strengthening democracy at the local level. Winners of the U-Inn will receive a total prize of \$ 15,000. The award will reward projects in target communities [37].

In Ukraine, the Ministry of Education and Science is the main agency in the system of central executive state agency that ensure developing and implementation of state policy in the field of scientific, technical and innovation activities and technology transfer. Development of the National Innovation System as an integrated system for development of the innovation processes in Ukraine was first considered at the Parliamentary hearings in 2007. Later they were discussed at the Parliamentary hearings “Strategy of innovative development of Ukraine for 2010-2020 in the context of globalization” in 2009. The Cabinet of Ministers of Ukraine approved the Concept for Development of the National Innovation System for 2009-2013. This was the period of the greatest manifestation of the need for the existence

of such a system in Ukraine. Due to introduced changes and suspended existing legal norms, legislation in the innovation area started to lose its state regulatory role and stimulating impact on innovations development. Since 2010, state bodies started to enact laws and regulations that openly inhibited not only the processes of innovation, but also science and education development [38].

Since 2009, Ukraine's government has passed 27 reforms targeted at the business environment. Out of these reforms, the World Bank viewed 25 as improving the country's business environment and 2 as hurting it. Of the 27 reforms, 6 lied in the category of starting a business. Ukraine reformed its business registering procedures, decreasing the number of procedures for business startup. In 2016, the Ukrainian government amended the Law of Ukraine 'On state registration of legal and physical entities – entrepreneurs and civil organizations' and modified the business and property registration system. As a consequence of reforms, Ukraine ranks 20th (out of 190 countries) with respect to ease of starting a business. Similarly, Ukraine has also consistently improved the area of property registration, currently ranking 63rd, up from 88th in 2014 [39].

The national report "Innovative Ukraine 2020", prepared by the National Academy of Sciences of Ukraine, notes that "the main reason for the failure to comply with legislation in the field of science and innovation in Ukraine, the complexity of its development and adoption are due to the fact that regulatory acts are adopted in the absence of any innovation-oriented economic strategy of Ukraine" [40]. It is the lack of an effective strategy for development of the Ukrainian economy on the basis of knowledge that leads to a gradual loss of R&D potential, the ability to quickly implement its results in the real sector of the economy, respond to world scientific and technological challenges and effectively use world developments for national interests.

It is important to develop country's innovative infrastructure – create a development fund, finance acquisition of equipment by research institutions with compensation of loan interest rates to borrowers. It is also planned to create a centralized site for development and innovation with a comprehensive database of projects developed by Ukrainian companies.

Science re-orientation, technological development and innovation (STI) system of Ukraine towards higher socio-economic relevance, effectiveness and a stronger innovation focus accompanied by the necessary reforms requires strong guidance, supervision and monitoring from an independent board which has responsibility in defining a

challenging reform agenda in consultation with important stakeholders. The National Board on the Development of S&T has to be in the position to be politically influential and to dispose of strategic intelligence. To secure political strength, the Board has to receive the highest political leadership and commitment. Moreover, the Board must be assisted by a well-equipped secretariat staffed with subject-matter experts. In order to do its work substantially, the Board should also have adequate budgetary means at its disposal [10]. Development of innovations is impossible without creating of the “National Innovation Platform”, which will unite educational institutions with business, provide interaction between the market of educational services and the labor market, and will lead the system of training technical and scientific specialists in accordance with the needs of employers.

Prime Minister of Ukraine announced creation of the Fund for Supporting Startups in 2018. The fund can be financed from the state budget and large international investors. Investors are interested in funding a number of industries in Ukraine, in particular IT, cybersecurity, dual-use technologies, military technologies. The budget of the Innovation Support Fund in 2018 will be 50 million UAH [41].

Another barrier at the Ukrainian market is protection of copyright and inflexible patent legislation. An essential part of potentially significant inventions received by Ukrainian inventors are applied directly to patent offices of foreign countries without submitting a preliminary application to the patent office of Ukraine. The level of Ukrainian patents registered abroad is 10-12% of the annual volume of patenting, the trend has positive dynamics. The most active sectors of migration are medical products, IT technologies (systems and equipment), and pharmacy. The geography of relocation is expanding: Russian Federation (51%), the USA (11%), South Korea (9%), Taiwan (3%), and Germany (2%) [42].

It is necessary to modify the system of economic incentives (tax, credit, insurance) in the country. In particular, minimum rates of remuneration for inventors should be set at an appropriate level, the authors for the use of patent law objects are not defined as of now, mechanisms for state support for foreign patenting of inventions created at the expense of budget funds have not been introduced; there is no method for determining the amount of damage caused by violation of industrial property rights and so on.

The military aggression of Russia against Ukraine in the east, annexing the Crimea make it even more important to support application

of the latest scientific research achievements of innovative and inventive activities for enhancing the efficiency of armament, military equipment, facilities of medical care and military supply in the conditions of conducting battle actions.

The indicated tendencies correspond with the priority directions for innovative development of Ukraine. Thus, strategic priority directions of innovative activity of Ukraine in 2011-2021 are:

1) development of new technologies of energy transportation, energy efficiency, energy saving technologies, mastering of alternative energy sources;

2) mastering of new technologies of hi-tech development of a transport system, space-rocket industry, air- and shipbuilding, armament and military technique;

3) mastering of new technologies of production of materials, their treatment and connection, creation of industry of nanomaterials and nanotechnologies;

4) technological innovation and development of agriculture;

5) introduction of new technologies and equipment for high quality medical service, treatment, pharmaceuticals;

6) widespread use of technologies of cleaner production and environmental protection;

7) development of the modern information, communication technologies robotics [40].

The most important trends of the national market of innovative products include [43]: developing regional innovation strategies, establishment of technology parks, business incubators and innovation structures of other types; the formation of scientific and industrial clusters; creating a national network of commercialization of innovative products and technology transfer; creation and constant updating of the database “Ukrainian Perspective Inventions”; comprehensive development institute intermediation venture capital.

Ukraine has been going through system reforms aimed at improving the overall RTI governance. The basis for these reforms is the Law on Scientific and Technical Activity, which – among many other issues – foresees the creation of the National Board on S&T Development (art. 20ff) and of the National Research Foundation (art. 49ff). It addresses issues of research promotion at the National Academies of Sciences (art. 17ff) and in the higher education system (art. 19), and suggests precautions to ensure the growth of the qualified personnel in R&D (art. 61). The Law also stipulates that the public funding of R&D should be

at least 1.7% of GDP (art. 48). The Law has received broad support in the scientific community, but there is a great deal of skepticism about its implementation. The Law on Innovation is currently still under preparation.

In the “Peer Review of the Ukrainian Research and Innovation” [10] such recommendations for the Ukrainian government have been submitted:

1. Ukraine’s STI system needs ambitious reforms to boost its efficiency and impact. These should be coupled with strong governmental commitment to invest more. The emphasis is on increasing expenditures for R&D from 1.7% to 40% of GDP (by 2020).

2. The country needs to “innovate its path to growth” with a cross-governmental STI Strategy that is backed by adequate tools. This will require a cross-government effort that involves intellectual, material and financial assets of the country. Ukraine should place research and innovation high on its political and policy agenda. The Strategy should be developed and implemented to exploit the potential of STI for growth and societal wellbeing.

3. Science in Ukraine should provide benefits for the society and economy. This will require a fundamental change in the way Ukraine orients and carries out its STI.

4. Urgent decisions are needed to prioritize Ukraine's STI actions based on the principles of scientific excellence and on opportunities for innovation-driven economic growth in Ukraine.

5. STI institutions, funding and procedures need a strong institutional revamp. Global standards and good practice should be leading forces of change. Legal reforms such as the new Law on Scientific and Technical Activity and the forthcoming Law on Innovation must be optimally deployed to roll out a fully coordinated cross-government approach on STI.

6. Ukraine should push internationalization and opening-up of its STI system. It should use the manifold opportunities gained by its accession to Horizon 2020 and establish adequate mechanisms to support the success of Ukrainian participants in Horizon 2020. At the same time, Ukraine should take the European Research Area agenda as a backdrop for its national reforms. Openness and internationalization create vibrant and advanced STI systems.

7. Finally, the government and the STI community should take ownership and communicate on the STI reforms undertaken and on their positive results for the country. This should be a joint effort by policy-

makers from all political parties and the country's leading intellectuals. STI delivers returns for Ukraine's economy and society, and these should be promoted, shared, and used with and between society and economic actors [10].

An important problem is the weak state support for development of innovations. First of all, it is necessary to improve the institutional structure and strengthen coordination between the units. Institutional structure is represented by the Ministry of Education and Science of Ukraine, the Ministry of Economic Development and Trade of Ukraine, the Ministry of Industrial Policy of Ukraine, the National Academy of Sciences of Ukraine, the National Council for the Development of Science and Technology, industry institutes and academies.

Taking into account domestic and foreign experience, a creation of a fund for supporting start-ups in 2018 was announced, with the budget of 50 million UAH.

Foreign direct investment is crucial for attracting technology, developing innovation and capital in Ukraine. However, most investments are concentrated in low-innovative industries, such as engineering, metals, food industry and finance / banking. Foreign transnational corporations limit their investments in Ukraine due to high business risk, including war, political instability and uncertainty, corruption and weak rule of law. Ukraine is taking steps to remove barriers to investment, such as joining the Organization for Economic Cooperation and Development (OECD) declaration on investment and multinational enterprises (MNCs).

Expenditures of the State budget for scientific research in 2015 did not exceed 0.25% of GDP, and in 2016 they were reduced to below 0.2% of GDP. This trend continued in 2017 – the volume of the general fund of the state budget for 2017 amounted to UAH 4,840.050 million, which is 0.18% of GDP. At the same time, expenditures for studies from local budgets are not carried out, and research orders from enterprises (special budget fund) are negligible.

Over the past 5 years, the number of research institutions has decreased. The negative impact on the possibilities of materialization of scientific developments indicates deterioration of the readiness of the scientific sector to support innovation throughout its life cycle. The greatest negative impact in this respect was the liquidation of many experimental bases, pilot productions in the NAS system of Ukraine, higher education, and the reduction of funding for research institutes.

Conclusions. The low level of innovative development in Ukraine is conditioned by a number of general economic and technological problems. For successful development of the innovative products the state should support development of modern enterprises capable of producing innovative products on the strategic directions of innovative development of Ukraine, cloudy IT-technology, robotics, new materials, nanotechnology, biotechnology, bioenergy, recycling of raw materials, energy saving technologies, new technology space industry, weapons and military equipment, and others.

Thus, it is necessary:

1. Provide startups with venture investment, which also implies development of markets and industries, stock market. For this, it is necessary to reconcile the strategy of “transparency” of Ukrainian corporations, to establish the work of existing organizations engaged in innovations.

2. The state should assist in founding small innovative enterprises, creation of financial and industrial enterprises, creation of a nationwide information network of special institutions, audit firms, consulting firms to promote innovation.

3. To improve the taxation system for innovative enterprises (especially at the initial stages of mastering new technologies and organizing new production), in particular by introducing a system of depreciation charges and investment loans, that is, a reduction in the income tax for a certain part of the total cost of investment in equipment at the stage of modernization of the facility), the implementation of state insurance of private bank loans for the implementation of innovations.

4. Improve the law on copyright and patent relations. The problem is the non-recognition of intellectual property as a commodity in the Economic Code of Ukraine, which leads to an actual depreciation of IP objects and an underestimation of domestic enterprises by 80%. Software piracy and the Internet, counterfeits, violations of legislation in the field of industrial designs lead to a deterioration of the image of Ukraine, and consequently to a decrease in the attractiveness of the investment environment. In addition, most of the current legislative and regulatory acts do not comply with the Berne Convention, the TRIPS agreement and the DCFTA, with the norms and practices of the EU.

5. To increase the attractiveness of the innovation environment in Ukraine through introduction of certification and standardization, non-tariff regulation of export-import transactions in domestic producers' projects and improvement of legal mechanisms for international

technology transfer.

It is also necessary to use the competitive advantage, among which qualified and educated human capital (31st place, The Human Capital Report 2016), land resources (33% of world reserves of black soil) geographic location; resource base.

In the conditions of globalization, international partnership, involvement of foreign investors into development of the domestic innovation sector and using opportunities for international cooperation, including in the scientific sphere are increasingly important for positioning of the country at the global market of high-tech goods and services. Therefore, it is crucial to determine the role and opportunities of Ukraine's participation in innovative programs, in particular those implemented by the European Union.

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SMART CITY STRATEGY: LESSONS FOR UKRAINIAN CITIES

A smart sustainable city is a new trend in urban studies which has emerged in late 90th as a result of rapid ICTs development combined with growing urbanization. As cities grow bigger managing them becomes even more challenging.

According to Navigant Research, the global market for smart city solutions and services is expected to grow from US\$40.1 billion in 2017 to US\$97.9 billion in 2026 [1].

The research shows that in 2017, a number of cities that rely on a comprehensive smart city plan instead of simply implementing a few separate innovative projects without an overall smart vision increased tremendously [2].

Cities encounter a number of challenges: population ageing, urban sprawl, lack of the needed infrastructure, necessity to provide employment opportunities and ruining impact of people on the environment.

Taking this into account as well as all together growing demand for smart cities concept around the globe, our research aims to study the

strategies of the selected smart cities to see how the evolvement process goes in different cities. We aim to outline the best practices which can be taken into account by the cities when developing their own Smart city strategy based on the experience already available.

The plan of our research is illustrated on Figure 2.5. We have used the following selection process for cities:

- 1) Checked the top lists of the international indexes that measure smartness and sustainability;
- 2) Checked conformation to the general idea of smart city concept (definition, components);
- 3) Filtered the cities according to the strategic approach to become smart (formally accepted);
- 4) Checked availability of the up-to-date information on the corresponding platforms.

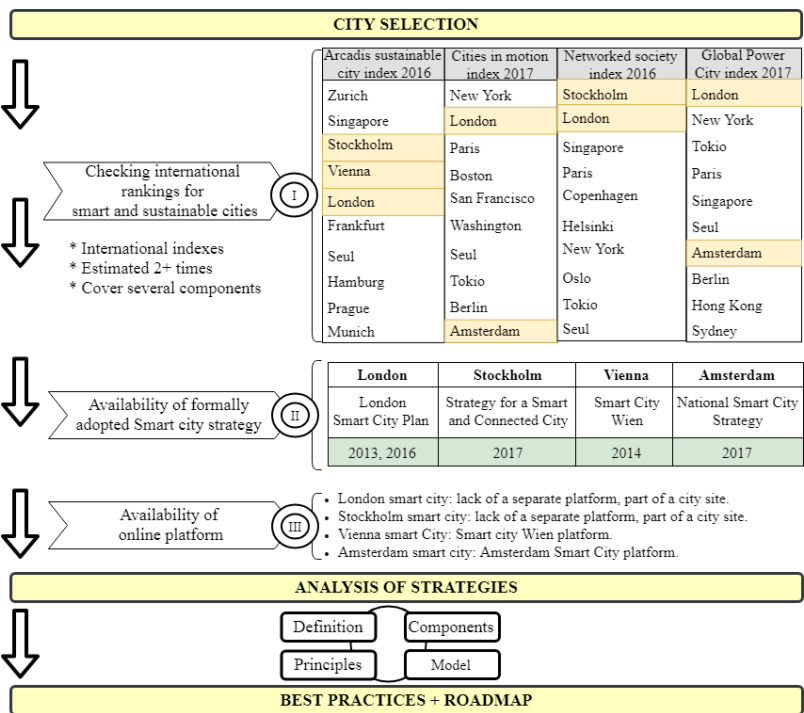


Figure 2.5 Research plan visualization (author's)

Smart City London Strategy

In December 2013 the Mayor's Smart London Plan was published, it outlines how data and technology can be used to improve Londoners' lives. The plan includes measurements of success and targets with the desired deadlines. The same year Smart London Board was established, it unites academics and entrepreneurs as a helping hand to authorities. In 2016 an updated version of the plan was issued, outlining the progress in different areas. Activity areas are rather wide and cover all the dimensions of life but innovations and human capital take the leading role, all the information is published on the City of London website [3].

Smart City Vienna Strategy

The city ranks #1 in Roland Berger: Smart City Index 2017, which analyzes the quality of Smart city strategies. The initiative "Smart City Wien" was announced by the Mayor of Vienna in March 2011 and after cooperation between civil society, research institutions, private sector and municipality the strategy was accepted in June 2014. The strategy states that its key goal for 2050 is to offer optimum quality of life, combined with the highest possible resource preservation, for all citizens, which can be achieved through the comprehensive innovations [4]. Projects are presented on the website and updated continuously. The city actively involves different stakeholders into cooperation. Vienna has one of the most detailed strategies in terms of the targets and milestones set.

Smart City Stockholm Strategy

A Strategy for Stockholm as a smart and connected city has been formally adopted by the City Council of Stockholm on April 3, 2017 [5]. It sets goals within four sustainability components, however, the goals are rather vague and lack measurement tools. This was compensated in the 2040 Vision which provides some numeric targets. The City has built its competence on large-scale full cycle projects (Hagastaden, Stockholm Royal Seaport, Slussen etc.). Living Labs is one of the popular tools in Stockholm while the city itself presents "a Living Lab" being a part of GrowSmarter EU project, thus willing to cooperate and go international. Stockholm heavily focuses on environmental component and so called GreenIT. The city has also specified the standards for implementation and development of smart solutions to ensure their effectiveness and flexibility [5].

Smart City Amsterdam

Amsterdam is an example of the city where "bottom-up" and "top-down" approaches unite perfectly, since in 2017 a nationwide

Netherlands strategy for smart cities development was accepted. While the development of Smart city Amsterdam started back in 2009. The platform was initiated by Amsterdam Innovation Motor along with Liander and municipality. We failed to find any city-specific strategy but the platform itself contains the information regarding the model, current projects and events. While the national strategy outlines the main principles and approaches for Netherlands cities [6].

Any city that decides to develop its own Smart city strategy encounters the questions of *how* to present the strategy, *whom* to involve into the development, *where* to get the financing etc.

Typically cities begin with the separate strategies and afterwards their elements can be integrated into the broader city development plan. There are also some cities that decide to go without the Strategy in the formally accepted look (i.e. Amsterdam), instead they have numerous supporting documents and online platform to handle all the communication and development. But it's important to remember that such situations may rather complicate the process of monitoring and validation later on [7].

Most cities use the triple helix model, involving citizens when developing Smart city strategy. Though some Asia cities prefer “top-down” approach, which is faster in terms of decision-making and might be more beneficial in short-term perspective but quite questionable in terms of taking into account the interests of all stakeholders and sustainability in long-term perspective [7].

In terms of financing, European cities typically use budget financing mechanisms: municipal budgets, national budgets, EU budget. While in USA private investments play an important role.

Most strategies have the same structure depicting vision, targets, components, principles and smart solutions examples.

Generally targets of smart cities can be divided into 3 groups:

- Economic (improvement of the quality and effectiveness of the provided services, investments encouragement and economic development boost);
- Social (inclusiveness and citizens engagement, ensuring good quality of life, employment opportunities etc.);
- Environment sustainability.

Cities engage the following tools to reach the goals: ICTs along with the data gathered and analytics; innovations, platforms and networks; infrastructure improvements, crowdsourcing solutions [7].

To support and implement into life the accepted strategy several

supporting mechanisms are used. First of all, an online platform is established (Amsterdam Smart City, Vienna Smart City etc.), the platform outlines the main aspects of the strategy, engages citizens into hackathons and data challenges and serves as a tool to show the progress. Secondly, to ease the communication departments for smart cities or digital innovations are established within municipalities (London, Amsterdam). There also might be Boards or Committees that gather for offline meetings on a regular basis to discuss the agenda and progress made.

Online platforms include smart solutions that are developed and tested within the cities. Typically projects are split according to categories (infrastructure, education, governance, environment etc).

The developers should aim to make their solutions “digitally sustainable”, meaning the product created should be easy to use, upgrade and integrate later on. The initiatives should meet citizen’s needs, be economically viable and take into account long-term perspective. We have reviewed some of the solutions already available in different categories (Table 2.1).

Table 2.1

Smart solutions examples from the reviewed cities

Target	Examples
Citizens engagement	<ul style="list-style-type: none"> - Platform Talk London to engage citizens into policy-making process (<i>London</i>), - “Make a suggestion” – mobile app for citizens to take part in city governance (<i>Stockholm</i>), - City Data Challenges and hackathons.
Public space improvement	Green zones and green roofs projects, smart lighting, solar power garbage bins (BigBelly <i>Stockholm</i>), Klimaatstraat (<i>Amsterdam</i>) – the project which aims to make inner streets more sustainable (waste management, LED lighting, smart sensors and smart meters etc.).
Efficient resource management	“Smart citizen kit” allows measuring noise, temperature, CO, NO2 etc. Participants put a kit outside of their house and the kit sends all the data collected to the data center (<i>Amsterdam</i>).
Sustainable mobility	Traffic control (<i>Stockholm</i>), smart parkings and stops, Car-sharing and Car-pooling, Electric cars, Encouragement of public transport and bicycles.
Smart education	<ul style="list-style-type: none"> - Tool to track reading and writing difficulties using AI (<i>Stockholm</i>), - Programme to tackle digital gap “<i>Digital Talent</i>” (<i>London</i>).

Source: Author’s, based on [3-6]

Table 2.2 summarizes the main components of the reviewed strategies from 4 cities.

Table 2.2

Comparison table for the reviewed Smart city strategies

	Vienna (2014)	Stockholm (2017)	London (2013, 2016)	Amsterdam (2017*)
Vision	By 2050 to ensure the best quality of life for all inhabitants of Vienna.	By the year 2040, Stockholm should be the smartest city in the world.	To improve the life of citizens using technologies and creative potential of Londoners.	Liveable city where people can live and work pleasantly.
Principles	1) Coordination and collaboration; 2) Human resources training; 3) Keeping citizens up-to-dated.	1) Collaboration; 2) Common IT-solutions (allowing multiple suppliers to develop and operate them); 3) Open and shared data; 4) Security and privacy.	1) Technology and Innovations; 2) Collaboration and engagement; 3) Efficiency and resource management; 4) Open data and transparency.	1) Cooperation; 2) Citizens interests put in the center; 3) All the initiatives should be economically viable; 4) Knowledge exchange; 5) Efficient resource management.
Components	1) Resource preservation; 2) Quality of life; 3) Innovations.	1) Ecological sustainability; 2) Financial sustainability; 3) Social sustainability; 4) Democratic sustainability.	1) Creating opportunities for business; 2) Education and skills development; 3) Infrastructure and environment; 4) Health and welfare; 5) Mobility.	1) Sustainable living; 2) Sustainable working; 3) Sustainable mobility; 4) Sustainable public space.

Table 2.2 (continued)

	Stockholm (2017)	London (2013, 2016)	Amsterdam (2017*)	Vienna (2014)
Definition	A smart city needs to opt for resource preservation while ensuring high quality of living combined with innovation in all fields.	A smart city is a city that utilizes digitalization and new technology to simplify and improve the life for its residents, its visitors and businesses.	Uses data and technology for the good growth of the city. It harnesses the power of data as the fuel for innovation to design and develop open and inclusive solutions for city challenges.	A city where social and technological infrastructures and solutions provide sustainable economic growth. This improves residents quality of life.
Supporting entities	Urban Innovation Vienna platform, The Smart City Wien Agency.	Digital Demo Stockholm (The City of Stockholm, the Royal Institute of Technology, Ericsson, Vattenfall, ABB, Skanska and Scania).	Smart London Board (tech sector, entrepreneurs and academics), Chief Digital Officer.	Amsterdam Smart City (civil society, municipality, knowledge institution, private sector), Chief Digital Officer.

Source: author's, based on [3-6]

*2017 – National Netherlands Smart City Strategy

Summarizing the studied strategies and programme documents, the following common principles can be outlined:

- 1) Cooperation and coordination of all stakeholders: municipality, business, academics, citizens;
- 2) Citizens interests should be put in the center;
- 3) Ensuring data openness and availability;
- 4) Effective resource management;
- 5) The need for common standards during solutions development and implementation;
- 6) Data protection and privacy;
- 7) Ensuring the possibility of experience and knowledge sharing both nationally and internationally.

Figure 2.6 presents similar approaches we have found within different components.

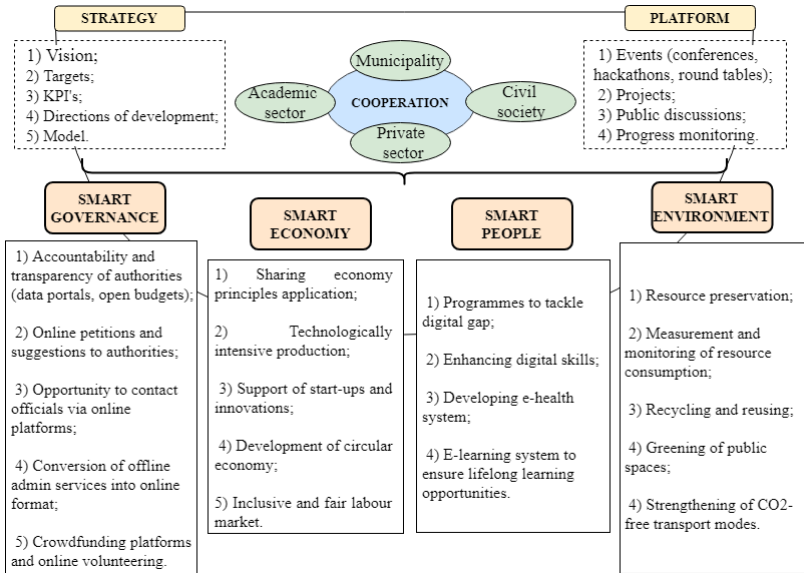


Figure 2.6 Common components in strategies

Besides, European cities are active in sharing their experience on the international level. The European Innovation Partnership on Smart Cities and Communities (EIP-SCC) encourages exchange and scaling up of the successful “lighthouse projects” between the cities. The priority areas include (1) Sustainable urban mobility; (2) Sustainable districts and built environment; (3) Integrated infrastructure and processes [8].

All our studied cities participate at least in one international exchange project, Vienna – Smarter Together project, Stockholm – GrowSmarter project, London – Sharin cities project. Stockholm, London and Amsterdam take part in Frevue project, which aims to achieve emission free city logistics using electric freight vehicles [9].

Based on the studied strategies and experience, we have created a roadmap for Smart City strategy development and support (Figure 2.7).

Any process should start with a dialogue, which should include all the stakeholders, outlining their interests and needs as well as responsibilities. The dialogue may take the form of regular round tables or online discussions.

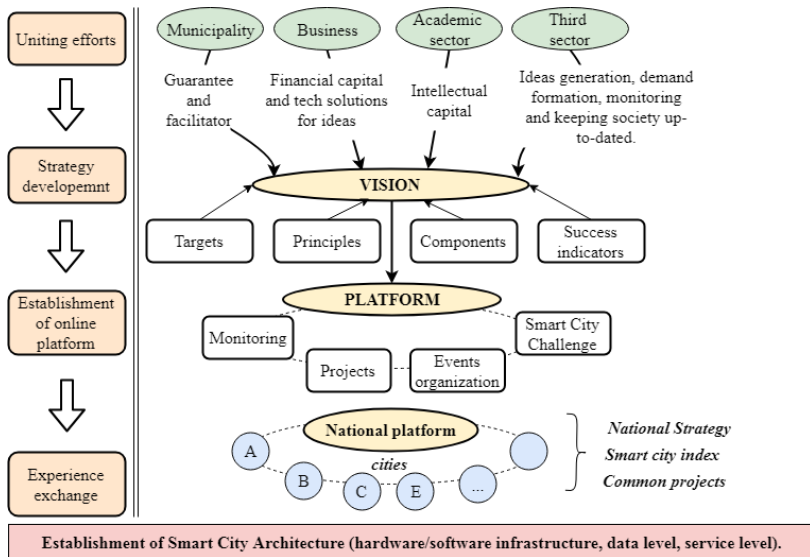


Figure 2.7 Smart city strategy preparation and support

Once the common vision is reached, the details need to be outlined as well. Online platform is a great supporting tool for keeping everyone up-to-date, monitoring the progress, organizing events etc. Once all the questions are solved on the city level, it's time to think globally.

Each city having its own practices and experience may share something very valuable with each other. So here we come to a necessity to establish a national platform for city leaders to share the knowledge and experience as well as at some point to develop common standards. Going further, cities might think about creating a National strategy and index to measure the progress and encourage the competition. But all this will be possible only under the condition that cities have the needed infrastructure and attitude at first place.

A list of best practices might include the following recommendations:

- 1) The strategy should be a product of cooperation between different stakeholders;
- 2) Encouragement of co-creation from different stakeholders;
- 3) The strategy may cover a wide spectrum of solutions but they should form one holistic system;
- 4) The strategy should include targets and tools to monitor their

achievement;

5) Free access to up-to-date information with progress reviews is important;

6) Constant openness for public feedback is a must;

7) Even though strategy is a product of a common development, coordinating body should be established for the purposes of accountability, transparency and monitoring.

8) The process should involve active usage of open data and ICTs to address urban challenges;

9) Experience exchange within the national and international market.

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**SUSTAINABLE
SOCIAL
DEVELOPMENT –
CURRENT TRENDS**

The idea about environmentally sustainable economic development is not new. Many human cultures recognized the necessity of harmony between environment, society and economy. “Environmentally sustainable economic development” is a synonym to the current concept of “sustainable development”. The goal is to achieve balance/harmony between environmental resistance, economic stability and socio-political stability.

The issue of the sustainable development is an important component of foreign and home policy in many countries. The discussion about the sustainable development in scientific sphere shows about its political and scientific actuality. The peculiarity of its issue is in its sustainable tension. All over the world, governments, scholars, public organizations and ordinary people pay attention to this problem.

D. Meadows, L. Brown, H. Gardner, N. Carter, Sh. Lislet, D. Korten, D. Flavin and D. French investigate different peculiarities of the sustainable development.

Ukrainian scholars investigate some aspects of the given problem. However, we can mention about the following scholars: B. Burkynskyy, S. Herasymov, V. Kukhar, O. Maydannik, O. Osaulenko, V. Stepanov, O. Tsarenko, O. Cherkas and V. Shevchuk.

The term “sustainable development” became popular in 1980-s both in the strategy of peace keeping and in the book “Our Common Future” published in 1987. These two publications caused the detailed discussion of consequences of the sustainable development for an academic investigation and organization of policy and actions.

The sustainable development is the development predicting the satisfaction of human needs taking into consideration the future generation’s needs [5].

The United Nations Organization firstly published this concept in 1987 [1].

The sustainable development is the concept concerning the

development where the accents are shifted from the short period economic benefits to approach that is more continuous where is the balance between economic, social and ecological aspects [2]. The sustainable development requires the integrated approach to take decisions concerning economy, environment and society but not sequenced approach. This type development is a complex process of interaction between public power, public society and private sector. Stability has an analogical meaning as a sustainable development but it is used when the focus is narrower for example, stability in companies or stability of concrete projects.

The sustainable development is not a simple solution for all human problems. It is only the definition of ideology, which has practical solutions suggested by the United Nations of Organizations to solve many crucial problems of the 21st century.

Nowadays, we have climatic changes caused by people and degradation environmental problems.

Industrial developments made in the middle of the 20th century exhausted resources and caused ecological problems. Industrial activity made problems causing pollution of local, regional and inter-regional landscapes.

The level and intensity of exploitation of resources on Earth during the 20th century caused the essential impact on basic components of biosphere that is atmosphere, land coverings and biological variety. It was caused considerably by a rapid industrialization, forest devastation and urbanization.

The use of resources and economic development increased after the World War II. No doubt, it was difficult to renew the society and economic systems at that time [9]. However, some desperate methods to interfere ecosystem caused current fears concerning potential risk for human life and biological envelope.

At the turn of the 20th century, the sustainable development became the motto for those who took part in improving living conditions. The sustainable development is very popular and resounds with human spirit.

Let us discuss the main parameters of the sustainable development [9]:

1. Environmental stability:

The environmental stability is connected with the support of carrying capacity of natural resources and systems of vital capacity. It emphasizes the environmental protection, conservation of biological diversity, increase of forest cover, water protection and taking cohesive

approach.

The decrease of ecological threats, environmental protection and use of environmentally clean technologies are very important for decrease of ecological problems at local and global levels such as the loss of biological diversity and change of climate.

2. Economic stability:

Economic stability supports such important source of energy as accumulator for the support of environmental and social stability. It emphasizes the promotion of economic self-sufficiency of development projects using the following ways: an adequate budgeting, clear budget and financial stimuli.

The area of focusing is the next: decrease of poverty, increase of profit per caput, support of activity generating profit including farms and green small enterprises, fair distribution of benefits and natural resource accounting.

3. Social stability:

Social stability is focused on improving human life quality; realization of the main needs and transformation of a human being from a dangerous animal one into the most important creative resource. It emphasizes that public communities should be well informed about constant ways of the use of resources.

It supports an active part of the public at different levels of the development, common efforts in the sphere of protection and development, improvement in the sphere of health care, education and main needs, decrease of conflict between interested parts in the use of resources. It was achieved owing to public environmental awareness, increase of gender equality and accurate knowledge about economically unprotected groups.

4. Institutional stability:

Plans and programs without their implementation are useless. Demanding realization and monitoring of the corresponding environmental protection policy, plans, laws, rules and standards are necessary for achieving the goal of the sustainable development. An appropriate qualified and motivated working force and strong institutional capacity to solve environmental and social stability are necessary.

In 2015, countries established “The 2030 Agenda for Sustainable Development” and 17 goals for sustainable development [6]. From 2016, the Paris Agreement on Climate Change became effective; it concerns the necessity to limit the increase of global temperatures.

Governments, enterprises and public society together with the United Nations Organization mobilize their efforts directed on achievement the agenda for the sustainable development until 2030. This program calls all countries to improve the quality of human life all over the world. These goals are directed for poverty reduction, planet protection and support of prosperity for all people within new program for the sustainable development. Each goal has concrete targets, which should be achieved during the next 15 years.

17 goals for sustainable development [6]:

1. End poverty in all its forms everywhere.

Poverty is more than absence of profit and resources for support of the sustainable existence. Poverty includes hunger and insufficient nutrition, limited access to education, social discrimination and insufficient part in decision making.

2. End hunger, achieve food security, improve nutrition and promote sustainable agriculture.

Agriculture, forestry and fishery can supply nutrition for all people and support good profit simultaneously supporting the development of rural regions and environmental protection.

Climate change presses the resources increasing risks connected with such disasters as drought and flood.

3. Support good health and well-being for people at all ages.

A considerable success was achieved in increasing life expectancy. A considerable progress was made in widening access to clear water and sanitary, reducing malaria, tuberculosis, poliomyelitis and AIDS. However, considerable efforts should be done to end many diseases and solve different constant and new health problems.

4. Ensure inclusive and quality education for all people and promote lifelong learning opportunities.

A considerable progress was achieved in access to education at all levels and increase of the quantity of schools especially for women and girls. Basic grammatical skills were significantly improved but to strengthen common education goals, it is necessary to make more efforts that are active.

5. Achieve gender equality and empower all women and girls.

Providing women and girls with equal access to education, health care, decent work and representation in political and economic decision-making processes will support sustainable economic and social development.

6. Ensure available management of water and sanitation for all.

Clear water supply for all is inseparable part of the world. Fresh water is in sufficient quantity on our earth to achieve this goal. Nevertheless, because of bad economy or bad infrastructure, millions of people, most of them are children die because of diseases caused by bad water supply, sanitation and hygiene. Water deficiency, bad quality of water and insufficient sanitation influence badly food security, the choice of life means and education opportunities for poor families all over the world.

7. Ensure access to reliable, affordable, sustainable and modern energy for all.

Ban Ki-moon, Secretary-General of the UNO, manages the initiative “Ecological Energy for All” for common access to modern energetic services, increase of efficiency and the use of renewable sources of energy.

8. Promote inclusive and sustainable economic growth, employment and decent work for all.

Approximately half of population of the world lives in US \$ equivalent 2 \$ per day. Moreover, in many places, work does not ensure the possibility not to live in poor conditions. That is why, economic and social policy should be reinterpreted and directed to end poor life. Sustainable economic growth requires from the society to create conditions supporting decent work, stimulation of economy not polluting the environment. Vacancies and decent work are necessary for all population able to work.

9. Build resilient infrastructure, promote sustainable industrialization and innovation.

Technological progress is the base to achieve environmental goals such as increase of resources and efficiency. Industrialization can not be achieved without technology and innovations and the development can not be made without industrialization.

10. Reduce inequality within and among countries.

The most fragile countries are the least developed countries, and developing ones, those, which do not border with sea and small island counties and developing countries continue to lower poverty. However, inequality still exists and there are big discrepancies in access to services in health care and education and other assets. Policy should be essentially universal paying attention to needs of poor and marginal people to lower inequality.

11. Make cities accessible, safe and sustainable.

Cities are centers of ideas, trade, culture, science, productivity, social

development etc. There are many challenges, which cities can overcome and continue to flourish and develop improving the use of resources and reducing pollution and poverty.

12. Ensure sustainable consumption and production patterns.

Sustainable consumption and production is to increase resource and energetic efficiency, support access to the main services, and create decent working places and increase of life quality for all. Its implementation supports to achieve common plans of the development, decrease future economic, ecological and social costs, improve economic compatibility and reduce poverty.

13. Take urgent action to combat climate change and its impacts.

Climate change influences each country on each continent.

So far, moderate solutions allowing countries to be in clear and sustainable economy. Speed of changes become faster because more people use renewable energy and other ways to reduce pollution. This issue should be coordinated at international level and it requires international cooperation.

14. Conserve and sustainable use the oceans, seas and marine resources.

Our rainwater, drinking water, weather, climate, shore lines, the most part of our food and even oxygen are supported and regulated by the sea. During the whole history, the oceans and seas were vital channels for trade and transport.

Intelligent management of this important global resource is a key feature of sustainable future.

15. Sustainably manage forests, combat desertification, halt biodiversity loss.

Forest destruction and desertification caused by people and climate change are serious problems for the sustainable development and influence the life and means of existence for millions of people in combating poverty. Some efforts are used to manage forests and combat desertification.

16. Promote just, peaceful and inclusive society.

This goal is dedicated to promotion peaceful and inclusive communities for the sustainable development, support the access to justice for all and create effective and reporting entities at all levels.

17. Intensify the global partnership for the sustainable development.

A successive program for the sustainable development requires

partnership between governments, private sector and public society. These global, regional, national and local levels need partnership relations, which are based on principles and values, mutual opinion and common goals, which put people and the planet in the center. Long term investments including direct foreign investments are necessary in critical spheres especially in developing countries. Here belong sustainable energy, infrastructure and transport, and information and communication technology.

In 2017, Sweden achieved these goals in the best way. According to 17 items, Sweden is at the first place among interrogated counties. It is 84.5% on the way to achieve the goals predicted for 2030 pik [10].

Scandinavian neighbors, Denmark and Norway, are the next ones and Finland is at the fourth place. Western European countries and Iceland (the ninth place) are at the next ten places and four among the first twenty ones.

Canada was at the thirteenth place among the group of twenty, Czech Republic (15) and Slovenia (17). Japan, Singapore and Australia being at 18, 19 and 20 places are the best countries in Asian-Pacific region. [10].

Some the poorest countries are at the lowest positions in rating. Countries, which do not yet demonstrate results, such as Central African Republic, need some help. It can be done using international mechanisms such as direct foreign investments, common use of technologies and global tax reform (thus, poor countries can fight with tax evasion of international investors).

Ukraine is at 46th place in this rating with its 66.4% [10].

American ecologists from Global Footprint Network count the annual standard of the use of land resources. It is a day when human resources consumption exceeds the ability of the Earth to renew these resources during the year. That is the humankind exhausted all renewable resources of the planet. This day is called Earth Overshoot Day. In 2017, it was August/2 and in 1970, Earth Overshoot Day was on December/29, in 2000 – the first decade of October, in 2016 – August/8 [4].

Moreover, in 2017, the biggest debtors were Australia – 5.2; the USA – 5; Russia – 3.4; South Korea – 3.4; Germany – 3.2. That is, if all live like Americans, 5 planets like the Earth are necessary to support global population [4].

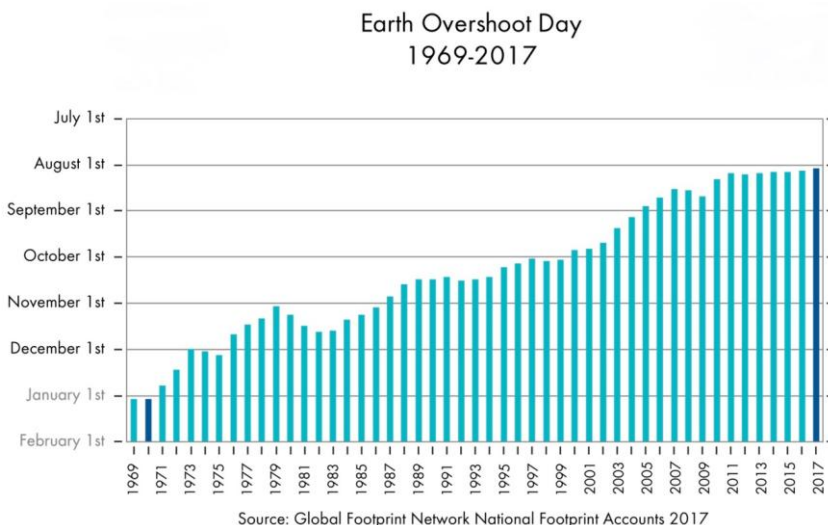


Figure 2.8 Earth Overshoot Day 1969-2017 [4]

The model of ecological course has been implemented in some countries. It demonstrates energy and resources used per caput in each country to increase awareness and education of the resource demand by population.

In 2002, Environmental Performance Index was developed (EPI). It is the method of qualitative assessment of the number of environmental indices of public policy [7].

This index assesses the efficiency of countries in priority of environmental issues in two spheres: health care and ecosystem protection.

Implemented during the World Economic Forum 15 years ago, EPI is very urgent today more than ever to achieve Targets for the sustainable development of the UNO and fulfill international agreement about climate change.

Taking into account this index, the following countries are presented with the best environmentally sustainable policy [7]:

1. Iceland. Iceland is at high position in the rating of EPI taking into consideration its policy concerning the sustainable development in climate change, limit of greenhouse gas and environmental energy, which attract foreign industrial investments because of modernization of aluminum plants.

Table 2.3

Environmental Performance Index (EPI) 2017 [3]

No.	Country	Assessment
1	Finland	90.68
2	Iceland	90.51
3	Sweden	90.43
4	Denmark	89.21
5	Slovenia	88.98
6	Spain	88.91
7	Portugal	88.63
8	Estonia	88.59
9	Malta	88.48
10	France	88.20
11	New Zealand	88.00
12	Great Britain	87.38
13	Australia	87.22
14	Singapore	87.04
15	Croatia	86.98
16	Switzerland	86.93
	
44	Ukraine	79.69

Iceland is famous for its transformation of energetic system. 100% of energy and house heating are supported by national renewable sources of energy (hydroelectric power stations owing to many rivers and geothermal reserve). This country has a low level of pollution of atmosphere, a high quality of water and buses with hydrogen fuel element in the capital Reykjavik increasing its sustainability. Agriculture diversifies its sector allowing the country to use domestic production of tomatoes, cucumbers and pepper.

2. Switzerland. Switzerland is in the rating of EPI according its environmental and green policy although it has limited resources owing to its geographical location. However, owing to its innovative practice in environment management, Switzerland became one of the most stable countries in the world in the sphere of climate change, biodiversity and environmental protection. In the last 15 years, Switzerland created 15 regional parks and got the highest assessment among other countries taking into account protected land territories. The most dense railway system in Europe is located in Switzerland and free services in waste recycling are here. 31% of the territory is covered with forests that

support profitable timber industry creating hundreds of thousands working places. Houses in Switzerland are mainly built from timber. Hydroelectric power stations produce more than half of national energy and 40% is produced from nuclear energy.

3. Costa Rica. It is the most sustainable ecological country in the world owing to its famous programs of rainforest protection and protection of its forest and water systems. 25% of the territory is protected as national parks. According to the data of the UNO, Costa Rica produces more than 90% its energy using renewable types of energy such as hydroelectric power stations, geothermal energy and wind energy.

5% of the world biodiversity is supported by this country despite of its size and pays compensations to landowners for protection of its trees and planting of new ones.

4. Sweden. It was recognized to be the most stable country in the world for its renewable sources of energy, low carbon dioxide (CO₂) pollution and green state policy. According to the data of the International Energetic Agency, 44% of energy of the country is renewable energy.

Government of Switzerland consists of many ministries, each of them should use clear resources of energy, making ecologically clear public transportation on its railways and supporting qualitative health care. The country surcharges tax on coal system to prevent the use of oil. Sweden government put an ambitious goal: to end fossil fuel till 2020 and absence of clear emissions of greenhouse gas till 2050.

5. Luxemburg. Luxemburg, being one of the richest countries in the world with the smallest population, is proud of its environmental sustainable policy. The country supported 100% access to fresh water and sanitary. Politics established their national plan for the sustainable development in 1999, which was very effective in monitoring of indices of the sustainable development.

Luxemburg got a high assessment for the development of the program of financing of renewable sources of energy. The country increased subsidies for green energy including biogas and hard biomass.

6. Germany. Despite that Energiewende, the program of transformation of renewable energy in Germany was criticized, the Germans set a record in green energy producing 28.5% of renewable energy of the country in the first half of 2014. Germany is considered a green leader in Europe and it promoted its production of the next types of energy: solar, wind, hydroelectric power stations and biomass. The

country got the highest assessments for the water quality and access to water carriage and materials recycling.

7. Columbia. At the beginning of 2000-s, the country was criticized for a high deforestation losing almost 200 000 of hectares of forest annually. However, recently, it became a leader in the sphere of environmental sustainable development with its economically effective mass transit and increase of projects in renewing of ecosystems such as land erosion control and biomass renewing.

8. Singapore. Singapore committed itself to recycle 80% of its waste till 2030 according to “Singapore Sustainable Project”, which has some green targets including 35% of improvement of energy efficiency and 80% of houses certified as green ones. Singapore has high indices of EPI for air quality control, water carriage and sewage water clarification. Unfortunately, the country is the worst in protection of biodiversity and living environment.

9. France. In relation with climate change, cultural capital is highly assessed for decrease of greenhouse gas pollution using the program of nuclear policy, which does not produce carbon dioxide.

New law on energy conversion set ambitious goals directed on increase of renewable energy up to 32% till 2030, limit of CO₂ pollution in 40% and consumption of minerals in 30% till 2030.

10. Norway. Like in many countries of the North Europe, progressive environmental protection law and policy of Norway transformed it into one of the most sustainable country at global level. Nowadays, the country offered \$ 1.6 billions for global protection of rainforests and it is the biggest foreign donor for rainforests. Despite on the tax on carbon, Norway informed about increase of carbon pollution during the last 20 years that enforced the country to renew obligations concerning the development of common European strategy of energy efficiency and to review its transport taxes and rewards according to OECD.

11. Finland. Finland is one of the most sustainable countries in the world owing to its mass biological power and big amount of forest, which are used not so much people. The country is one where general consumption of resources is less than production per capita.

The Sustainable Development Project of Ukraine till 2030 has been discussed since June till December/2016 at regional and national meetings, where representatives of local self-governments and state authorities from all regions of Ukraine, deputies, representatives of institutions of public society, scientists and educationalists,

representatives of trade communities, mass media, business and experts from international organizations took part.

It is known that the level of economic development and welfare of Ukrainians differs from possibilities of the country in scientific, technical, agricultural and industrial spheres. It creates serious risks for labor migration and so called “brain drain”. To solve this, the Strategy emphasizes the role of innovations. The success of such innovative giants as Hong Kong and Singapore or the closest our neighbors Estonia and Czech Republic show that this way should be followed.

Other advantage of this Strategy is correlation between international obligations and requirements of the Agreement between Ukraine and EU. Ukraine can study a lot in its EU partners, which make innovative approaches and have a good experience and the best practices in exchanging experience. EU Strategy for the Sustainable Development was created in 2001. The concept of the sustainable development is in national strategies for the development of some EU countries, some of them were created in 1990-s in such countries as Great Britain, Ireland, Finland, Sweden and Switzerland. These countries are innovative leaders [6].

On September/15/2017, the Government of Ukraine presented the National Report “The Sustainable Development Goals: Ukraine”, which identifies the basic indices for achievement of the Sustainable Development Goals (SDG) [11]. The results of adaptation of 17 global SDG were presented in the report taking into consideration the specific national development.

Building the country and implementing new instruments of market regulation of social and economic processes, Ukraine needed clear defined and acceptable for its society the strategy for achievement the development goals. There were essential changes during the years of its independence that required new approaches to the system of strategic planning. After SDG adaptation for Ukraine in 2003, changes in approaches to planning and monitoring of the development were made. Summing up the progress of Ukraine on the way to SDG achievement, we can emphasize some positive changes made till 2013, which were eliminated by the events during the last years.

The poverty incidence according to a relative criterion was lowered to decrease poverty (the part of the population below the national line of poverty decreased in 26.4% in 2000, up to 24.5% in 2013) [8]. However, in the last years, the poverty incidence increased and new forms of it appeared.

To support qualitative lifelong education, some steps were made to reform the system of education. 98.3% of children had possibilities to study at schools, 63.5% of children had possibilities to visit kindergartens in towns and cities and 39.9% – in rural places. 40.9% of young people from 17 up to 24 years old had possibilities to study at Universities, nevertheless, it is necessary to support the correspondence of educational preparation to the requirements of labor market (taking into consideration predicted tendencies of economic development).

The support of gender equality is a challenge for Ukraine. Achievement of gender equality in public authorities and state management is still actual task despite of achievements and changes at legislative and institutional levels. The gap of average pay for men and women (near 30%) shows gender inequality.

The decrease of children death in twice during 2000-2014 (from 15.6 up to 9.3 dead persons from 5 years of age per 1000 born children) became owing to directed efforts including reforming and development of the system of prenatal support. Positive tendencies were supported on the way to improve of the mothers' health: the level of maternal death in Ukraine decreased during 2000–2015 in 1.6 times [8]. Doctors regularly examined more than 90% of women at earlier stages of their pregnancy. However, it disturbs that more than 40% of adult population of Ukraine (including women of child-producing age) from 18 up to 65 years of age are chronic invalid because of at least one disease. The level of personal responsibility for his/her health among youth is insufficient and the propagation of healthy way of life needs to be promoted. Some results were achieved in propagation of limit of spread HIV/AIDS and tuberculosis.

Some progress was made on the way to support the sustainable environment development. Nevertheless, 70% of fresh water (surface water and soil water) was lost because of anthropogenic interfere. Waste issues and support of centralized water of rural population are problematic. About 4 millions of tons of waste agents polluted the air annually. Owing to economic fall, emissions of greenhouse gases and pollutant agents were shortened.

The forest territory of Ukraine and the areas of national parks and reserves were increased.

Nevertheless, the stagnation and some progress in energetic sphere particularly in its effective use of energy and development of renewable energy were observed.

The influence of unsolved social problems on the level of

population's life was intensified by the war conflict in the east of Ukraine. Such reasons as danger for people's life and health, violence, inequality and discrimination, increase of poverty and social interfere, increase of social vulnerable groups negatively influence the human potential of Ukraine. Social injustice and distrust to the majority of public institutions are threats and obstacles for social development [11].

Renew of economic growth and support of the equal access both men and women to economic, social and political life and the main social services (especially in the sphere of education and health care) are vital issues for the support of the sustainable development.

The sustainable economic growth and employment. During transformation processes in Ukraine, economic potential was difficult to improve. However, during structural, energetic and financial crises, which caused unstable development of national economy, the resources, capital and time were lost. Geopolitical conflict lasting for three years limits the possibilities of supporting an effective development. Some vividness of economic activity, observed during 2016, was insignificant. Ukraine still needs systematic institutional and profound structural reforms and implementation of big technological transformations. The priority task of economic policy is to support a real growth of gross domestic product at least twice with simultaneous increase of employment level of population up to 70% during the next 15 years.

The specific problem of transformational period is waste products. The volume of waste products increases and the part of those recycled ones is insignificant. The unchangeable practice to deposit waste products on overfull training grounds is dangerous for environment and people's health. Existing practice of land use causes the worsening of lands conditions and exhausted use of land, forest and water resources causes the loss of ecosystems and biodiversity. The part of national parks (6.6% from the total area of the country) is insufficient to preserve such losses [11].

The considerable reason of negative influence on environment is war conflict in the east of Ukraine. To overcome the consequences of damage of landscapes and infrastructure in Donetsk and Luhansk regions, it is necessary to make considerable efforts, use resources and time to renew them.

Ukrainian modern society is characterized by a big amount of different problems, the considerable part of which requires the urgent solution. However, to do this, it is necessary to overcome stereotypes in thinking for example, about the controversy between ecology and

economy that is any ecological ways are unprofitable for production.

The Sustainable Development Project of Ukraine till 2030 was created in Ukraine. It was based on detailed, profound study of current condition of Ukrainian society and it contains the analysis of potential opportunities for its improvement.

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Chapter 3

MECHANISMS FOR ENSURING THE COMPETITIVENESS OF ECONOMIC SYSTEMS

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**IMPROVING
BUSINESS
VALUE
THROUGH
USING THE
PROACTIVE
APPROACH IN
MANAGING
DISTRIBUTED IT
PROJECTS**

The field of information technology continues to be the most dynamic and promising area for implementing various projects. Today, information technologies are used practically in all activity fields and open new opportunities for development and creating unique products. The ultimate goal is to increase business value, including IT business. Such business value can be expressed through an assessment of the individual product competitiveness, as the results of the projects, or the company in general, through material and non-material components of this company value.

Today, almost any business is connected with the implementation of projects. And it is through projects it becomes possible to create values that will shape new business qualities both for the organization itself and for its customers [1, 2]. Classification of project and program values is given in [3].

Understanding value systems of interested parties, as well as monitoring their transformation, enables to manage projects based on the value approach, which increases the importance of the results obtained for interested parties. In its turn, in the current conditions of

rapid business development, value management allows organizations to form a portfolio of projects that will ensure maximization of business value [4, 5]. This enables organizations to move to a new level of competitiveness. Awareness of the dominant values, understanding importance of the value component and special attitude to the value management optimizes the strategic and business results of individual projects and business in general.

Value management considers the following functions: identifying value, creating value and imposing value. In this paper, we will consider issues related to the processes of creating value and finding ways to optimize these processes in IT projects.

It should be noted that today many great IT projects are complex distributed systems that are implemented in a dynamic turbulent environment. The complexity and influences of the project environment, which lead to frequent and serious changes, are two key features of the actual projects, including those in the field of information technology.

To define the concepts of “distributed project” and “distributed project management” mentioned in [6], the concept of a “distributed system” is introduced, and understanding of these terms is formed through the principles of the system approach. In this case, by “distributed system” it is meant a system for which the relations of the location of the elements play an essential role in terms of its functioning, analysis and synthesis. Although, the concept of a geographically distributed computing environment (for example, the Internet, a banking network with branches in different countries or a corporate network) exists as a system with territorially distributed elements. The emphasis on the physical location of the elements of such a system is somewhat erased due to the orientation toward transparency of information systems.

Proceeding from the foregoing, we will understand that a distributed IT project is a system / set of interrelated distributed (in time, territorially, functionally, etc.) processes and distributed resources that operates in a dynamic turbulent environment. For these projects, all the properties and regularities of conventional projects remain relevant, and existing management methodologies are applicable [7, 8].

Thus, the specific issues of the product development in the field of information technology require special approaches to project management in this area. This is confirmed by the existence of separate standards and methodologies that describe the full cycle of creation and use of information technologies, including: support services,

development, implementation and maintenance of software, provision of services to support IT infrastructure, security management, supply chains, software projects and assets etc.

Despite the large number of developments that were the basis of methodologies and standards for managing IT projects, the quality of the products received is not satisfactory, the timing of such projects is not being met, and the customers are often not satisfied with the results.

This state of affairs can be explained by the presence of certain aspects that negatively affect the implementation of projects. First of all, these are the mistakes made at the stage of project outline and product definition, as well as various kinds of changes that can occur in all areas of project implementation.

A large number of changes are determined by the features of the modern world, which significantly affects the sphere of information technology, as one of the foremost spheres of activity. Sources of change can be expressed in the main trends: globalization, strengthening and tightening of competition, the rapid development of technology and acceleration of the life pace.

In aggregate, the influence of these trends generates an increased turbulence of the project implementation environment. In such conditions, this involves solving a large number of fairly complex tasks both at the company level and at the level of a single project. These tasks are determined by the complexity of the project itself, as well as by the large number of complex intersecting impacts and interactions within and outside the project (project environment). At the same time, such projects and the environment are in a state of constant change and, as a result, mutual transformation.

The reaction to the impact of the environment today is becoming a very complex and costly activity. It should also be taken into account that in modern conditions such a reaction should be almost instantaneous. This is not possible in the absence of current and objective information on all parameters of the project and the environment at the time of making the decision, as well as without accurate forecasts of the situation further development.

As a result, there is an understanding of the need to find a new mechanism that can change existing approaches in the field of project management and organization in general. Making them more adaptive will allow organizations to make transition to a self-organizing form of activity based on the value approach.

Thus, this article will focus on the consideration of issues related to

the use of proactive management in the process of implementing projects in the field of information technology. This is the tool that will allow not only to respond to changes, but rather to create a specific environment in which the company and project management processes will be maximally flexible and adapted to the impact of complex intersecting influences and interactions.

To address these problems, the interaction of four systems (Figure 3.1) should be considered: product, project, interested parties and environment, where practically all interacts with everything and each situation is unique [9].

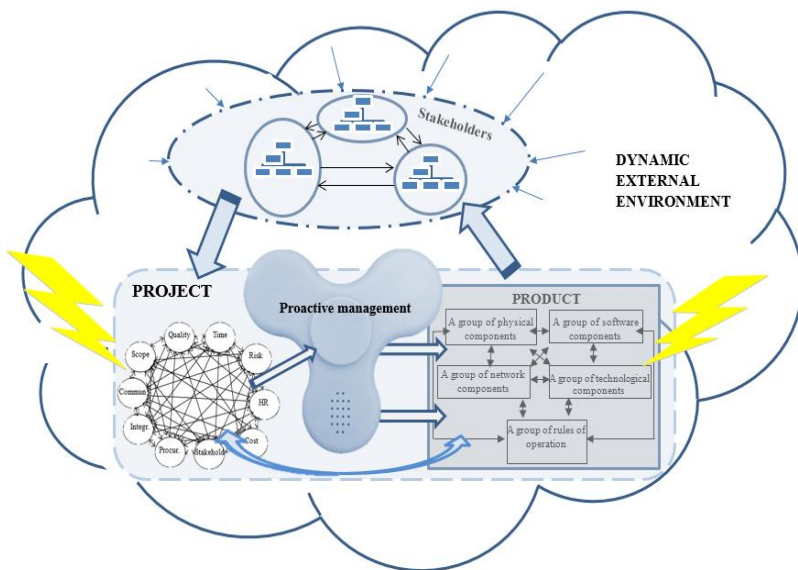


Figure 3.1 Application model of proactive (anticipative) management of complex IT projects

Particular attention should be paid to the project implementation environment as an area where conflicts of interest arise. It is necessary to differentiate between the internal and external environment of the project. The external environment of the project is likely to be the field for making conditions for creation of a project and a product, and also during the project implementation, the field that generates impacts, which are considered by the project as changes. However, the very concept of the project environment is a very complex concept.

Special attention given to the external environment (project environment) that is the source of the greatest impacts and changes, components of which should be identified. The project environment can be divided into:

- external environment (close environment of the project) – this is the organization of the customer, the organization which executes the project or other organizations-participants of the project, who are interested in its successful realization, as well as external factors and conditions. It should be noted that an important aspect for understanding the influence of the external environment is the factors of the organization environment, which determine the conditions of project implementation and affect their success [7]. One such factor is the value system;

- external environment (distant environment of the project) – this is a set of subjects and objects that form political, economic, social, ecological, technological components of the space, where the project is implemented, and carry out the company activity.

Nor should we forget the internal environment (primary interested parties, internal conditions). This is a project team that directly executes project work and creates a product, and these are also other project participants. Also, the factors and conditions that form the internal microclimate of the project implementation, including the system of values of the internal environment.

If we consider the interaction of these systems, one can observe that there is turbulence on the boundaries of the external environment and the environment with the project management system and product creation system, which appears to be the effect of the first two systems and the response to the project management system and the product creation system.

Presented on Figure 3.1, the application model and anticipative management interaction with project management processes and a complex IT product creation show the place of proactive management in the general (integrated) system of management of such projects. In this case, projects all the time undergo the impact of the environment and have to change their parameters and the timing of certain management processes. Sometimes such an effect may be tangible enough, the results of which in the project execution being stopped.

Meanwhile, the presence of anticipative management accompanies in the project management processes warns of possible changes as a response to impacts, and allows to predict not only the effects of such

changes but the time of occurrence and the power of future influences. In general, this reduces the risk of turbulence within the project itself and the project management system, and stabilizes the processes of a complex IT product creation.

One of the features of proactive management is considered to be the prevention of the occurrence of negative events (incidents). This is realized by monitoring the key parameters of the IT project, identifying potential problems based on weak signals and modeling scenarios for the situation development. However, complexity consists of a large number of controlled parameters, as well as significant costs of the control and forecasting process.

Therefore, while using the proactive approach in managing distributed IT development and development projects, there should be considered signals that can lead these systems to a critical transition state. That is a state in which the system will lose its ability to restore its balanced state and will be on the verge of transition to a qualitatively new state or destruction. Such critical transitions are due to folding nonlinear overlapping influences. An example of these signals may be information about changes in the value systems of interested parties.

Modulating critical states transitions of the control system of a complex project can be carried out by using artificial neural networks. Figure 3.2 shows the typical structure of such a neural network. Although, there are networks that contain only one layer, or even one element, most implementations use networks that contain at least three types of layers – input, hidden and output. The input neuron layer receives data either from input files, or directly from the environment. The output layer sends information directly to the internal environment, to the secondary computer process or to another device. Between these two layers there may be several hidden layers that are the level of these proactive control processes and contain many differently related neurons. The inputs and outputs of each of the hidden neurons of the proactive level are connected with other neurons.

The direction of communication from one neuron to another is an important aspect of the neural network. In most networks, each hidden neuron receives signals from all the neurons in the previous layer, and usually from the neurons of the input layer. After performing operations on signals, the neuron transmits its output to all the neurons of the subsequent layers, providing a feedforward output.

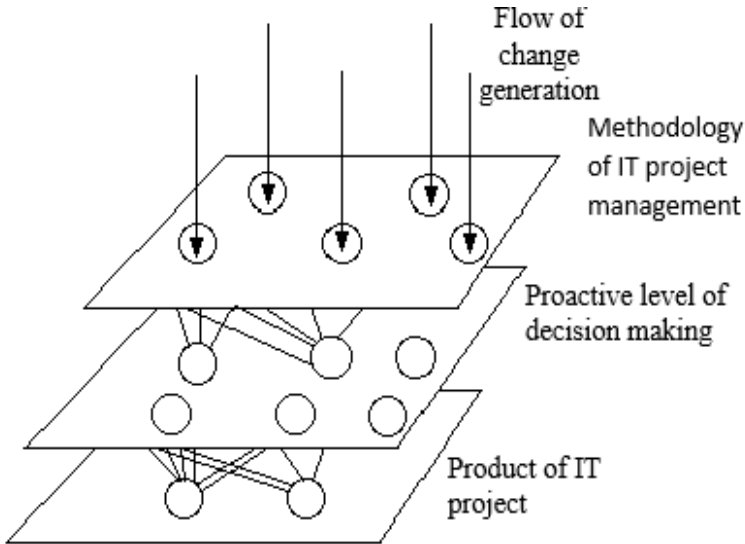


Figure 3.2 An example of a simple neural network implementing anticipative management

The structure of a distributed project and program management system is presented in the form of a directed graph, in which the vertices are processes and the edges are channels of communication between processes.

The processes occurring in the subsystems under consideration fall under the influence of certain events, which change the state of these processes and this also affects the functioning of other subsystems. There is a chain of events that change the steady state of the subsystems and lead to deviations from the desired results for completing the IT project.

In other words, changes that occur in the external environment have a direct impact on the external environment of the project. Being exposed to such influences, the external environment of the project is forced to generate appropriate reactions to maintain the optimal state. Resulting in a change in its initial configuration and a vision of the goals and outcomes of the project. In turn, this usually involves changing the requirements for the product and its configuration. Changing the project objectives, product parameters, conditions for its creation and / or further use leads to inevitable changes in the configuration of the

project. Increasing the number and speed of changes leads to an increase in the complexity of the processes of managing distributed projects.

Thus, even minor changes can significantly affect configuration of the product and the project itself. Taking into account response of the external environment or the internal environment of the project to external influences in the form of resistance of these systems, it is possible to imagine a lot of changes that will occur in the course of the project implementation.

Figure 3.3 displays the model of interdependence of the project and the product. It is important to physically have the impact of the turbulent environment on the configuration through the influence on the project and the project product, where the configuration of the product determines the configuration of the project. At the same time, configuration management involves achieving consistency between the product components and the project elements through their connections. A significant influence on the configuration is also provided by the framework (constraints, assumptions, conditions) in which the project moves to its goal.

The proactive approach in managing the configuration of a product, project and project environment requires integrated management of the named configurations. Formation of forecasts and study of the external environment will allow influencing the configuration of the product, project and the external environment of the project until irreversible changes occur. In addition, the use of proactive management in combination with the value approach provides unlimited opportunities for the development of organizations and the search of new business lines, increasing its value.

Applying the proactive approach in management of complex distributed IT projects is a very promising area of research. This area allows us to consider the principles of management as a set of processes that are “moving one step forward.” This opens new perspectives and allows not just to react to changes, but rather to create a qualitatively new space for the activities of the companies.

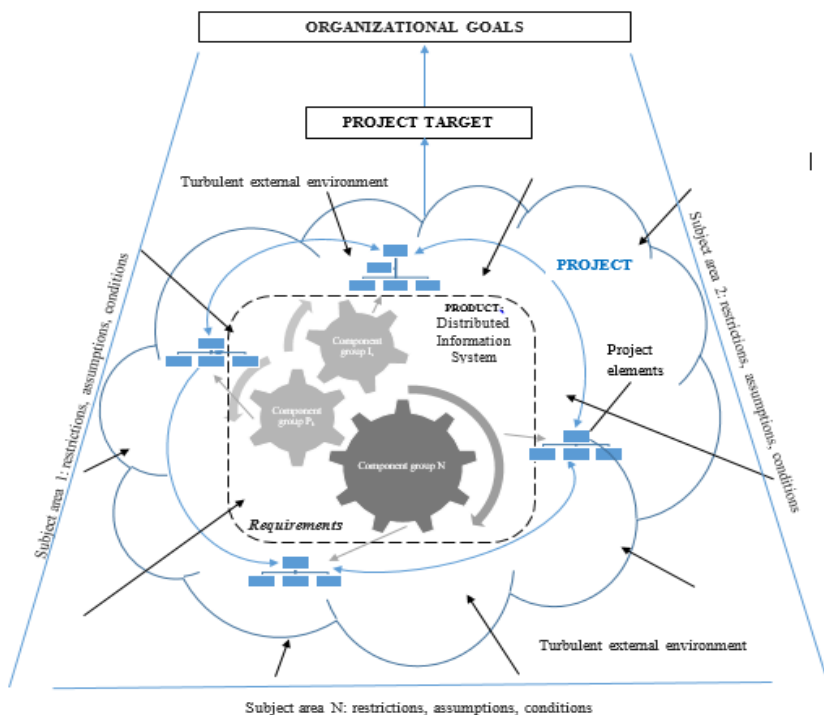


Figure 3.3 Interaction of the elements of the project.

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**FORMATION OF MOTOR
TRANSPORT ENTERPRISES
ALTERNATIVES FOR
STRATEGIC
DEVELOPMENT**

Structural changes in modern global geopolitical, economic and socio-cultural realities cause a variety of diverse consequences, one of the most important of which is change of approaches to strategic development of business entities. Formation of substantiated strategy of enterprise development, taking into account modern conditions and ways of business conduction, requires new solutions of theoretical and applied nature to be developed, which will be aimed at ensuring sustainable development of the enterprise and achieving competitive benefits.

Regarding the content and varieties of specialists' opinions as for formation of a strategy for the company within uncertain environment in modern literature, different scientific views are presented. Thus, A. Chandler, author of one of the first papers on strategic planning topics, considers the strategy to be effective in determining the main long-term purposes of the objectives and the course enterprise's actions together

with the substantiation of the resources necessary to achieve these purposes [3]. According to A. Thompson and A. Strickland, the strategy should be considered a set of actions and approaches to achieve the specified activity indexes [21]. B. Carloff defined the strategy as a generalizing model of actions necessary to achieve the set purposes through coordination and distribution of company resources [11]. D. Quinn also defined the strategy as a plan that integrates the main organizational goals, policies and actions that may be combined together [17]. G. Mintzberg, M. Porter, when studying the strategic behavior of large corporations in competitive markets, found that a strategy should not be considered only as a long-term plan, but as a balanced set of well thought-out decisions and actions for the consistent execution of all planned tasks [18-20] I. Ansoff, while using the concept of strategic management, noted that the strategy is one of several sets of rules for making decisions about the behavior of an individual enterprise, and determined four groups that combine the following rules:

- establishment of enterprise's relations with the external environment; establishment of relations within the enterprise;
- conduction of daily current affairs;
- measurement of current and future results of enterprise's activity.

Thus, this author characterizes a strategy as a set of rules for decision making in order to ensure sustainable growth and development of the enterprise; emphasizing, as the main ones, the rules of the first two groups, in particular: the rules of relations between the enterprise and the environment (business strategy) and the rules of internal relations as the establishment of balance between their own internal variables (organizational strategy) [1].

Consequently, the enterprise's strategy refers to a general plan of actions that defines the priorities of strategic objectives, resources and consistency of steps to achieve strategic goals. The main task of the strategy is to bring the enterprise out of its current state and, following the necessary rules, ensure a gradual transition to the desired, outlined for the future.

Such a transition becomes real only provided that the processes of uncertainty of influence on the enterprise environment were taken into account, scientific work on the study of which have been written by such scientists as V.V. Cherkasov [4], G.M. Kolomiets [13], T.M. Lytvynenko [14] and others. They believe that in modern literature there are two basic concepts of constructing a development strategy: philosophical and organizational-managerial. The philosophical concept

focuses on determining the direction enterprise's development within the context of obtaining the answer to the question: in what business is the enterprise and in what business, in fact, it should be? According to organizational and managerial concept, the strategy is associated with competitive actions, measures and methods of implementing the strategic activity of the enterprise, where one can get an answer to the question: how the company operates in the markets selected by it under uncertain environment.

Thus, the strategic development of the enterprise is a system of long-term goals of the enterprise, the implementation of which is inextricably connected with the use of effective mechanisms for managing the processes of formation, distribution and use of available resources within instability of environmental factors. The main document that specifies the purpose and sequence of these actions is the development strategy.

The development strategy of a motor transport enterprise is usually formed at the highest level for an enterprise, and at the level of a separate division the success of its implementation is provided by lower strategies. In this context, it must be stated that today there exist different variants of strategy classification – by levels of hierarchy, management, responsibility, etc. As a result of the research on this subject, it has been determined that there is no single scientific point of view regarding the number of levels, names of strategies, their content and purpose yet. Taking into account the specifics of the activity and organizational structure of the motor transport enterprise, we consider it expedient to develop a set of strategies in accordance with the three levels of strategic decision-making: at the level of divisions, subdivisions of the middle level and the enterprise as a whole.

At the same time, it should be noted that formation of a successful strategy for enterprise development is largely determined by the level of justification, its content and rational development sequence. At present there are many variants of strategy formation, but most of them are general and do not take into account the diversity of economic processes. Obviously, a motor transport enterprise itself should primarily provide transportation services that are characteristic of the infrastructure, it differs from enterprises in other sectors of the economy, both in terms of work and in technology-related activities. Therefore, when forming a strategy for the development of a motor transport enterprise, it is necessary to take into account both the features of the conditions of their management and the sector specificity in determining

the individual stages of this process.

The first stage involves setting up a mission and building a scheme of goals. To obtain information for the formulation and construction of a development strategy and other auxiliary strategies, an analysis of the current state as a prerequisite for strategic analysis is performed. Such an analysis is carried out initially at the level of departments and individual divisions, and already performed for the enterprise analysis allows you to specify the strategic goals and outline all possible strategies for it. For mutual refinement of strategies it is recommended for each division of a large motor transport enterprise, which use cars of different types: dump trucks, on-board, tractor trucks, specialized, to develop a business portfolio, which may become one of the means to overcome the uncertain environment. In general, the process of strategy formation is iterative and implies a slow transition from the current strategy to the next.

The peculiarity of the proposed approach to the process of formation of the motor transport enterprise development strategy is the reflection of the entire set of strategies necessary for the company to achieve strategic development goals, as well as taking into account specific economic conditions in conducting strategic analysis, in particular regarding the economic portfolio.

Since in market conditions the main goal of the vast majority of enterprises is adaptation to the increased dynamism of the external and internal environment, enterprises need an appropriate development strategy, which would become the basis for effective management decisions. The choice strategic nature of functioning purpose of domestic enterprises is of paramount importance for senior management. Given that each enterprise is unique in its own way, the process of designing and implementing a strategy for each one should be individual, besides, an individual approach will largely depend not only on the impact of the external and internal environment, but also on their interaction.

For domestic enterprises, the use of such basic strategies as survival, stabilization and development strategies is typical. Considering each of them, the following may be pointed out.

Within economic crisis and the high level of inflation, most businesses have built up a survival strategy that aims at adapting as much as possible to the volatile economic conditions of the market. This strategy is mainly addressed when the financial and economic performance of the enterprise has a steady tendency to deteriorate.

The next strategy of stabilization (or limited growth) is used in conditions of relative stability of sales volumes and the resulting profits. It is used mainly by enterprises of those industries where relatively stable technological support is formed and when there are certain achievements in the stability of their economic condition.

And finally, the strategy of development (or growth) is a strategy that undoubtedly reflects the desire of the enterprise to increase sales, profits, profitability and other indices of production efficiency. This strategy is mostly used in dynamic industries, responding to changing requirements for the introduction of new technological changes. The strategy consists of many competitive actions and approaches, which determine the successful management of the enterprise. Managers are developing strategies to determine the direction in which business will evolve and how it will work. The choice of a particular strategy means that only one solution from the set of development ways opened to the enterprise should be chosen by the enterprise to develop confidently. Without this strategy, the leadership will not be able to form a single program with an appropriate action plan to achieve the desired results.

Solving the problem of forming a strategy for the motor transport enterprise development requires, firstly, justification of the content of the development strategy and its place among others. In modern scientific literature there are a lot of uncoordinated interpretations of this concept. The main reason for the differences is different views on the strategy essence and the enterprise development. The development strategy of a motor transport enterprise is a set of economic means formed into a single system by means of coordination at all levels for strategic decisions and which the enterprise uses to fully meet the needs of consumers for quality transport with a minimum risk level and to achieve, on this basis, promising targets from the most efficient use of resources in the appropriate business space. This concept reflects the need for a vision of a collective approach to strategy development, more revealing its essence and, at the same time, generates a broad idea of the mission of each transport enterprise. Evaluation of the effectiveness of the development strategy of a motor transport enterprise is possible only during its implementation at all levels, including departments, separate divisions, that is, all structures that provide lower strategies. Taking into account the specifics of the activity and the organizational structure of the motor transport enterprise, one can propose to develop at the same three levels one of a set of already commonly used strategies.

Thus, the most common, tested practices of enterprise development

strategies reflect four different approaches to ensuring the economic growth of the enterprise and are associated with changing the state of one or more elements: the product (service) - the market; branch; state of the enterprise within the industry; technology. Each of the elements can be in one of two states - existing or new. It is these circumstances in which a classification of modern development strategies is built. Let's consider more basic types of development strategies (Figure 3.4).

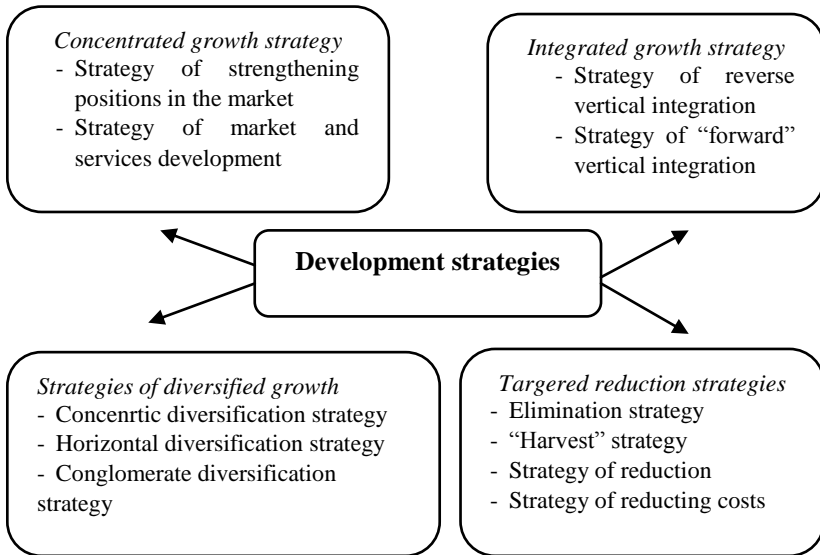


Figure 3.4 Types of development strategies

Source: drawn up on the basis of literary sources 1,3,4,11,17, 18-21

Separately, according to the strategy of concentrated growth, it should be noted that this group includes those strategies that are associated with the change of product (service) and (or) market and do not affect the other three elements. In the case of following these strategies, the enterprise tries to improve its product (service) or start producing a new one, without changing its membership in the industry. With regard to the market, the entity is looking for opportunities to improve its position on the existing market segment or transits to a new one. Typical strategies for the first group are: a strategy for strengthening positions in the market and a strategy for market development.

In particular, with the strategy of strengthening positions in the market, the company does everything to get a better position for a

particular product (service) in this market. This type of strategy requires large marketing efforts for its implementation, since competitors are not excluded from attempts to implement so-called horizontal integration, in which the enterprise tries to establish a comprehensive control over them.

The market development strategy lies in finding new markets for an already developed product (service). This strategy aims at increasing sales (services) by introducing existing goods (services) in new markets. There are also a number of alternatives: new segments in the same regional market; new sales channels: transportation of goods to other networks that are significantly different from those available; territorial expansion as an invasion of other regions or other countries. Market development strategies rely mainly on sales and aggressive marketing policies; the strategy for the development of a product (service) involves solving the problem of increasing volumes, both by increasing the production of a new product (service), and marketing in markets mastered by the firm. The main instrument of this group of growth strategies is the breakthrough policy of goods (works, services) and a policy of a comprehensive segmentation analysis.

The second group of development strategies includes the so-called integrated growth strategies. This group of reference strategies includes business strategies related to the expansion of an individual firm or enterprise by adding new structures. An entity may usually use such strategies if it is in a strong business, can not implement the strategies of concentrated growth, and its integrated growth will not contradict its own long-term goals. Then the subject can focus on integrated growth, both by replenishing the assets through the acquisition of property, and by increasing the internal financial capacity. In both cases, there is a change in the position of the subject within the industry according to one of the two possible types: the strategy of reverse vertical integration or the strategy of “forward” vertical integration. If strategy of reverse vertical integration is chosen, the main emphasis will be on the growth of indicators by purchasing or strengthening control over the implementation of contracts with suppliers, while the firm as a separate entity can either create subsidiaries that deliver or buy companies that already work as suppliers. It is important that the implementation of the strategy of reverse vertical integration may bring the enterprise favorable results, which are stipulated in this environment and provide for a relaxation of the dependence on price fluctuations for components from suppliers. Moreover, in the case of backward vertical integration,

delivery as a cost center for the recipient enterprise can be transformed into a revenue center. Sometimes such integration becomes necessary because suppliers without resources or know-how are not able to provide buyers with parts or accessories that are too important for them. Therefore, such a strategy is used to stabilize or protect a strategically important source of supply. Another aim of the strategy of reverse vertical integration can be access to new technology, the basis for success in the further activities of the enterprise.

The strategy of “forward” vertical integration is reflected in the growth of the enterprise's indices by purchasing or strengthening control over the distribution and sale structures, that is, those that are between it and the end user. This type of integration is beneficial when intermediary services are expanding due to the narrowing of the possibilities to attract specialized intermediaries for quality work execution. The motivation in this case is to ensure proper control of the outgoing channels. In particular, we can talk about sales control through relevant networks, exclusive contracts or the creation of own stores. In some cases, “forward” integration means simply to expand the information base of users of their products (services). In this case, the firm creates a branch whose main task is to deepen analytical research on understanding customer problems in order to more fully meet their needs.

The third group of development strategies is the so-called strategies of diversified growth. This group of strategies is implemented by business in the event that the firm as an entity can no longer develop its already known product or service in the chosen market. Then you can focus on a separate core strategy of the diversified group, which includes: concentric diversification strategy, horizontal diversification strategy, conglomerate diversification strategy.

Thus, the strategy of concentric diversification is based on the search and use of additional opportunities for the production of new products, the provision of services that are potentially possible in the current business, that is, the current activity remains in the center of business, and new directions arise on the basis of opportunities that are formed in the mastered market, the technology used, or in other strengths of its operation. Among such parties, for example, may be the new possibilities of a specialized distribution system, when the entity goes beyond the branch chain within which it created financial and economic relations, and is looking for new activities complementing existing ones in terms of technology or commerce. Thus, the purpose of this strategy

is to concentrate the efforts of the subject on the achievement of the synergy effect and to expand the potentially possible market boundaries.

The second in this group, the strategy of horizontal diversification involves the search for opportunities for enterprise development in the existing market, but due to new products (services), which also requires a new technology different from that already in use. Under such a strategy, the company should focus on the production of such technologically unrelated products (services) that would allow the maximum use of existing capabilities of the enterprise. And since the new product (service) should be oriented towards the consumers of the main product (service), then in its qualities the new must be related already made. An important condition for implementing this strategy is the preliminary assessment of the company's own competence in the production of a new product or service.

And finally, the last strategy of this group is the so-called strategy of conglomerate diversification. This strategy is characterized by a principled approach, as it takes it as a basis for development, the subject involves the production of only new products (services) technologically unrelated to existing ones, and the development of new markets, on which new products will be realized. This is one of the most difficult to implement development strategies, because its successful implementation depends on many factors, in particular on the level of competence of staff, especially managers, seasonality of market demand, available cash shares in the working capital structure, etc. Undoubtedly, diversification strategies are the most complex and risky ones, since they target the company to new tasks for which the successful implementation of which involves the mobilization of significant amounts of financial resources and new staff. The basic prerequisite for the success of such a strategy is the presence of at least one common point between the new and basic activities, for example, in the market, technology or production process. Although there are experts who also emphasize the importance of such a program as “corporate culture” and “management style”, which together characterize the specifics of the organization of production processes, and at the same time can be effective for some activities and ineffective for others.

Finally, the fourth group of development strategies is targeted reduction strategies. These strategies are implemented when the firm needs to regroup forces after a long period of growth, or because of the need to improve efficiency when there are recessions and dramatic

changes in the economy, for example, structural adjustment, etc. It is precisely in the presence of such situations that enterprises resort to the use of strategies for purposefully planned reduction of production. Although the implementation of these strategies is often not painless, however, one must clearly understand that this is the same development strategy of the enterprise as the growth strategies considered and, under certain circumstances, the use of this type of strategy can not be avoided. Moreover, in certain circumstances, this is the only possible strategy for business recovery, since in most cases updates and general acceleration are mutually exclusive business processes. At the same time, it is important to take into account the specificity of the individually targeted reduction of business, since there are four types of strategies: the elimination strategy, the harvest strategy, the strategy of reduction and the strategy of reducing costs.

The elimination strategy is the limit of the strategy of reducing business, which is forced to enter into when the firm is no longer able to conduct further business.

The “harvest” strategy is the denial of the long-term vision of business development because of its hopelessness in favor of maximizing income in the short term, because such a business can be profitable to sell and bring decent results during harvesting. This strategy involves reducing the cost of purchasing, labor and maximizing income from the sale of an existing product (service) with the condition of a gradual reduction of production. The “harvest” strategy is designed to achieve a maximum aggregate income when gradually closing down business during the period of reduction.

The strategy of reduction of business involves the use of cardinal actions when the firm closes or sells one of its divisions or businesses in order to carry out a long-term change in the business boundaries. Often this strategy is implemented by diversified firms when one of the productions is badly combined with others. This strategy is implemented when it is necessary to obtain funds for the development of more promising or to start new products, which, according to their qualitative characteristics, correspond to the long-term goals of the business.

However, there are other situations that require the implementation of reduction strategies. This is a strategy for reducing costs, which is quite close to the strategy of reducing business, since its main idea is to find opportunities for reducing costs and carrying out appropriate measures for this. Thus, the implementation of this strategy is associated with a reduction in production costs, an increase in labor productivity

against the background of a reduction in wages, along with the dismissal of staff, the termination of production of non-profitable goods and the closure of loss-making capacity.

The chosen strategy is evaluated in the process of analyzing the correctness and adequacy of accounting when choosing the main factors that determine the possibility of implementing one or another strategy. The whole evaluation procedure, ultimately, is subject to a single criterion of development: whether the chosen strategy will achieve the achievement of the goals set by the enterprise. If the strategy is consistent with the objectives of the firm, then its evaluation is carried out in the context and in accordance with the requirements of the environment: the strategy is checked to the requirements of the business partners, to what extent factors of the dynamics of the market and the dynamics of the life cycle of the product (services) are taken into account, or Will implement the strategy to the emergence of new competitive advantages and whether the chosen strategy will meet the challenge of building the company's development potential. It also assesses how the chosen strategy is linked to other strategies, and whether the strategy of the firm's ability to improve the level of knowledge of the staff corresponds to whether the existing structure successfully implements new tasks of the strategy, or whether a strategy for implementing the strategy on time on the acceptability of the risks laid down in the strategy is validated. The assessment of the justification of each risk is carried out in three directions: the realistic preconditions for choosing a strategy; what negative consequences for a firm can lead to failure of the strategy; or justifies a possible positive outcome of the risk of loss from the failure of the strategy.

Development of an effective mechanism for implementing a strategy is a separate major problem, which includes the development of adequate strategies for organizational structures, the financing of functional strategies, the selection of leaders with a charisma of the leader, the creation of a microclimate of corporate culture and other necessary conditions in which all employees can better disclose their talents.

However, under any circumstances, the leading criterion that determines the choice of an appropriate development strategy is the level of development potential that the company can achieve as a result of the diagnosis.

The choice of a strategy for the development of an enterprise on the basis of the appropriate level of its potential should reflect the features

of a particular development path. Among the main features should be distinguished:

1. Specifics of market research methods preceding the development of a development strategy.

2. Increase the depth of forecasting of future developments as a result of enterprise activity.

3. The sharp increase in the volume of information processed its continuous accumulation and analysis with the purpose of sound decision-making, timely response to the opportunities and threats that appear in the market.

4. The multivariate nature of the forecasts, since, as a rule, the development of events can go in several possible directions, the probabilities of which are different.

5. Assessment of the company's ability to develop according to the relevant criteria:

- energetic, flexible leadership, capable of taking risks;
 - progressive organizational structure of management, oriented to work in market conditions;
 - high reputation of the enterprise and its products at consumers and business partners;
 - availability of information on trends in consumer demand and demand changes, ability to identify and predict latent (future) needs and demand;
 - good knowledge of the capabilities and potential of competitors;
 - availability of work experience in this field;
 - availability of patents for technical solutions and technologies in the chosen field of activity;
 - access to the latest achievements of science and technology in the chosen field of activity and allied ones;
 - human potential (scientific, engineering and labor);
 - competitive technologies and advanced equipment;
 - high quality products and high production culture;
 - reserves of production space and capacities, etc.
6. Detailed analysis of risk factors and assessment of their degree of influence, the main reasons of which are:
- sharp changes in economic, political, social, environmental and other components of the economic environment;
 - changes in consumer demand;
 - unpredictable actions of competitors;
 - accelerating the pace of scientific and technological progress,

technological and technical breakthroughs, etc.

7. Careful selection of methods and sources of funding.

The high risk of enterprise activity causes some complications with the search for sources of financing and, accordingly, the specifics of its financing.

8. Close linking of goals, stages and timing of strategy implementation with predicted parameters.

9. High mobility and adaptability of the strategy, the possibility of its operational reorientation in relation to changes in the conditions of the external and internal environment of management.

The development strategy should be structured in such a way that, without costly and long-term work, the company's activities can be oriented towards effective work in the new environment. This can be achieved through a thorough analysis of various scenarios for the development of events and the development of appropriate alternative strategies, as well as ways of transforming one variant of the strategy into another with minimal time and cost loss.

10. Necessity to assess the development strategy by a set of different criteria (multicriteria assessment of the strategy).

Strategy development at the enterprise falls into the competence of higher levels of management and is based on solving a complex of problems in the context of determining the strategic goal.

The efforts of senior management should be directed at ensuring the implementation of the chosen strategy and on assessing the achieved level of enterprise development potential, which is largely determined by the state of the internal and external environment. Evaluating the achieved level of development potential, most economists consider the concept of high and low potential, while offering a very complex system of filling these concepts with specific indicators [16]. However, in the context of solving this issue, it is important to consider the following circumstances: first, the development potential has a complex structure (tangible, intangible, financial resources); and secondly, the structural elements of the development potential can be interchangeable, that is to convert (to become one to the other).

In our opinion, it is expedient to classify the development potential with the selection of three of its groups, which will provide information on low, medium or high development potential. The main purpose of such a classification is to distinguish between enterprises as a factor influencing the development potential on the level of enterprise development.

Low development potential (DP1) indicates the presence of chronic violations of most of the parameters of all functional components: problems with the provision of the company with major production funds, raw materials, labor resources, ineffective use. The presence of losses in the services markets (a decline in market share or an alarmingly alarming decline in the volume of service provision). Significant loss of market potential (adverse changes in the composition of competitors, clients, assortment of services). Availability of technical support issues. Efficiency of use of basic productive assets, labor and material resources is lower than the average level.

Average development potential (DP2) – an enterprise successfully exists in business, there are overcoming difficulties, as mechanisms of adaptation work. Services are provided. The market share is not stable, but on average over the observation period is maintained at a certain level. The physical volume of services is preserved (although it is possible to reduce it in separate periods). Technical and technological base in satisfactory condition. The effectiveness of the use of technology and technology – medium-sized.

High development potential (DP3) arises as a result of the availability or receipt of a significant amount and quality of resources, inventories and resources that enable a complete production cycle and complex transformations. Services are successfully provided. The market share is stable. The physical volume of service provision is maintained. The company has a significant market potential, its state of the market is stable. Technology and technology are highly productive. Technical and economic indicators are not lower than medium-sized [2,5-8,10,12,15,16].

The development potential may increase or, conversely, weaken the activity of consumers for the product (service) of the enterprise, which, in turn, forms the basis for the formation of its market demand. However, there are some thoughts on the fact that in some, usually extreme cases, the decline in demand also largely can initiate the activity of the enterprise and the correction of its development potential [2,5-8,10,12,15,16]. An example of such a situation can be a sharp decline in demand for products (services) for a significant number of enterprises in the transition from administrative to market economy. Some of the most ambitious companies managed to choose the right way of development and achieve high performance in these conditions. On the other hand, in some cases, the high demand that developed, as a rule, as a result of the monopoly position of the company in the market, leads to a situation of

restraint, decrease in activity. This can lead to loss of potential development of the enterprise and even its elimination.

At the same time, the overwhelming majority of researchers are convinced that only those companies that have the opportunity to adequately build their potential will achieve the highest level of development. The use of strategic management requires a more accurate assessment of the prospects for enterprise development, as well as significant development potential, while tactical management is not related to the need to develop long-term or medium-term forecasts, and therefore may have a lower potential.

It should be noted that at the moment, the mechanism of interaction of market demand and the potential of enterprise development is not disclosed. For this purpose, we propose the following classification of market demand.

Increasing market demand (MD1) is equal to or exceeds the company's capabilities, allows it to significantly improve its economic situation and rapidly increase the potential of enterprise development.

Unstable market demand (MD2) means significantly fewer opportunities for the enterprise, the received income does not allow to significantly improving the economic situation and rapidly increase the potential of enterprise development.

Weak market demand (MD3) is characterized by a lack of demand for products (services) of the enterprise, a significant deterioration of the economic situation, loss of resources and low capacity to form a development potential.

Market demand may change due to factors that are not dependent on the enterprise. This can be facilitated by scientific discoveries, world trends, etc.

Enterprises prefer to control these trends, minimize risks in case of disbalancing of system indicators. Systemic indicators of the proposed classification – development potential and market demand – are interconnected. They can serve both as a target and a means.

On the basis of a combination of two main factors, the development potential and market demand, a two-dimensional matrix can be constructed, and thus it is possible to choose the appropriate strategy for enterprise development (Figure 3.5).

The adoption of the management of positive management decisions on the choice of development strategy will be facilitated by the nine-sector matrix constructed by our system criteria: development potential – market demand.

Level of development potential (DP)	Market demand (MD)			
		Weak (MD1)	Unstable (MD2)	Increasing (MD3)
	High (DP ₃) (sufficient)	Strategy of strengthening positions in the market	Strategy of market development	Strategy of reverse vertical integration Strategy of “forward” vertical integration
	Average (DP ₂) (limited)	Concentric diversification strategy	Horizontal diversification strategy	Conglomerate diversification strategy
	Low (DP ₁) (insufficient)	Elimination strategy	Strategy of reducing costs Strategy of reduction	“Harvest” strategy

Figure 3.5 The matrix of alternative strategies for the development of a motor transport enterprise

Such a matrix can act as a toolkit for strategic management, since it relates market factors of enterprise development with its potential development. Application of this model makes it possible to formulate typical measures for certain areas of activity of an enterprise with different characteristics of potential and market demand. The application of this matrix helps to realize that priorities in resource allocation can change more often and to some extent understand the causes of these changes. In our opinion, another advantage of this approach is that there is a basis for developing and rationalizing the development strategy.

The positive moment of this matrix is that it allows us to choose a development strategy not only based on the potential of development, but also depending on the position of the enterprise in the industry. The matrix will make it possible to distinguish between the positions that are in the industry and the opportunities that can be used by each of the branch enterprises. In any industry, there are enterprise leaders and outsiders. Each company wants to take the best position in the market, and the most ambitious enterprises – to become market leaders. The latter have advantages both at the level of potential, which consists of

many factors previously determined by us (material, intangible, financial resources) due to aggressive behavior in the market. A combination of previously developed market demand options will identify the most typical situations in which the company may be.

Each state of the enterprise can offer the most suitable strategy for its development. This strategy will make it possible to streamline the activities of the company in the most effective direction in terms of optimizing the correlation of the potential of enterprise development with market potential. That is, bring the system to a certain point in time to equilibrium.

DP1-MD1: This state involves the sale of equipment, buildings, structures and other resources, reduction of the state of the enterprise, reduction of services. A positive way out of this situation is to attract an external investor. At the same time, the company actually starts to work from scratch. In these conditions, any transformation, backed up by financial resources, increases the potential for development, which in the future will give a positive result.

DP1-MD2: low market demand and lack of enterprise development potential motivate the manager to make a decision to reduce the costs of the enterprise. Much attention should be paid to the resource management and budgeting system. It is also necessary to conduct active management in the search for foreign investors.

DP1-MD3: At high demand for enterprise services and high market potential, the company provides services, receives income and profits through which equipment upgrades and marketing technologies can be implemented.

DP2-MD1: A situation in which an enterprise has limited development potential and weak market demand requires the introduction of market technologies that will allow new market segments to be found.

DP2-MD2: In this situation it is proposed to make some changes in the variety of services provided, to improve the production and management structure. Some enterprises are beginning to make large-scale transformations, but the limited development potential allows these transformations to be made in small steps. The enterprise supports existing forms of functioning.

DP2-MD3: There is a high market demand for enterprise services, but with limited development potential. The enterprise seeks to consolidate itself in highly-developed market segments. Any transformation is a step-by-step character. At the same time, market

demand can stimulate the company to accumulate resources, which will increase its development potential.

DP3-MD1: the situation is characterized by a high potential for development due to low demand for its services, that is, a weak market potential. An enterprise goes to the provision of services in another industry. Transformation is due to the purchase of modern technologies, imported equipment.

DP3-MD2: high potential of enterprise development is reached due to technical updating, expansion of assortment and quality of services in order to increase demand for services and market demand of the enterprise.

DP3-MD3: the situation creates for the enterprise unique opportunities for realization of large-scale activity at the expense of various strategic alternatives and financing of new technological developments and scientific researches.

Lack of resources, which leads to a low level of development potential, can lead the company to bankruptcy. Therefore, even in any state of the market, the main task for the enterprise will be to search resources from the outside or accumulate resources at the expense of their own funds for development, upgrading production, management systems, etc. In the case of weak market demand, the management considers options for restructuring or liquidation of the enterprise.

Therefore, the choice of a development strategy depends on many factors, among which the development potential and market potential prevail, which depends on the demand for the goods (services) of the motor transport enterprise and the proper management of these processes of their formation.

Strategic management should take place in accordance with the requirements of a systematic approach – from general to individual, – thus, through feedback, specified (adjusted) strategies of higher levels. That is, the process is hierarchical and cyclic; it may include several steps in which it is important to adhere to such modern approaches to management:

- enterprises must continually modify their competitive advantage if they seek to retain a leader's position;
- it is necessary to look from logically rational generally accepted decisions, because they are easily seen by competitors, that is, it is necessary to accept mostly non-traditional solutions;
- the strategy must take into account rapidly changing business conditions and these trends are intensifying, requiring a continuous

review of strategic decisions.

Therefore, due to the rational organization of the management system in terms of justification and choice of the strategy for its development, which is appropriate for the conditions of the motor transport enterprise, one can expect that the development of the potential of the motor transport sector will contribute to the protection of long-term interests of Ukraine both in the domestic and international markets. In particular, the main directions of the development of the potential of motor transport services in Ukraine on the modern international market can be considered as follows:

- priority directions in development of transport corridors, volume of transit, local and export-import transportations, foreign tourism, acceleration of promotion of vehicles at border crossings;
- creation of the legislative and normative base, which regulates the conditions of work of international road transportation services, points of automobile service, their interaction with enterprises of the country's infrastructure sectors in the process of transportation of foreign economic relations;
- the transition to international standards and rules used in the construction of objects of automotive services, transport communications, in the production of vehicles;
- development of new rules for the provision of services for vehicles and their crew in the conditions of freight forwarding services by cargo owners;
- ensuring safe transport work both inside and outside the country.

In general, taking into account the main approaches in the system of choice measures management and strategy formation based on the consideration of various factors, including the specifics of the activity, the size of the enterprise, the qualifications of management and staff, allows you to get the desired results in the course of scheduled diagnostics of the potential of the development of an automobile company on each stages of determining the state and justifying prospects for its competitiveness.

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**RESOURCE-SAVING
ECONOMIC
DEVELOPMENT AS
A FACTOR OF THE
UKRAINIAN
ENTERPRISES
COMPETITIVENESS
PROVIDING**

Under current conditions of business activities conducting, many businesses in Ukraine are faced with an urgent need to increase the economic efficiency of their functioning and increase of their business activity level. However, the insufficient level of technical, technological, product and organizational development of these enterprises is the obstacle to these goals achievement, which results in a considerable workload of many types of products and their low quality. At the same time, similar products produced in the EU and other developed countries are often characterized by lower specific costs of energy and other resources for its production and have a much higher level of consumer properties than Ukrainian ones.

Taking into account that a significant number of products types are manufactured simultaneously at many enterprises both in Ukraine and abroad, and in the context of economic relations globalization, in particular, under the conditions of free trade zones between Ukraine and other states, penetration into the Ukrainian market of foreign goods significantly contributed and accelerated, achievement of high financial results of activity require from the Ukrainian enterprises to have a proper level of their competitiveness.

Competitiveness of the enterprise is one of its most important characteristics and is marked by considerable complexity and versatility [1]. This is due in particular to the fact that a number of factors affect the level of competitiveness [2,3]. The most important of these factors include, in particular, the specific costs of resources, namely their cost per unit of production, which is produced. Reduction of these costs is

the main goal of resource-saving economic development of enterprises. However, the transition to a resource-saving model of economic development may require considerable investment in the implementation of technical re-equipment of production. Therefore, measures for specific resource costs reduction should be properly justified. Such a justification should be based on the economic efficiency evaluation of the investment projects of resource conservation at the enterprise [4].

It should be noted that the problem of resource conservation is considered in many scientific works, in particular in [5-8]. In this case, considerable attention is paid to the study of the laws of technological change as a factor of resource conservation at enterprises [6]. In particular, a number of publications are devoted to the study of the factors that determine these changes and their peculiarities [9,10], the study of the technological innovations diffusion mechanism, especially their spatial propagation [11], the analysis of the technological changes impact on the level of product competitiveness [12,13]. At the same time, special attention of scientists is devoted to energy-saving technological changes due to their significant influence on the pace and proportions of economic growth in many countries of the world [14]. However, the researchers have not sufficiently investigated the mechanisms of formation of a resource-saving type of economic development of enterprises and the influence of the such a formation results on the size of their competitive potential.

If we consider the essence of the economic development of the enterprise, it should be noted that it is characterized by internal and external features. At the same time, the external tendency could be increase of production volumes and sales, and the internal sign – certain qualitative changes taking place in the enterprise's internal mechanism, in particular, the improvement of the used resources quality. Under such conditions, if one identifies the resource-saving type of the enterprise economic development, its identification is a rather difficult task, since according to one criterion development can be related to this type, and to the other – no. The research conducted by us has shown that in conditions where the identification of a resource-saving type of enterprise economic development is carried out on the cost index of the production unit of a certain type, which is produced by the given enterprise, then signs of such type of development according to the criterion of necessity of these signs can be as follows: the necessary sign is the decrease of specific costs natural volumes of at least one type of

production resources of the enterprise; sufficient sign – reduction of operating costs for all types of productive resources of the enterprise per unit of products of this type, taking into account the adjustment of prices for these resources by eliminating the influence of exogenous causes of their changes; necessary and sufficient sign – to reduce the unit cost of production of this type, taking into account the adjustment of prices for the enterprise's productive resources by eliminating the influence of exogenous causes of their changes.

The formation of a resource-saving model of the industrial enterprises economic development requires the development of a complex of measures for resource conservation, the grouping of which is proposed to be carried out on the following grounds: by types of industrial resources of the enterprise (measures for the conservation of material resources, measures for the conservation of energy resources, measures for the conservation of labor resources, measures for the preservation of technical resources); by the term of realization (short-term, long-term); by scale (partial, complex, comprehensive); on demand for investments in the implementation of measures (investment, non-investment); by the content (organizational, technical, social); by the nature of the economy of the enterprise's productive resources (measures aimed at the absolute saving of productive resources, measures aimed at the relative savings of productive resources); by the direction of measures (measures aimed at reducing the specific costs of a certain type of production resources at a constant level of specific costs of all other industrial resources of the enterprise; measures aimed at the certain type specific costs reduction of industrial resources of the enterprise with the simultaneous change in the specific costs of other types of these resources, aimed at reduction of the specific costs of acquiring, maintaining and exploiting a certain type of productive resources of the enterprise at a constant level of these costs by other types of resources; measures aimed at the unit costs decrease for acquiring, maintaining and exploiting of a certain type of the enterprise production resources with the simultaneous change in the level of these costs by other types of resources of the given enterprise).

It should be noted that the importance of resource-saving development is supported by the fact that it provides increased competitiveness of enterprise production due to reduction of specific costs of production resources. Therefore, the assessment of the impact of company resource-saving development on the competitiveness of its products should be based on the calculation of cost values increments

and capital intensity of the product unit as a result of the resource conservation measures implemented by the enterprise. At the same time, the impact of resource-saving development of the company on the competitiveness of its products will be positive, if the ratio of the difference between increments of the prices indicators values and unit costs of certain products to increments of its specific capital values exceeds the established standard of investments return invested in the implementation of resource conservation measures by the enterprise.

One of the most powerful measures for resource conservation is the introduction of resource-saving technological processes at enterprises. It should be noted that at present the scale of the introduction of such technologies at enterprises of Ukraine is low. One of the main reasons for this phenomenon is the objective complexity of the process implementation of the existing technology displacement by the new one. Such displacement, which is reflected in the termination of working equipment operation, which is not yet fully physically worn, is possible only if the techno-economic indicators of the manufacture of products under the new technology are significantly higher than the existing ones. At the same time it is often unprofitable for enterprises to replace obsolete equipment if its functioning still allows to receive a certain amount of economic profit. On the other hand, companies that do not receive such profits often do not have the necessary financial resources to implement technological innovations and can not resort to lending sources due to the high level of loan interest. In addition, a significant level of this percentage leads to a significant amount of return on investment, which can not be ensured by the introduction of most measures for technological upgrading of production. Therefore, the reduction of the loan interest rate is one of the main directions of the technological change process acceleration, as a consequence, the growth of the competitive potential of Ukrainian enterprises.

If, under the competitiveness of an enterprise, we understand its ability to acquire certain proportions of product markets, while providing an appropriate level of financial results from its implementation, then the impact of existing resource provision of an enterprise on such ability is manifested, at least under two conditions. Firstly, obtaining a significant share of a certain market for the products sales requires the presence of a significant volume of appropriate types of resources, primarily, production and financial. Secondly, ensuring high profitability of the company's products in case of having a large number of its competitors is possible only if the quality of the resources

used by the business entity in its activities, in particular, the developed technical and technological base, is possible. Consequently, quantitative and qualitative characteristics of the resource support of the enterprise directly determine the level of its competitiveness. Accordingly, the assessment of the resource support of the company should occupy an important place in the system of its competitiveness diagnostics. In this case, it is advisable to distinguish the following main directions of resource provision evaluation of the enterprise's activity:

- 1) evaluation of the resource support quality, the main indicator of which is a certain indicator, which characterizes the quality of a particular type of resources (or their aggregate). In particular, such indicators may include qualification characteristics of personnel and indicators of the technical state of the enterprise fixed assets;

- 2) evaluation of the resource provision effectiveness, which is carried out by calculating the ratio of the result from the use of a particular resource (or their aggregate) to the value of this resource or the cost for its exploitation over a certain period of time;

- 3) evaluation of the completeness of the resource support use, carried out by comparing of the actual result from the use of a particular resource (or their aggregate) with the maximum possible value of such a result over a certain period of time;

- 4) evaluation of the resource supply adequacy, carried out by comparing of a particular resource actual volume (or their aggregate) with its optimal value at the given time;

- 5) evaluation of the resource provision proportionality, carried out by calculating of the ratio between the volumes of the enterprise certain types of resources;

- 6) evaluation of the resource support progressiveness of the enterprise, which is proposed to be carried out by such indicator computing:

$$L_p = Q / (C + K \times N_k), \quad (3.1)$$

where L_p – the level of progressiveness of the enterprise resource support for a certain type of product, which is produced by the enterprise; Q – annual natural volume of a certain type of products production; C – cost of annual output; K – the volume of investments that are invested in the production of this type of product; N_k – the rate of annual return on investments in parts of a unit (such is their minimum profitability, in which investors agree to invest their money in this industry).

By comparing the value of the indicator (3.1) with its size from competitors, one can establish the relative level of the resource support progressiveness of the investigated enterprise activity according to a certain type of products. One of the most important types of the resource-saving technological changes in the management modern conditions are changes aimed at saving specific costs of energy resources. It should be noted that the emergence of a new energy saving technology in a particular field of economy may cause both displacement and not displacement of the existing technology for the production of certain products (in the second case, different technologies of production of the same product will operate simultaneously in the industry). In general, it is considered appropriate to exploit the technology until the net cash flow from its operation (amount of profit and amortization deductions) becomes zero. Taking it into account, the criterion of the expediency of terminating the use of obsolete technology can be formulated as follows: the termination of the operation of obsolete technology is necessary if the unit cost of production without depreciation on the old technology is greater than the specific costs brought by the new technology. It is obvious that any enterprise, choosing a technological solution from several alternatives, should strive to rationalize the ratio between the magnitude of its current and investment costs. At the same time, two main tasks of this choice are possible: 1) when the production of certain products is planned and the best technology for its production is chosen; 2) when the products are already being manufactured and the possibility and expediency of replacing the existing technology of its manufacture (for example, in order to reduce the energy consumption of the enterprise) to the new one is considered.

To substantiate the feasibility of energy saving technologies introduction at the enterprise, it is proposed to apply the following system of criteria:

1. A generalized criterion of investing expediency in energy-saving technology:

$$NPV_1 > NPV_0, \quad (3.2)$$

where NPV_1 , NPV_0 – net present value of the net cash flow of products production projects, respectively, according to energy-saving and basic technologies.

2. General criterion of expediency of energy saving technology choice from two alternative variants of technological processes:

$$\frac{c_0 - c_1}{k_1 - k_0} > N_k, \quad (3.3)$$

where c_0, c_1 – cost per unit of product, respectively, according to the basic and energy-saving technologies; k_1, k_0 – the specific capital intensity of products, respectively, according to energy-saving and basic technologies.

3. The general criterion of the expediency of the outdated technology exploitation discontinuing with its replacement with energy-saving technology:

$$\frac{c'_0 - c_1}{k_1} > N_k, \quad (3.4)$$

where c'_0 – cost price per unit of production according to the base (active) technology without amortization deductions.

4. Partial criterion of introduction expediency of energy saving technology (provided that all values of all other components of cost, except for power consumption and depreciation, are the same in both technologies):

$$\frac{p \cdot (N_{c0} - N_{c1}) - (a_1 - a_0)}{k_1 - k_0} > N_k, \quad (3.5)$$

where p – unit price of energy resources; N_{c0}, N_{c1} – norms of energy consumption per unit of production, respectively, according to the base and energy-saving technologies; a_1, a_0 – specific depreciation deductions according to energy saving and basic technologies.

5. Partial criterion of expediency of obsolete technology exploitation discontinuing with replacement of it with energy-saving technology:

$$\frac{p \cdot (N_{c0} - N_{c1}) - a_1}{k_1} > N_k. \quad (3.6)$$

6. Partial criterion of expediency of energy-saving technology choice from two alternatives provided the equality of depreciation rates in both technologies:

$$\frac{p \cdot (N_{c0} - N_{c1})}{k_1 - k_0} > N_k + N_a \cdot \beta, \quad (3.7)$$

where N_a – the norm of depreciation deductions for the renovation of fixed assets; β – share of the cost of fixed assets in investments in production.

7. Partial criterion of the expediency of the outdated technology exploitation discontinuing with replacement of it with energy saving one, provided that the depreciation rates are equal for both technologies:

$$\frac{p \cdot (N_{c0} - N_{c1})}{k_1} > N_k + N_a \cdot \beta. \quad (3.8)$$

Use of the above mentioned partial criterion indicators made it possible to establish a number of analytical expressions of individual limit indicators that influence on the efficiency of the energy saving technologies introduction, in particular, the expressions:

- for a minimum energy price (p_{\min}), where it is advisable to choose energy-saving technology:

$$p_{\min} = \frac{\kappa_1 - \kappa_0}{N_{c0} - N_{c1}} \cdot (N_k + N_a \cdot \beta); \quad (3.9)$$

- for the maximum increase in the specific capital intensity of products (Δk), for which it is advisable to choose energy-saving technology:

$$\Delta k = \frac{c_0}{N_k + N_a \cdot \beta}; \quad (3.10)$$

- for the minimum possible value of the marginal level of investment efficiency in the implementation of energy-saving technologies at the enterprise (M_e):

$$M_e = N_k + N_a \cdot \beta. \quad (3.11)$$

From Expression (3.10), in particular, it follows that the process of energy consumption reducing by increasing of products capital intensity has a certain limit, in which this process becomes ineffective and there is a need to reduce the value of specific investments on the production.

Using the proposed system of criteria for the expediency of investing funds in the implementation of energy saving technologies, specialists of enterprises will be able to justify measures for such implementation, based on the results of the economic efficiency evaluation of their

implementation. It should be noted that the proposed system of criteria for the expediency of investing funds in the implementation of energy saving technologies can be modified in order to use it in the case of the feasibility evaluation of other types of technological changes. In this case, when several variants of technological changes are possible, the best of them will be the one for which the following criterion becomes the maximum value:

$$Z_i = c_i - c'_0 - k_i \cdot N_k \rightarrow \max, \quad (3.12)$$

where Z_i – a criterion for choosing the best option for technological change by i -th variants of these changes; c_i , k_i – the unit cost of production and its specific capital intensity, based on the new technology by i -th variant of technological change.

From expression (3.12) it follows that, in other equal conditions, in particular the invariability of the technological component in the value of the enterprises assets, the efficiency of the introduction of new technology increases with the increase of the economic benefits of the new technology compared to the current one. In other words, an enterprise with a sufficiently high level of technological development may not be interested in urgent replacement of its technology to the better one, whereas for a technically backward enterprise, such a substitution can be extremely effective. At the same time, the technically backward enterprise may even outstrip more advanced technical equipment and resource efficiency, it means to become the most competitive in the industry. Consequently, the competitive potential of enterprises with a lower level of technological development in other equal conditions is higher than that of technologically advanced enterprises of the same industry. The proposed considerations, which can be extrapolated to the level of national economies, give grounds for a technological breakthrough expectation in a number of sectors of the Ukrainian economy. For this purpose, it is necessary to create favorable conditions for investment and innovation activities conducting, under which it would be profitable for enterprises to implement new technologies and implement other measures concerning improvement of their economic activity resource provision.

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Chapter 4

INVESTMENT AND CREDIT- FINANCIAL INSTRUMENTS TO ENSURE THE DEVELOPMENT OF ECONOMIC SYSTEMS

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**MANAGEMENT OF
CREDIT AND
INVESTMENT
ACTIVITY OF
BANKS OF
UKRAINE AS AN
INTEGRAL PART
OF THE SYSTEM
OF ENSURING
FINANCIAL
STABILITY**

The current state of Ukrainian economy after more than twenty years of independence is characterized by many reform processes, which in their turn resulted in significant positive changes. An increase in the gross domestic product began; compared with the last couple of years, the currency stabilized; the state has joined the international integration processes.

At the same time, annual volumes of investments are still low due to unfavorable investment climate, which is explained by imperfect legislative base, underdeveloped stock market, unfavorable investment situation in eastern Ukraine, and also low level of transformation of population savings into investment due to mistrust of the banking system that does not contribute to attracting foreign investment into the Ukrainian economy.

Credit and investment activity is essential for the bank itself and for the economy as a whole as it is a direct way to improve the economic situation in Ukraine and increase the bank's profit.

The main economic function of Ukrainian banks in this context is

credit and investment area of its clients, namely, individuals and legal entities, farms etc.

Banking sector in the country's economy the last years will undergo significant upheavals. Yes, during 2013-2016 you can observe the reduction of both consumer loans to the population and deposits depositors, as well as a decrease in the total number of banks. As a result, the banks are not only stopped receiving income from lending to physical and legal entities individuals, but also lost the flow of capital at the expense of their depositors.

This situation has caused a lot of reasons, but the main ones, of course, have become political and economic problems related to military actions inside the country. In such circumstances, it is the investment activity of banks that may come out an alternative to lending. Investments create conditions for the expanded reproduction, structural transformation in the country, increase the competitiveness of domestic products, the solution of socio-economic problems.

Issues of credit and investment activity of Ukrainian banks were studied by such scholars as, Androsova O.F., Liakhova O.O., Lutsiv B.L., Epiphanov A.O., Gerasimovich A.M., Cherep A.V., Leonov S.V., Mamonov H.V., Zaslavskaya O., Maslak N.H., Ogorodnik V.V. and other.

The purpose of the study is to research and clarify the concept of credit and investment activity of Ukrainian banks, as well as an overview of the theoretical and practical principles of the process of bank investments, the formation of their loan and investment portfolio, and the study of the role of credit and investment operations of the bank in terms of its operating activities.

At present, there are many meanings of investment and credit activity of banks in scientific researches of authors.

For example, Leonov considers the concept of "investment activity of banks" as investing funds in real assets of the economy primarily (land, enterprises, machinery and equipment), putting the concept of investing in securities onto the background [5].

Cherep and Androsova consider bank investments as investing in securities with a repayment term of over one year that pursues the purpose of obtaining profits [11]. These scientists consider investments as transactions with securities. But most authors disagree with this interpretation, because the investment process should be interpreted as a broader and more ambitious concept.

Therefore, Lutsiv divides bank investments into internal and

external. External banking investments are carried out on a long-term basis, with the aim of going beyond the internal framework of a commercial bank and providing for a combination of bank capital and production. Domestic bank investments are usually carried out in the form of cash investments in the development of the production and technical base of the bank itself. Thus, when conducting an investment activity, banks may be investors or investment creditors, while banking operations are divided into investment, investment-loan and borrowing [6].

Yepifanov A.O., Maslak N.H., Salo I.V. argue that lending operations are short-term and long-term lending of production, social, investment and scientific activity of enterprises and organizations; provision of consumer loans to the population; interbank loans to other banks; leasing, factoring, discount discount bills [3].

It is possible to deduce from all of this the notion of bank investment and bank lending taking into account all the methodological foundations of modern authors and their interpretation of the problem.

Banking is a bank activity that involves the accumulation and diversification of financial assets, which, in the course of investment activity, is aimed at obtaining profits and achieving a positive economic and social effect.

The main forms of banks' participation in investment processes are:

- investment of own funds in investment projects;
- investing of mobilized funds in securities;
- maintenance of clients' funds, which are intended for investment;
- investment of borrowed funds in the development of the economy.

Bank investment management means:

- establishment of optimal time and spatial structure and volumes of bank investments;
- increase the efficiency of banking investment activity in order to reduce costs and obtain high results;
- development of new bank investment products that are in demand and can provide the bank with maximum profit;
- selection of highly qualified personnel for banking investment activity [2].

Bank lending is a bank activity that combines the relationship between the lender and the borrower in relation to the provision of temporarily free funds on the basis of the main principles of lending (payment, return and term).

In this context, these two issues have similar and distinctive features. The similarity is that the bank carries out this type of activity through accumulation of flows using its own and attracted funds, and also thanks to these types of activities, the bank receives the largest profit. The difference lies in the fact that the investment activity is due to the interests of the bank, and the credit is due to the interests of the borrower.

By exploring this aspect, we can say that the bank's lending and investment activities are combined in a single loan and investment portfolio, which does not make it possible to individually lend or invest. This type of activity is a complex process that combines diversification of flows, with the assessment of risk and profit of the bank. In the course of its activities, the banking institution changes its emphasis on these types of activities, following a strategic plan and assessing the current market situation [7].

Thus, one can distinguish the features that characterize the bank's lending and investment activities: the provision of cash on a long-term basis on terms of payment, return, term for the purpose of implementing investment projects.

In addition, the bank creates financial industrial groups, holdings, corporations, which serve as the head of investment activity and a source of investment in new projects, financing their financial groups. Thus, the bank finances the real sector of the economy, which has a direct impact on improving the economic situation in the country.

The formation of a quality portfolio is one of the main tasks for each bank, because it requires a clear statistical compliance, an analysis of the riskiness of operations, analysis of internal and external factors. In this process, the bank's "Head Office", which develops and manages the bank, plays an important role.

To solve the problem we can say that a quality loan and investment portfolio is a guarantee of stability and profitability for each bank.

But we also want to add that the main thing in this process is the quality management of this portfolio, because it is impossible to ignore the risks, which increase directly in proportion to increase of profit.

If the banking institution neglects its security for the sake of profit, then its portfolio will have problem loans and unprofitable terms of repayment for the bank, which adversely affects the future activities of the bank.

In the course of its activities, the bank should address such tasks as forming a credit and investment potential, eliminating the risk of

operations, statistical control of operational activities and problem assets, taking into account the internal and external situation in the market, estimating the factors that influence the credit and investment activity, etc.

The most important factors influencing the bank's credit and investment activities include the level of development of the Ukrainian economy (GDP level, inflation rate, stability of the national currency, level of income of the population), indicators of the development of the banking system (in particular, the level of capitalization of banks), the degree of integration of the domestic banking system in the global financial structure [9].

Bank loan is one of the possible sources of investment resources. By engaging in credit and investment activities, banks go to the investment market as special subjects that perform not so much the role of the investor as the role of the intermediary, which accumulates temporarily free funds of individuals and legal entities on the market and transforms them into credit resources for investment purposes. Participation of banks in investment processes promotes uniform distribution of financial resources between different spheres of entrepreneurial activity [4].

Let's consider the loan and investment portfolio of the bank on the example of PJSC "PrivatBank", as it is the most developed bank in Ukraine, which provides a full range of modern banking services. Founded in 1992, PJSC "PrivatBank" is the leader of the country's banking market. According to the GFK Ukraine survey, in the first quarter of 2018, 52.8% of Ukrainians – individuals over 16 years of age – cooperate with the bank. Consider that the main bank is 45.1% of users of banking services – individuals, which is more than in the following twenty banks combined. PJSC "PrivatBank" is one of the most innovative banks in the world. For example, more than a decade ago, the bank was one of the first in the world to start using one-time SMS passwords. The latest innovations that have been recognized around the world include products such as a payment mini-terminal, access to Internet banking via QR code, online encashment, and dozens of different mobile applications.

The dynamics of changes in the factors in the investment portfolio reflects the changes in strategic planning and management of the bank shown in Table 4.1.

Table 4.1

**The main indicators of credit and investment activity of PJSC
“PrivatBank” for 2014-2016**

Indicator	Actual value, UAH million			Relative deviation, UAH million	
	2014	2015	2016	2014- 2015	2015- 2016
Provision for debt	14447	29184	30159	14737	975
Loans and advances to customers	159173	189314	43583	30141	-145731
Investment securities held-to-maturity	142	216	0	74	-216
Investments in subsidiaries and associates	435	435	433	0	-2
Credit and investment portfolio	174197	219149	74175	44952	-144974

Looking at the data, it can be said that the loan and investment portfolio of PJSC “PrivatBank” has undergone major changes in 2016 due to its nationalization. In terms of loans to individuals, they increased by UAH 30141 million in 2015, decreased by almost 4 times in 2016 correspondingly, loan reserves increased, their difference in 2014-2015 was UAH 14737 million, in 2016 it sharply reduced, and as a result we can see the nationalization of PJSC “PrivatBank”. Regarding the lending of individuals, we can see the positive dynamics of 2014-2015, as well as a significant decrease in 2016.

Investment securities of PJSC “PrivatBank” increased by 150% in 2015, which conditioned their sale in 2016. In terms of investing in subsidiaries, the bank is engaged in high-quality forward-looking planning, which is reflected in stable indicators of investments in 2014-2016.

I also want to note that in general, the PJSC “PrivatBank” loan and investment portfolio was not planned properly, because no attention was paid to the reservation. The National Bank of Ukraine conducted stress testing for banks, and PJSC “PrivatBank” passed it, but the requirements for it as the most widespread bank in Ukraine were not quite sufficient, thus there were problems with capitalization, the state’s demands for

capitalization were not fulfilled.

The above problems materialized in the form of a fall in the credit rating of PJSC “PrivatBank”, unsatisfactory results of stress testing of the National Bank of Ukraine and aggravation of liquidity problems, which former top managers explained to the public by informational attacks on the bank.

As a conclusion, PJSC “PrivatBank” was nationalized by the state according to the decision of the Cabinet of Ministers on the 18th of December, 2016. Through coordinated actions by regulators and substantial capital inflows from the state, issued in the form of issue of government bonds in the amount of UAH 116 billion [2], the state managed to maintain liquidity of the bank to provide all those wishing to withdraw funds from current accounts and deposits with the possibility of early termination, which led to an unexpected increase in retail deposits in the Q1 of 2017 after falling in the first weeks of nationalization [7].

The largest indicator in the loan and investment portfolio during 2014-2016 loans, in the last accounting year we can see a sharp change in the investment portfolio by selling investment securities.

Investigating the loan and investment portfolio of the bank should take into account all relevant indicators and equate them to total assets.

We find and characterize the character of the loan and investment portfolio using the coefficient of the level of the loan and investment portfolio in the total assets of the banking institution:

$$K_{KIII} = \frac{K_{III}}{A} * 100\% \quad (4.1)$$

where K_{KIII} – coefficient of the level of the loan and investment portfolio in the total assets of the bank;

K_{III} – is the volume of loan and investment portfolio;

A – total assets.

Criteria for assessing credit and investment activities are shown in Table 4.2.

According to the criteria of credit and investment activity of the bank, we can determine the quality of its portfolio, namely, to understand what strategic decisions should be taken by the bank; this characteristic is aimed at the calculation of the current portfolio of credit and investment activity, the optimum of which starts from 60 to 80% of the portfolio in the assets of the bank.

Table 4.2

Criteria for assessing the bank's lending and investment activities

Loan and investment portfolio in bank assets, %	Reduced characteristics of the bank's lending and investment activity
0-60	passive, possible loss of profit
60-80	active, the bank's actions are risk-compliant
80-100	too risky

Having calculated the quality of the loan portfolio of PJSC “PrivatBank”, we can say that the negative situation in the portfolio was too risky, the bank issued too many loans without capitalizing to a large extent, asset problems and a large share in the portfolio of troubled assets and loans starting from 2014 put the bank at too risky position (Table 4.3). Based on the normative values, we can say that the problems with risks and strategic management in PJSC “PrivatBank” were that from 2014. What's in 2016 decided by the state through nationalization.

Table 4.3

Quality of the loan and investment portfolio of PJSC “Privatbank”

Indicators	2014	2015	2016
Assets, UAH millions	212813	258611	205183
Volume of loan and investment portfolio	174197	219149	74175
The level of the loan and investment portfolio coefficient	81,85	84,74	36,15

By developing this assessment method, we can say that it allows us to build a management strategy, to evaluate the quality of the portfolio, to make informed strategic decisions.

Consequently, the bank's lending and investment activities are effectively combined in a single loan and investment portfolio, so the banking institution does not prefer one or the other, but it changes its emphasis on investing in lending and vice versa. The same credit and investment activity of the bank will also undergo changes. These changes are carried out under the influence of internal and external factors, some of which are the volume of the bank's resource base, since it is the basis of the formation and use of credit and investment potential, the level of inflation, the stability of the national currency. Therefore, qualitative analysis is an important aspect in carrying out an assessment of credit and investment activity, and is designed to minimize existing risks and improve the status of the bank's loan and investment portfolio.

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THE MECHANISM OF REGULATION OF INVESTMENT ACTIVITIES IN THE CONDITIONS OF GLOBALIZATION

Globalization at the beginning of the 21st century became a key concept, which characterizes processes of world development and is shown in formation of the world market of the capital, significantly influences use of investment resources, mechanisms of their effective distribution between the states. Problems of the efficiency of regulation in the conditions of globalization increase also in processes of formation of shared responsibility of authorities for ensuring effective development of world and national economies [6, p. 7-9].

At today's stage, development of the countries is directed to integration into the international sphere. However being integrated into world economy, it is expedient taking into account opportunities of the countries to pursue the economic policy directed to achievement of the international competitiveness of national economy and increase in welfare of citizens [5, p. 543-544; 6, p. 11; 7]. Considering it, the states need to form the main directions of development of regions, territories, branches and separate productions, providing at the same time their investment attractiveness and creating favorable conditions concerning attraction of internal and external investments [6, p. 19; 7].

Economic growth in the countries of the world is impossible without sufficient saturation of economy payment tools, credit and investment resources. For this purpose introduction of the corresponding mechanism of regulation and financial support is necessary. The most effective solution of this problem is actively promoted dynamic development of productions, by expansions of a services sector of the industrial enterprises, small and average business.

It is important to note that any regulation is guided by accurately

certain rules and mechanisms, and methods of regulation have to be applied according to supply and demand in the domestic and world markets. In national economy investment activities is regulated by any state and non-state institutes both corresponding legislative and normative legal acts.

We will note that different authors who investigate a question of regulation of investment activities, the term “investment mechanism”, or “the mechanism of regulation of investment activities” interpret in different ways. So, A. Zagorodny, G. Voznyuk, T. Smovzhenko consider that state regulation of investment activities is one of conditions of realization of the state investment policy which consists in adoption of laws and other regulations which regulate investment activities in the state [8, p. 376].

According to us the mechanism of regulation of investment activities in the country is a set of forms and methods of formation and use of financial resources for the purpose of ensuring the corresponding requirements of government institutions, subjects of managing and the population for implementation of investment projects, reconstruction and modernization of the enterprises, separate productions, input of the latest technologies and construction of housing. The mechanism of regulation of investment activities, proceeding from strategic tasks on the basis of the corresponding principles, has to be implemented taking into account the main instruments and forms of investment activities.

So, it is expedient to mechanism of regulation of investment activities to define the main tasks on macro – and microlevel (Figure 4.1).

The basis for regulation of investment activities it is a number of the essential and certain principles which display the main directions of investment activities in the system of financial security of economy (Figure 4.2). Taking into account of noted principles gives the chance to significantly increase quality of development of investment policy and mechanisms of regulation of investment activities.

The main directions of the mechanism of regulation of investment activities are definition of priority branches of national economy and subjects to investment. The list of such priority branches of the country have to be accurately proved and outlined in the relevant standard and legal documents, to correspond to the long-term national interests of the state. Strategic branches of national economy are mechanical engineering (passenger transport, heavy cargo aircrafts to impose with program control), the metallurgical complex (powder and ferroalloy

Main tasks of investment activities	at the macrolevel	dynamic and permanent development of national economy
		expansion of productions which provide production for export and import-substituting to production
		ensuring release of qualitative and competitive production and goods and rendering of services
		input of power safe technologies
		ensuring environmental protection
	at the microlevel	dynamic and permanent development of the enterprise
		production expansion
		prevention of moral and physical wear of fixed assets
		increase in technological level of productions
		improvement of quality and competitiveness of production
		introduction of power safe technologies
		modernization of equipment

Figure 4.1 Main tasks of investment activities

Source: is based on [4; 8; 10; 11; 15]

metallurgy, production of pipes, profiles of different forms, iron and aluminum sheets and so forth), the chemical and petrochemical industry, processing industry, construction and agriculture.

Regulation of investment activities consists in implementation of influence on the relevant investment decisions of subjects of investment process by means of the corresponding tools [10, p. 267]:

taxes and tax benefits;

monetary and credit and depreciation policy;

financial aid in a form of grants, subsidies, subventions, budgetary loans for development of certain regions, territories, branches of economy, productions price regulation on materials, accessories and energy carriers which are used in production of innovative production or goods, and on innovative production and goods;

conditions of use of natural resources: earth, water and so forth;

state examination of investment projects and so forth.

Regulation of investment activities is implemented by means of the investment mechanism, which is based on legislative and other normative legal acts and applies the corresponding forms of regulation (Figure 4.3).

So, the system of tax regulation has to be implemented through use of the corresponding tools: optimum tax rates and tax benefits, tax

Principles of state regulation of investment activities	Organizational component of state regulation of investment activities	Consecutive decentralization of investment process
		Granting advantages earlier to the begun construction, technical re-equipment, modernization and reconstruction of the operating productions and the enterprises
		Implementation by the relevant state organizations of control over target use of the centralized investments
		Improvement of regulatory and legal base for the purpose of increase in volumes of attraction of investments
		Introduction of system of insurance of investments
		Providing business to subjects and financial institutions of information concerning development and placement of productive forces, long-term and medium-term plans of social and economic development of the country and its regions
		Installation of system of priorities in economic and social development of the country and strategic objects
		Creation of favorable innovative climate in economy, consecutive formation of solvent demand for innovations
	Financial component of state regulation of investment activities	Increase in a part of internal (own) means of subjects of conducting managing in financial investment projects
		Transferring of the center of gravity from irrevocable budgetary financing in the production sphere on crediting
		Allocation of budgetary funds mainly for realization of the state priority and strategic branches of economy directed to implementation of structural creation of national economy
		Financings of objects which building begins at the expense of budgetary funds, mostly, on a competitive basis
		Expansion of the mixed financing of investment projects

Figure 4.2. Principles of state regulation of investment activities

Source: is grouped in data [7; 9, p. 208–209; 12; 14]

holidays, reduction of level of taxes or their full cancellation on funds which are allocated for investment of innovations, and so forth. It is important for activization of investment activities that the system of the taxation provided investment orientation. Investment tax benefits should be provided only for accurately certain period as constant privileges lead

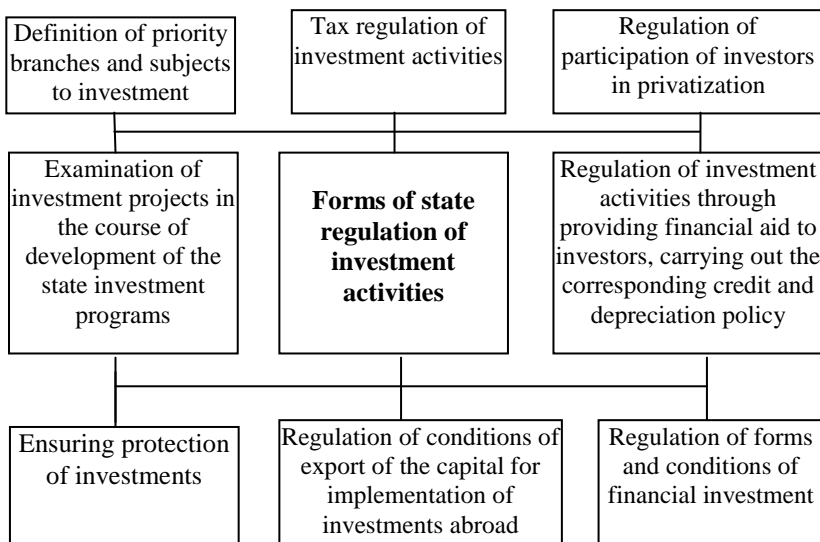


Figure 4.3 Forms of state regulation of investment activities

Source: is based on [3, p. 390–392; 10, p. 267; 11; 13]

to reduction of competitiveness of such enterprises and decrease in motivation concerning modernization of productions, to introduction of the latest technologies in particular, to considerable negative structural shifts in economy in general [3, p. 391; 9, p. 211].

Monetary policy of the state influences conditions of investment activities of subjects of conducting managing and providing subjects to investment with the corresponding money through the system of regulation of work of a banking system and money turnover.

The most effective actions of monetary policy in the sphere of activation of investment activities are:

- essential reduction of level of discount rate of the Central bank of the country;
- decrease in norm of obligatory reserves for domestic commercial banks;
- ensuring formation of specialized investment banks on the basis of creation of favorable economic standards of their activity;
- expansion with the Central bank of the country of the list of operations in the stock market, in particular operations with the state securities;

- stimulation of activation of participation of commercial banks in investment processes by differentiation of interest rates, the preferential taxation of revenues of banking institutions from long-term (over five years) loans;
- creation of financial and industrial groups which would provide both activation of effective productions, and their effective financing;
- creating favorable conditions of motivation of investments and on their basis of effective productions;
- stimulation of the sphere of business concerning release export and import of the replaced production and also production which conforms to the international and European standards;
- providing an effective trend of cash flows and so forth [9, p. 165-173].

Regulation of participation of investors in privatization consists in creation of the effective mechanism which would provide not only the fact of privatization and transfer of business management from the state in a private property, but also ability of the new owner to carry out necessary capital investments and to adjust effective production and development of the privatized enterprise, expansions of his opportunities, creations of new jobs and so forth.

Ensuring protection of investments which is provided by the state to subjects of investment activities are shown in stability of conditions of investment activities to both domestic, and foreign investors; control of the rights and legitimate interests of subjects of investment activities irrespective of forms of ownership of the investor; to protection of the enclosed investments irrespective of a political situation in the country.

Important form of protection of investments in national economy is its insurance. For effective realization of this norm of protection and for the purpose of insurance of investment risks, the system of insurance companies which serve investors on the basis of insurance agreements which are obligatory for receiving the investment credits is created.

Attraction of foreign investments into national economy is carried out on means of the corresponding ways, namely:

- in the form of direct investment thanks to creation of joint ventures and enterprises with the foreign capital;
- by sale of securities to foreign investors;
- on the basis of receiving the credits, loans and guarantees from international financial institutions, the foreign states and banks [9, p. 212-213].

Carrying out flexible depreciation policy which is directed to

increase in financial interest of subjects of conducting managing in implementation of investments into fixed capital at the expense of own sinking funds has significant effect on the level of regulation of investment activities. In modern conditions, the accelerated depreciation write-off of fixed capital is an important method of stimulation of savings for investments, structural changes in economy and the instrument of influence on the economic growth of the country [3, p. 388; 9, p. 211].

Thus, on the basis of strategic tasks, the principles, tools and forms of investment activities the mechanism of it regulation is created (Figure 4.4).

The effectiveness of the investment mechanism is also influenced by such components of development of economy as investment climate of the country and investment attractiveness of separate branches of economy, regions and territories.

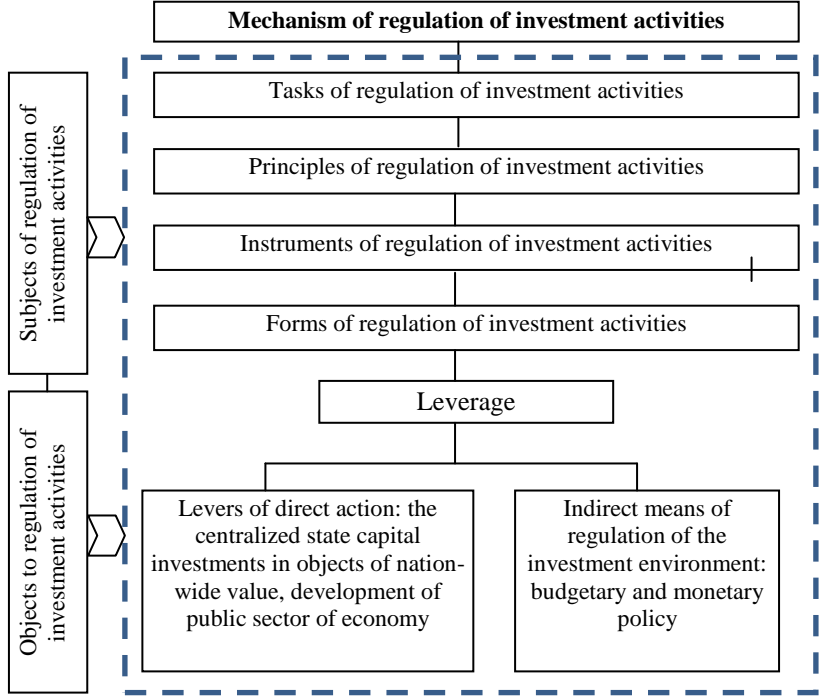


Figure 4.4 Structure of the mechanism of regulation of investment activities

Source: author's development

Considering it, the investment mechanism has to go for rational placement of the attracted capital with observance of the corresponding proportions between the made investment investments to different spheres and types of economic activity and objects which need investment resources and are in different territories [2, p. 85].

The efficiency of the mechanism of regulation of investment activities will give an opportunity to provide primary development of those enterprises which satisfy to needs of people, services sectors that is provide activity; to create the knowledge-intensive and high-tech industries and productions, based on the scientific capacity of the country; to develop processing industries of economy on new technical and technological base, using the available raw material resources of the region; to expand export and import replaceable productions, priority and strategic spheres of economy; to create coproduction which would provide development of economies of the countries in cross-border territories.

The solution of certain tasks is connected not only with existence of appropriate resources, but also with need of providing low expenses on production of goods or rendering of services, fast turnover of the capital and, respectively, receiving the greatest possible profit and also free business.

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**ACTUALIZATION OF SELF-
ORGANIZATION
MECHANISMS FOR
INVESTMENT PLATFORM
DEVELOPMENT IN UKRAINE**

The development paradigm of the global financial system, including the mechanisms and tools used to attract investment, calls for the development and implementation of innovative concepts in terms of management processes both at the enterprise level and at the level of national, regional and global economies. One of these new approaches is synergy which studies self-organization when organizational and structural changes in an enterprise, industry, or even national economy can provide the enterprise with investment resources for a long period,

since practically all existing investment mechanisms are ineffective in the current economic situation. Therefore, more attention should be given to the issues of analyzing and improving the mechanisms of business self-organization in order to attract more investment. Researches on socio-economic systems' self-organization are cross-disciplinary as they often use tools from natural sciences and transfer various properties, regularities and methodology from physical or biological objects to social and economic ones.

Availability of the wide range of forms, types and processes of self-organization in nature and society promoted formation and development of the general theory of organization, tectology, which describes the processes of various organizations originating, existence, development and dissolution. In the following years, this generalized approach to the issues of self-organization and developing mechanisms for the system structural elements interaction continued within the framework of cybernetics and the general systems theory.

Thus, when it comes to identifying essential criteria of self-organization, the founder of the synergistic approach H. Hacken mentions the ability of a system to exist without any specific external influence which is understood as an agent imposing some structure or functions on the system [7]. In other words, the system is able to independently (without any external influence) perform certain procedures that ensure its functioning and development. In this case, unlike cybernetic approach, the system does not seek to achieve any definite goal. This opinion is shared by L. Melnik who believes that the key elements of the self-organization concept are the processes that ensure the system's functioning, development and organization in time and space [5].

A. Bakurova says that self-organization of a socio-economic system is the process of managing it based on the synergistic approach, which implies ensuring its viability or, in other words, the conditions required for its existence and development [3]. Considering the abovementioned approaches, it should be noted that self-organization is interpreted in a broad sense. Considered more specifically, it should be understood as the ability of a system to arrange its elements and processes in time and space by means of internal factors [9]. Scientists also argue that self-organization is the process of increasing and maintaining the mutual coordination of system elements through added complexity and non-equilibrium, the process where some order arises from the interactions between elements, relations and properties of the system. As

V. Khitsenko argues, the non-equilibrium organization resulting from the process is robust and able to effectively counter substantial perturbation in the parameters of both external and internal environments [11].

A number of authors think that a system capable of self-organization is the one whose core systemic factor is availability of common values and concerted goals of internal interacting components controlled by means of feedback, which ensures synergistic effect (self-repair when disturbing factor disappears) on the basis of synthesis [12].

Thus, having carried out a critical analysis of existing scientific concepts and approaches, we can say that enterprises (organizations, firms, banking institutions, etc.) are systems capable of self-organization, since in their structure there are several components (objects) that form an integral and unified system. In this system, interactions and relationships are aimed at achieving certain goals such as gaining profit or larger market segment, while any change of the system's state answers overall objectives (at the level of departments, facilities, functional units etc. that comprise informational, human and other components of the system) and occurs under the influence of internal actors and agents.

This opinion is shared by some researchers who say that the process is often triggered by subjective factors and personality of the agent. For instance, in his work M. Tulenkov notes that "...self-organization in society is not free from the subjective factor that includes into it the processes of both organization and management. On the other hand, organizational and managerial relations themselves are derivatives of self-organization and in formal organizations they are influenced by informal relations that self-organize" [1].

Self-organization can also be considered in terms of hierarchy levels: at the microlevel (enterprises, firms, institutions, etc.), at the regional level, at the national economy level (business associations in different organizational and economic forms, financial or banking systems) and at the global level.. It should be understood that self-organization at a lower level ensures higher level system functioning, for example self-organization at the regional and national level is essential for the global one.

Table 4.4 summarizes findings of the scientific sources analysis in terms of self-organization processes characteristics at different levels of economy.

Table 4.4

Characteristics of self-organization processes by economy levels

Economy level	Self-organization mechanisms	Forms of self-organization
Global level (global economy)	Realizes through the globalization mechanism that establishes new global order based on heterarky as a result of (but not limited to) world crises in different markets, changes in international specialization and cooperation, transition from unipolar world economy to bipolar (multipolar) one, etc.	All kinds of network forms of organization International organizations (institutions) Unions of countries Forums (committees, associations)
Macroeconomic level (national economy)	Realizes through the market and institutions of state regulation: market mechanism mechanisms of state regulation of the economy	Holdings Alliances Unions of entrepreneurs Economic areas Clusters Cooperatives Associations Funds Voluntary temporary associations Unions (trade, industry)
Regional level (regional economy)	Realizes through regional markets; utilizes the following: self-government mechanism cooperation mechanism specialization mechanism voluntary association mechanism	Regional funds Regional enterprises association Unions of regional SME owners Local community organizations Business associations and unions Forums (exhibitions, conferences)
Microeconomic level (enterprise economy)	Homogeneous systems having internal self-organization at the group and individual (every employee) levels. Mechanisms of self-organization management include enterprise structure management, team-building, resonance management.	Cross-functional teams Working groups Expert groups Informal associations Quality groups Fractal factory Self-management

Source: compiled by the author based on [4–5, 7, 10, 14]

Another characteristic feature of this hierarchical system is its susceptibility to chaotic impacts at the micro level which results in synchronous changes in the development rate within the system. In other words, self-organization is characterized by asynchrony at all of the aforementioned levels. For example, a crisis in a particular state (financial default) or in some industries (energy crisis), in certain financial sectors (banking system), in specific markets (crisis in the mortgage market) are locally random, but globally determined. Consequently, it is impossible to ensure steady development at all levels simultaneously, because different types of destabilizing factors (political, technological) have different impact on the system, which as a result enters bifurcation [10]. Thus, self-organization is system's ability to develop new structures and forms of behavior at a higher level through certain mechanisms of internal interaction between its components at a lower level without any external agent.

Based on the self-organization theory, the mechanisms of system "building" can be divided into three groups:

1) Impulse mechanism which implies a selective impulse directed at the main element. It is the most "economical" option in terms of the system, since the initial impulse can be minimal but lead to a significant (in comparison with the impulse) result. In technology, this phenomenon is called resonance. Economic reforms implemented in China are a good example of this way. They started with agriculture, then included small and medium-sized business. Following that, business environment changed, there were structural changes in ownership, competition increased, non-productive sphere grew, and as a result a new economic center of the global level appeared.

2) Environment changing mechanism which implies qualitative changes when the system experiences holistic influence throughout. It results in changed structure and connections within the system. This is the way market reforms were implemented in Eastern and Central European countries which resorted to "shock therapy" tools or evolutionary scenarios.

3) "Break in" mechanism when the system jumps into the state of disorder, then moves to the bifurcation point and undergoes structural transformation. The state of the system is no longer equilibrium, that is, there is some disturbance such as an economic crisis which in its turn is a way to address structural problems in the national economy. The mechanism was characteristic of the market reforms in post-Soviet countries including our national economy. Thus, the transition of a

complex socio-economic system to self-organization is can utilize various mechanisms.

Figure 4.5 visualizes interrelation between two principal states of the system at the point of its transition (through the use of special mechanisms – leverage and tools) from the state of disorder to the self-organized (self-ordered) state in order to achieve the development goals set.

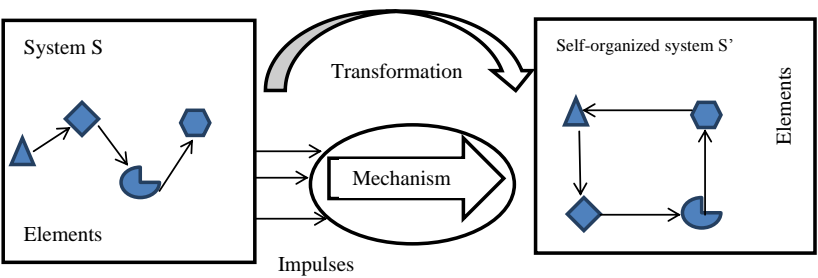


Figure 4.5 Visualization of interrelation at system state change
Source: compiled by the author based on [3, 13]

System state changes are initiated by impulses – alterations in the system (both qualitative and quantitative) such as introducing new management at an enterprise or adopting a new development strategy for an industry or a region. In other words, these impulses can be both intrasystem and external (such as state regulation). The impulse results in changing the system’s equilibrium – and consequently in changing the system’s structure – and thus promotes development, since some scientists believe the state of equilibrium prevents a system from developing.

Self-organization mechanisms include both individual behavior of the system elements (element differentiation, replication, mutation) and their collective behavior which arises when elements interact to achieve emergence (cooperation, competition, local aggregation and structuring). As Figure 4.5 shows, after the transformation all system elements change structurally, order and organize themselves leading to the system transition to a new state.

Based on the above, we can offer an improved mechanism of businesses self-organization to attract investment at the macroeconomic level. It will be described by an example of small and medium-sized enterprises (Figure 4.6).

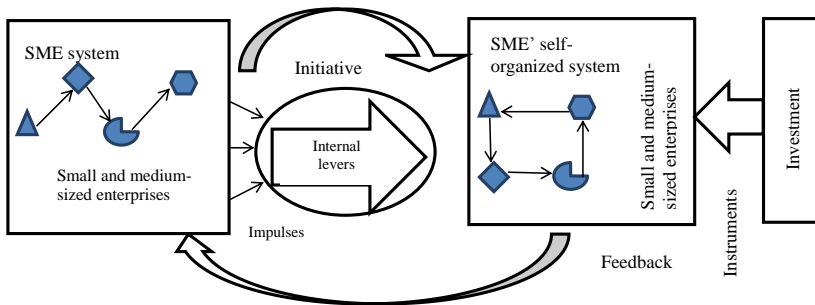


Figure 4.6 Mechanism of small and medium-sized enterprise self-organization in terms of attracting investment

Source: designed by the author

As compared with Figure 4.5, the mechanism has investment attraction tools and intrasystem levers that promote the system's structural change as well as feedback that can be both positive and negative, that is, interaction of elements can strengthen or diminish the overall impact on the system.

Here is an example of the mechanism in action. To launch a new project, a small enterprise needs investment, as well as intellectual and technological resources. The process of self-organization can be initiated by such impulse (push) as losing the competitive position in the market, entering a new market segment, technological innovations in production etc.

The enterprise manager makes a decision to engage five more small businesses in the project development and implementation. Every business is supposed to deal with its own share and of the project – research, technological or informational component etc. Initiated by the management, a temporary business association is created on the contractual basis in order to attract financial resources through such tools of collective investments as crowdsourcing and crowdfunding as one of its forms.

Crowdsourcing is a sourcing technique used with the aim of enlisting a large number of people in order to jointly solve tasks using various Internet technologies where Internet environment allows for using collective resources. Basically, it is a problem solving model using a large group of people when the best decision is chosen from a multitude of offered ones [15]. A type of crowdsourcing is crowdfunding (collective funding projects via the Internet). The advantages of this form of cumulative investment include, among others, possibility to

attract investment at affordable terms (as compared to bank loan), get pre-orders from interested people and businesses, test the project, get feedback from potential customers at the stage of product (service, technology) development.

As of today, this kind of attracting investment is very popular all over the world. For example, in 2016 crowdfunding industry globally outran venture capital funding. Since 2010, crowdfunding has been taking on the investment market. Thus, in 2010 over \$ 880 million of investment was attracted via crowdfunding platforms while in 2014 this figure increased to \$ 16 million, and in 2015 investment amounted to \$ 34 million. According to Lisa Gansky, the founder of Mesh Labs, and estimates of the Venture Beat report, another \$ 17 billion of investment was attracted in 2016 in the framework of collaborative economy of shared investment. According to the World Bank forecasts, investing via crowdfunding platforms in 2020 will amount to \$ 90 billion, which means average annual growth of \$ 30 billion in comparison with the \$ 20 billion annual growth of venture capital financing [16].

When placing a joint project on well-known crowdfunding platforms, self-organized business association uses its investment (shareholder) kind when return on investment can be offered in the form of the revenue share, partnership for a product patent, or shares of the set up business. Use of the proposed mechanism allows businesses to reduce transaction costs, advertising costs, expenses associated with project development and implementation, etc.

Thus, the mechanism of business self-organization is an effective tool in the context of new global challenges and network economy. Unlike existing ones, the proposed mechanism of self-organization allows for the application of new investment models for individual industries, such as transportation, real estate, information technologies, bioengineering. It also leads to increased scale and effectiveness of business, of improved capacity to attract microinvestors. Therefore, using crowdfunding is more effective in comparison with venture and institutional types of investment.

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**THE INFLUENCE
OF NON-
PERFORMING
LOANS ON THE
BANKS' EQUITY
CAPITAL**

The banking system plays a crucial role in the national economy being the basis for the domestic banking market development. Its stability and sustainability depends on the efficiency to recognize and counteract threats and crises which accompany banking activities and can become the cause for bankruptcy just in time. At this stage of development the domestic banking system suffers mostly from the high level of non-performing loans (NPL).

Today, domestic banks are functioning in the context of the unstable political and socio-economic situation in the country, the national currency devaluation, the high level of the black economy, the large stratification between personal income levels, the imperfect legal base, resulting into the people's distrust to the banking sector. Obviously, this situation creates a variety of threats for banking institutions, associated with significant financial losses and even bankruptcy, in particular in the lending market. Thus, 93 banks were removed from the market during the period from 2014 to 2017. As a consequence there is an objective need to pay particular attention to provide response to banks' bankruptcy under such conditions. In particular, there is a need to study the effects of the equity capital on the level of non-performing loans and profitability of domestic banks.

According to the protective function of the bank's equity capital, it functions as a certain guarantor of the stability and sustainability of banking operations. Thus, in the case when the loan amortization condition is unsatisfactory or poor, as a rule due to the presence of problem loans, the bank can use the part of its equity capital for the repayment of problem loans, thereby ensuring its liquidity and solvency. Consequently, the lower the value of the non-performing loans ratio to the bank's equity capital without taking into account the current reserves

is, the more reliable the bank and the banking system of Ukraine in general are.

The problem of banks' bankruptcy counteraction mechanism improvement determines the objective need to study the influence of equity capital on the non-performing loans, requires analysis and modeling of this process in modern banking practice, as well as finding effective ways to estimate the level of its adequacy to distressed assets. In this view, the strengthening of the Ukrainian banking system capitalization level as a necessary condition for bankruptcy counteraction and financial stability and sustainability provision is of great relevance.

A significant contribution to the study of this problem has been made by notorious Ukrainian scientists: H.M. Azarenkova, M.D. Alekseienco, O.I. Baranovskiy, T.M. Bolhar, T.A. Vasyliieva, O.D. Vovchak, O.V. Dziubliuk, I.B. Ivasiv, V.V. Kovalenko, A.Ya. Kuznietsova, V.I. Mishchenko, A.M. Moroz, S.V. Naumenkova, L.O. Prymostka, O.O. Chub and others.

Taking into account the scientific research of the mentioned above scholars, it should be noted that not all the aspects of this problem have been sufficiently investigated. Thus, there is lack of scientific studies concerning the impact of banks' equity capital on the volume of non-performing loans in the system of bankruptcy counteraction, analyses and modeling of this process for trends forecasting in the banking system, that determine the scientific novelty of the relevant paper.

The main tasks of the research are as follows:

- to analyze the Ukrainian banking system capitalization state during the period from 2007 till 2016;
- to estimate the equity capital of domestic banks according to the system of their capitalization level indicators;
- to analyze the level of non-performing loans in the Ukrainian banking system during the period from 2007 till 2015;
- to assess the effect of the current reserves by banks' active operations on their financial results;
- to construct a trend model of the impact of the non-performing loans on the banks' equity capital.

In the context of unfavorable macroeconomic climate in the country, the domestic banks' risk management weaknesses have led to the decrease of their loan portfolios quality. This is confirmed by the rapid growth of the Ukrainian banks' reserves by active operations from 141.3 billion UAH in 2012 to 517.0 billion UAH as of January 1, 2018

(growth rate has made 365.9%), and the portion of non-performing loans (Figure 4.7).

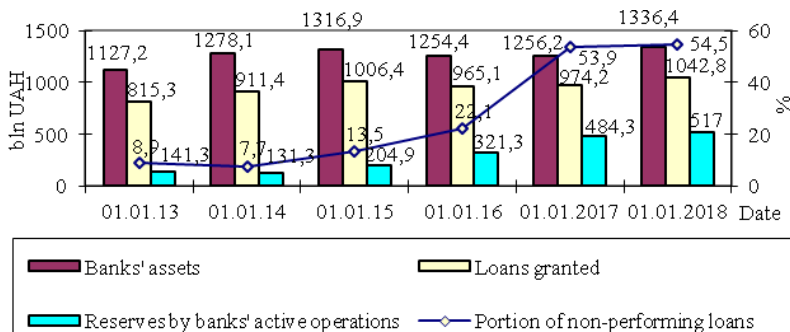


Figure 4.7 Dynamics of quality indicators of loan portfolios of Ukrainian banks from 2011 to 2016

Source: composed according to [1]

It should be noted that Ukrainian banking system has started 2016 with a number of unresolved problems arisen in 2014 – 2015 such as: hryvnia devaluation, the economy decline, insufficient level of banks' corporate governance, etc. These factors have led to the credit risks realization and the banks' loan portfolios degradation and negatively affected their capitalization level and financial performance results. As of January 1, 2017, the loss-making activity of domestic banks reached 159.4 billion UAH (135.3 billion UAH of which are the losses of PJSC Commercial Bank "PrivatBank"), and the profitability of assets made up the negative value -12.6% (Table 4.5).

Table 4.5

Main financial indicators of Ukrainian banks from 2011 to 2017

Indicators	2011	2012	2013	2014	2015	2016	2017
Revenue, bln UAH	142,7	150,5	168,9	210,2	199,2	190,7	178,2
Costs, bln UAH	150,5	145,6	167,5	263,2	265,8	350,1	202,6
Profit, bln UAH	-7,7	4,9	1,4	-52,9	-66,6	-159,4	-24,4
ROE, %	-5,27	3,03	0,81	-30,46	-51,91	-116,7	-15,96
ROA, %	-0,76	0,45	0,12	-4,07	-5,46	-12,60	-1,94

Source: composed according to [1; 2]

According to the Table 4.5 it can be seen that during the period from 2014 to 2016 there were the steady tendency in the banking system of Ukraine to decrease the level of assets profitability and to increase the volume of current reserves. This is the evidence of not only the quality problems of the banks' loan portfolios but also of the situation deterioration and the destabilization in the domestic banking system.

Growth of reserves for possible losses refunding through active banking operations strengthens the load on domestic banks and adverse affects on their liquidity and solvency. Obviously, these slowdowns the banks credit process of banks and undermine the level of depositors' and lenders' trust.

The creation of large reserves for loan depreciation and the banks' loan portfolios quality deterioration are two of the reasons for the decrease in the equity capital growth and decline in the efficiency of its use, as evidenced by the negative dynamics of the return on capital of domestic banks during the period from 2014 till 2016. There is a steady tendency in the banking system of Ukraine to increase the share and volume of reserves to refund the possible losses through active banking operations. Thus, its share in total assets of the domestic banking system has increased from 14.99% in 2011 to 27.88% in 2016.

The loss-making activity of the Ukrainian banking system is determined by significant costs needed to create the reserves for active operations, caused by increase of non-performing loans amount in the condition of deep economic recession and massive devaluation, as well as loans' write-off in the occupied territories. The formation and usage of such reserves by Ukrainian banks is controlled by the Regulation on the determination of the credit risk dimension for active banking operations by Ukrainian banks, approved by the Resolution No. 351 of the Board of the National Bank of Ukraine on June 30, 2016. According to this Regulation, banks assess the risk concerning loan execution in the terms exceeding the terms denoted in the contract, or in volumes smaller the volumes stipulated in the contract, or loan non-execution at all active banking operations and financial liabilities.

The analysis of the reserves growth influence for refunding of possible losses on active banking operations has shown that there is a negative relationship between the increase in creation of the reserves for refunding of possible losses on active banking operations and the financial results of banks' operation. The main cause of the Ukrainian banking sector unprofitability is the unreasonably high amount of distressed assets in the overall structure of banking assets.

As it can be seen from Figure 4.7 1, the especially strong growth of the negative tendency to increase the proportion of non-performing loans in Ukrainian banks has started from 2014. The primary reason for such a situation was caused by growth of the foreign currencies rates to the national currency of Ukraine after February 6, 2014. During the 10 months of 2014, there were increase in dollar to hryvnia from 8.20 to 12.80 (buying rate) and from 8.25 to 13.00 (selling rate) and the increase in euro to hryvnia from 11.19 to 16.35 (buying rate) and from 11.46 to 17.05 (selling rate) [3]. Significant volumes of loans issued by banks were denominated in foreign currency – as of October 1, 2014, the share of foreign currency loans in the loan portfolio made up 40.94%. At the same time, about 1/5 of foreign currency loans were granted to the population (including a significant share of foreign currency loans provided in 2008-2009 for the real estate purchase and construction) [2]. As a result, there has been observed the increase of the debt load on individual borrowers, which are extremely vulnerable to currency risks. This, in turn, has resulted into the growth of the overdue indebtedness level.

Thus, it can be concluded that the key credit risks of the Ukrainian banking system are referred to the loans granted to individuals in foreign currencies. Significant growth of the non-performing loans during the analyzed period has caused serious losses in the long run and has actualized the need to find effective methods for minimizing the banking system's credit risks.

It should be noted that in result of unlawful actions of managers and banks' owners the credit risk level concerning transactions associated with bank related persons has increased in the domestic banking system. In order to strengthen responsibility of the mentioned above persons, the Verkhovna Rada of Ukraine adopted the Law of Ukraine "On Amendments to Certain Legislative Acts of Ukraine is concerning Responsibility of Bank-Related Persons" on March 2, 2015. The main attention in this document is paid to the concept of "bank-related persons", which is defined by legislation as list of persons having the signs of relation to bank (Article 52 of the Law of Ukraine "On Banks and Banking"). According to the Law, the list of bank-related persons is considerably expanded. For example, now bank-related persons are not only those who have shares in the bank, but also persons with the help of which they can provide indirect control over shares.

Analysis of the credit security of banks in Ukraine has shown that its level has decreased in 2014, as the growth rate of loans granted by banks

has decreased in general, while the share of non-performing loans has increased to 13.45% (Table 4.6).

Table 4.6

Safety indicators of Ukrainian banks' credit activity from 2012 to 2016 [1; 4]

Indicators	Year				
	2012	2013	2014	2015	2016
Banks' assets, bln UAH	1127,2	1278,1	1316,9	1254,4	1256,3
Growth rate, %	106,9	113,3	103,0	95,3	100,2
Loans granted, bln UAH	815,3	911,3	1006,3	965,1	1005,9
Ratio to GDP, %	57,9	62,7	74,8	48,7	42,2
Growth rate, %	98,8	111,8	110,4	95,9	104,2
Share in assets, %	72,3	71,3	76,3	79,7	80,1
where:					
Loans granted to business entities, bln UAH	609,2	698,8	802,6	785,9	847,1
Growth rate, %	104,6	114,7	114,8	97,9	107,8
Share in assets, %	54,1	54,7	61,0	62,7	67,4
Loans granted to individuals, bln UAH	161,8	167,7	179,0	152,4	157,4
Growth rate, %	92,6	103,7	106,7	85,1	103,3
Share in assets, %	14,4	13,1	13,6	12,2	12,5
Share of NPL, %	8,9	7,7	13,5	22,1	53,9
Reserves on active operations, bln UAH	141,3	131,4	204,8	321,2	484,3

The increase in the share of overdue payment from 13.5% to 22.1% has been observed during 2014-2015, that is a very negative indicator for the security of Ukrainian banks' lending activities. However, at the end of 2016, the share of non-performing loans was continuing to grow and reached the level of 53.9%.

It is obvious that certain volumes of non-performing loans may worsen the financial condition of banks due to the loss of their profitable assets. In addition, banks are forced to enlarge the costs for creating reserves for doubtful and unrecoverable loans. As a consequence, low asset quality undermines profitability, lending activity, liquidity and increases insolvency and bankruptcy risks. However, the poor quality of assets does not always lead to a loss of banks' financial stability, and that is why it is impossible to equate the quality of assets with the banks' reliability.

Firstly, as the analysis has shown, most domestic banks had actively operated on the lending market before the financial crisis of 2008 and the accumulated since then volume of non-performing loans decreases the quality of their assets. However, banks with foreign capital having

large volumes of non-performing loans, as compared to others, remain more reliable and have not left the banking system of Ukraine. This can be explained by the high level of support from parent structures that allow creating sufficient reserves for credit risks and providing optimal liquidity. In addition, in contrast to many domestic banks, foreign banks have an external incentive for the highest possible accuracy of financial reporting.

Secondly, the new leaders of the retail credit market have a significant part of non-performing loans in the form of high-margin unsecured lending and maintain a focused policy of buying up problem loan portfolios of other banks. A high-discounted portfolio of non-performing loans can be turned into a source of income through concluding peace agreements, debt restructuring, or other effective collection methods.

Thirdly, official indicators of the loan portfolios problem presence depend on the transparency of financial reporting. Some banks tend to hide the real amount of bad assets in order to understate the amount of required reserves. Moreover, each bank has its own methodology for classifying assets, which impede analysts to compare correctly the assets quality of different banks. Therefore, the transparency of the banking reporting has a significant influence on the quantitative coefficients of the non-performing assets quality.

Thus, the analysis of the current state of Ukrainian banks' lending activity makes it possible to highlight the next negative aspects that determine the need to strengthen control over credit risks and find ways to minimize them:

- deterioration of the quality of banking institutions' loan portfolios, which is represented in the growth of the non-performing loans' share;
- significant volumes of loans issued by banks are denominated in foreign currency, that due to the national currency devaluation results into the increase in the debt burden on borrowers and the increase in credit risk level;
- the credit risk increase in the banking sector of Ukraine for transactions concerning bank related persons.

The results of the relevant investigation have shown that the level of credit risk in the banking sector is extremely high and undermines the stability of the banking system functioning on a whole. In such circumstances, there is an objective need to minimize and control credit risks not only at micro, but also at the macro level, since the credit risk realization is systemic and cannot be ensured within a separate bank.

Consequently, the demand to improve the quality control of credit risks and minimize them cannot be met without the participation of public authorities.

Taking into account the results of the analysis, a trend model of the influence of non-performing loans on the banks' equity capital from 2000 to 2016 has been constructed (Figure 4.8).

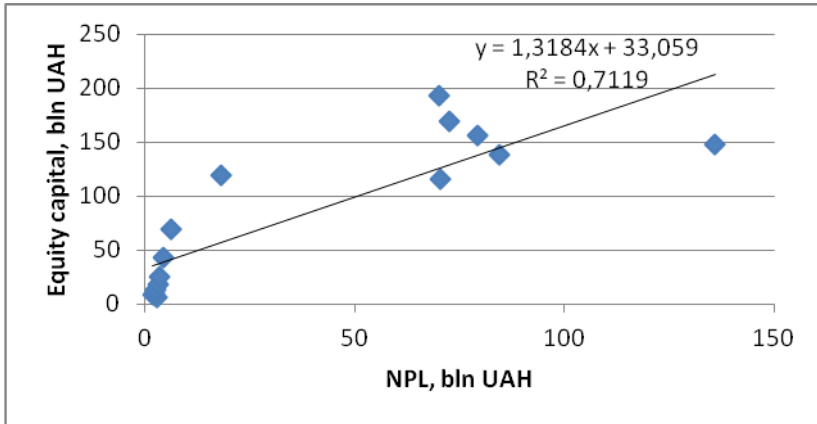


Figure 4.8 Trend model of the influence of non-performing loans on the banks' equity capital from 2000 to 2016 [5]

As it can be seen from Figure 4.8, when the volume non-performing loans increases in 1 billion UAH, the bank's equity capital should be increased by 1.3184 billion UAH to cover risks for active operations of domestic banks. The constructed model is adequate, as the determination coefficient shows that 71.2% of the variation in equity capital is explained by the change in the non-performing loans.

The results of the study of the influence of non-performing loans on the banks' equity capital in the system of bankruptcy counteraction have allowed coming to the following conclusions.

1. The analysis of the domestic banks' capitalization state has shown that during the period from 2007 to 2013 a positive tendency towards the increase in the authorized and equity capital has been observed in the banking system of Ukraine. However, the sharp decline in the volume of equity capital and its growth rates has been observed in 2014-2015, while the increase in authorized capital has had a positive dynamics. On the one hand, the authorized capital has increase, and from the other the

equity capital has declined, that means, that most its part has been used to cover negative profits and losses from risk activities. It is evidence of low level of domestic banking system capitalization, as well as a small share of equity capital in GDP, the inconsistency of capital growth rates with asset growth rates, inadequate levels of return on capital and assets, and a growing level of non-performing bank loans, which makes it difficult and sometimes impossible to counteract their bankruptcy.

2. The system of indicators of the domestic banks capitalization level testifies to an ambiguous estimate of their equity capital sufficiency. As the coefficients ratio of regulatory capital agrees with the risk-weighted assets normative value (minimum 10%), that is the evidence of the banking system's ability to timely and fully meet its obligations, there is a negative trend growth in equity capital value and the profitability of capital and assets, that testifies their inefficient usage. The most negative tendency of changes in the system of indicators of the banks' capitalization level has been observed in the period from 2014 to 2017, that is the evidence of significant decrease in bank' ability to counteract a possible bankruptcy.

3. The presence of the significant amount of overdue payments in Ukrainian banks undermines both the quality of their loan portfolios and the amount of their own capital. This, in turn, leads to a reduction of the criterion (H2) – the sufficiency of regulatory capital, reduces the efficiency of banking operations, investors' confidence in the banking system and significantly complicates the lending of the country's economy. As a result, banks suffer (traditionally the main income they receive from lending) as well as the economy of the country which does not receive sufficient funding in the period of crisis.

4. It has been found that there is a negative relationship between the increase in the amount of reserves for active operations and the financial performance of banks. Thus, the increase in losses for active operations leads to a decrease in the banks' financial performance, which in turn declines the profitability of assets and equity.

5. The constructed trend model of the influence of the non-performing loans on the banks' own capital has shown their dependence. So, when the non-performing loans volume increases in 1 billion UAH, the banks' equity capital should be increased by 1.3184 billion UAH to cover risks of active operations of domestic banks. The constructed model is adequate, since the determination coefficient shows that 71.2% of the variation in equity is explained by the change in the non-performing loans.

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INFLUENCE OF THE NON- PERFORMING LOANS ON THE PROFITABILITY OF BANKS

In the conditions of negative influence of the economic crisis consequences caused by military actions in the East of Ukraine and the annexation of the Autonomous Republic of Crimea on the domestic banks activities, the tendency to deterioration of their loan portfolios quality under the strong focus of the scientists. Increase of the non-performing loans (NPL) portion in the structure of the banks' loan portfolios leads to the loss-making financial results and the decrease in the capitalization level of banking institutions.

Significant volumes of non-performing loans lead to liquidity and

solvency problems, reputation deteriorating, and customer confidence loss, which undermine the financial performance of banks. Therefore, the problem of assessing the non-performing loans' impact on the profitability of banks and banking system in a whole is relevant for banking business.

The analysis of the quantitative composition of the Ukrainian banking system has shown the changes in the dynamics of the banking institutions' number during the period from 2014 to 2017. During this period 93 banks were withdrawn from the market. In terms of the banks number, the banking system of Ukraine decreased in almost twice. The main body of the banks was classified by the National Bank of Ukraine (NBU) as insolvent, and some as having opaque assets and making queer transactions. In 2014 alone, the number of troubled banks reached 33 units (17 of them were liquidated) [1].

During the period from 2014 to 2016, banks' lending activity was low due to a decline in the funding base, creditworthiness degradation and the high uncertainty level concerning further economic development, which makes banks consider the financial condition of potential borrowers more carefully or suspend lending for some time. It should be noted that an increase in the volume of the clients' loan portfolio of domestic banks during 2014-2015 period was caused by significant devaluation of the national currency, which led to the growth of credit debt in the hryvnia equivalent.

The problem of banks' bankruptcy counteracting mechanism improving determines the objective need to study the impact of non-performing loans on the profitability of banks, to analyze and model this process in modern banking business. In this view, decrease in the non-performing loans level and increase in the banks' capitalization as an essential prerequisite for their financial stability, reliability and ability to counteract bankruptcy are of great relevance.

A great contribution to the study of this problem was made by well-known Ukrainian scientists O.I. Baranovskiy, T.M. Bolgar, O.D. Vovchak, O.V. Dzyublyuk, V.V. Kovalenko, A.Ya. Kuznetsova, V.I. Mischenko, A.M. Moroz, S.V. Naumenkova and others.

Taking into account existing scientific research, it should be admitted that not all the aspects of the problem have been sufficiently investigated, it refers, in particular, to the impact of non-performing loans on the banks' profitability in the system of bankruptcy counteracting and modeling of this process to forecast the trends in the banking system development system. The mentioned above determine

the scientific novelty of the relevant study.

Main tasks of the research:

- to analyze the state of Ukrainian banks performance on the lending market during the 2007 – 2017 period;
- to estimate the profitability index of the Ukrainian banking system during the period from 2008 till 2017;
- to analyze the level of non-performing loans in the banking system of Ukraine during 2007 – 2017 period;
- to estimate the influence of the banks' current reserves by active operations on their profitability;
- to build a trend model of the non-performing loans' impact on the banks' profitability.

Traditionally, domestic banks are engaged in lending activities, so the share of loans in the assets of the Ukrainian banking system is quite significant (60% – 80%). For a long time, Ukrainian banks have carried out an aggressive policy in the lending market, since the proportion of loans in bank assets exceeds 50% of working assets (Table 4.7). It should be noted that the aggressive policy of the bank in the market is characterized by maximization of income from lending operations, accompanying with a large credit risk.

Table 4.7

Dynamics of qualitative indicators of Ukrainian banks' loan portfolios during 2007 – 2017 period [1; 2]

Period	Indicators					
	Assets, bln UAH	Loans granted, bln UAH	Loans growth rate, %	Proportion of loans in assets, %	Proportion of NPL, %	Reserves by active, bln UAH
2007	599,4	485,4	-	81,0	1,3	20,2
2008	926,1	792,2	163,2	85,5	2,3	48,4
2009	880,3	747,4	94,3	84,9	9,4	122,4
2010	942,1	755,0	101,0	80,1	11,2	148,8
2011	1054,3	825,3	109,3	78,3	9,6	157,9
2012	1127,2	815,3	98,8	73,3	8,9	141,3
2013	1278,1	911,4	111,8	71,3	7,7	131,3
2014	1316,9	1006,4	110,4	76,4	13,5	204,9
2015	1254,4	965,1	95,9	76,8	22,1	321,3
2016	1256,3	1005,9	104,2	80,1	53,9	484,3
2017	1336,4	1042,8	103,7	78,0	54,5	517,0

The long-term aggressive policy of domestic banks in the lending market resulted into increase in non-performing loans. According to the Table 4.7, it can be noted that the growth of non-performing loans drastically changed in the period of 2009 – 2010 during the financial

crisis and from 2014 to 2017.

In 2009 the volume of non-performing loans grew twice and reached 18.2 billion UAH, and in 2010 it reached 70.2 billion UAH with a growth rate of 385.5%. The rapid increase in the share of non-performing loans in the banks' loan portfolios in 2014 – 2015 was caused by high economic and political instability, including the national currency devaluation, which greatly affected the bank borrowers' paying capacity. From the beginning of the year, the volume of non-performing loans increased by almost 200% against the year before and equaled 135.9 billion UAH during the year, the problem indebtedness increased to 213.3 billion UAH as of 01.01.2016 [3].

A significant increase in the problem indebtedness proportion in the banks' loan portfolio leads to significant allocations to reserves in order to compensate the losses on credit operations. The higher the amount of allocations to reserves for credit risks accompanying with increase in costs for problem loans administration is, the less effective the bank capital usage its, that leads, in its turn, to the decrease in the profitability of banks' capital and assets (Figure 4.9).

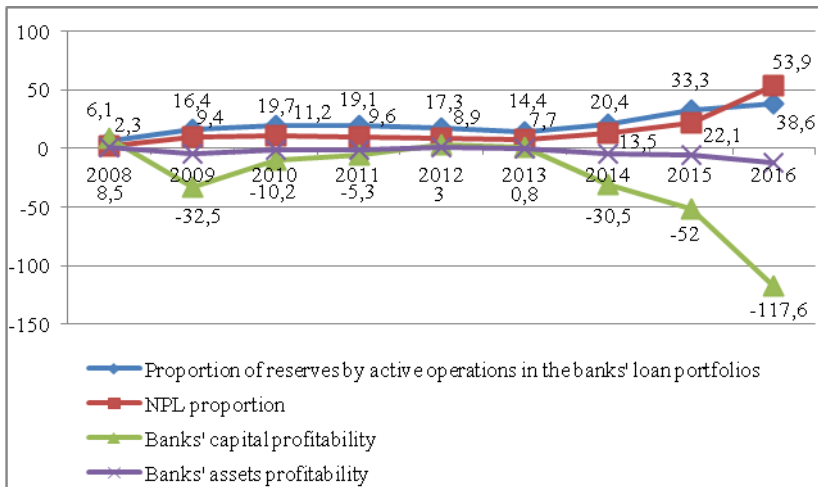


Figure 4.9 Dynamics of the proportion of reserves by active operations, the non-performing loans proportion in loan portfolio, banks' capital and assets profitability for the period from 2008 till 2016.

Analysis of the data represented in the Figure 4.9 has shown the trend indicating the growth of debt arrears and increase in reserves. Hence, reserves growth dynamics almost coincides with the dynamics of debt arrears growth. At the same time, when the proportion of non-performing loans increases, the banks' capital and assets profitability decreases. The strongest fluctuations have been observed during the period from 2009 to 2010, and then – during 2014 – 2016 period. It should be noted that there is the evidence of the following trend: when the proportion of non-performing loans increases, the profitability of banks' capital significantly reduces.

Let's analyze key indicators of the Ukrainian banking system. Thus, during the period from 2012 to 2013, the positive dynamics of most key indicators characterizing the role of the banking system in the Ukrainian economy has been observed. However, during 2014 – 2016 periods there is the evidence of the key indicators' decrease tendency (Table 4.8).

Table 4.8

Dynamics of the key indicators of the Ukrainian banking system

Indicators	As of the end of the year, % to GDP				
	2012	2013	2014	2015	2016
Total assets	80,0	96,8	84,1	63,4	52,7
Loans granted	57,9	62,7	64,2	48,8	42,2
Capital base	12,0	13,2	9,5	5,2	5,2
Deposits	42,8	48,2	43,3	35,7	33,9

Source: calculated according to the data represented in [1, 2]

Thus, the ratio of the Ukrainian banking system's assets to GDP increased from 80% to 96.8%, loans granted – from 57.9% to 62.7% in 2012 – 2013. However, this growth is explained primarily by the hryvnia devaluation. At the same time at the beginning of 2015, the share of currency assets in total assets totaled 43.7%, while at the beginning of 2014 it reached 36.8%. In addition, in 2014 the volume of highly liquid assets decreased by 3.8% (6.1 billion) to 155.6 billion UAH at the beginning of 2015. Its share in total assets of Ukrainian banks amounted to only 10.2% [1].

In 2014 the total unadjusted for reserves banks' assets increased by 112 billion UAH, which is 8% to 1.5 trillion hryvnias, but excluding currency fluctuations (at the rate of USD – 7,993 UAH) this indicator decreased by 223 billion UAH (by 16%); the volume of lending increased by 95 billion UAH, or by 10%, but excluding currency fluctuations it decreased by 139 billion UAH (by 15%).

In 2014 the banks' liabilities grew up to 83 billion UAH, which is 1.2 trillion hryvnias of the 8% of the growth rate, and without currency fluctuations the banks' liabilities decreased by 230 billion hryvnias, that is by 21%. Allocations to reserves increased by a factor of 3.7 compared to 2013, and its share in total costs increased from 16.7% to 39.3%. The level of capital adequacy declined from 18.26% to 15.60%.

The banking system incurred significant risks, including credit risk during the 2014 – 2016 periods due to the difficult political and economic situation. As a result of external hard-predictable shocks, borrowers' paying capacity deteriorated and volume of non-performing loans increased. Banks lost collateralized property and other loan securities that affected the quality of the loan portfolio and required to implement a set of stabilizing measures.

Problem indebtedness on credit operations has had a distinct increasing tendency since the financial crisis has begun. This process has intensified peculiarly since 2014 in the context of the hybrid war in the ATO zone in the East of Ukraine. So, the level of non-performing loans grew to a share of 13.5% in the total loan portfolio of domestic banks and exceeded the safe level of 10% in 2014. During 2015 – 2016 it grew to 22.1% and 53.9% respectively that threaten the financial security of the Ukrainian banking system and individual banks.

Due to the large share of non-performing loans, banks have to form huge provisions for granted loans, blocking from 20% to 100% of accounts. Thus, the volume of banks' emergency funds increased from 131.3 billion to 204.9 billion UAH (20.4% of the granted loans volume) in 2014 alone. And the reserves for banks' active operations increased even more during 2015 – 2016. There were formed 321.3 billion UAH of reserves, and accordingly in 2015 and 484.4 billion UAH of reserves in 2016. The large volumes of current reserves for active operations greatly undermine the financial security of domestic banks and the banking system, since a large part of banks' capital base is spent on non-performing loans' repayment.

The dynamics of banks' profits and costs has the influence on the level of the Ukrainian banking system financial security (Table 4.9). Thus, during the analyzed period the banking business was profitable only in 2012 – 2013, while it was characterized by operating at a loss in the 2014 – 2015 periods. Moreover, due to the crisis manifestations of the banking system performance the total volume of banks' losses was the largest one in 2014, comprising almost 53 billion UAH and reaching about a third of its registered capital. At the same time the Ukrainian

banking system incomes covered only 80% of its losses. Such a situation was stipulated by a significant excess of the banks' expenses growth rate (by 32.7%) over their revenues growth rate caused largely by a negative revaluation of securities and an increase in provisions for possible losses. The financial results of the Ukrainian banking system was negatively affected by loss-making activity of banks classified as insolvent, comprising 19.9 billion UAH.

Table 4.9

Dynamics of Profits, Expenses and Financial Results of Ukrainian Banks during the period from 2012 to 2016

Indicator	As of the end of the year				
	2012	2013	2014	2015	2016
Profits, bln UAH	150,5	168,9	210,2	199,2	190,7
Growth rate, %	105,4	112,3	124,5	94,8	95,7
Expenses, bln UAH	145,6	167,5	263,2	265,8	350,1
Growth rate, %	96,7	115,1	157,2	101,0	131,7
Performance results, bln UAH	+4,9	+1,4	-52,9	-66,6	-159,4
Coverage ratio of expenses by gained profits	1,03	1,01	0,80	0,75	0,55
Return on total assets, %	0,45	0,12	-4,07	-5,46	-12,6
Return on equity, %	3,03	0,81	-30,46	-51,91	-116,74

Source: according to the data in [1; 2]

The share of profitable banks in the total number of banks decreased from 88.9% to 67.1%, while the number of loss-making banks increased from 20 to 52 or from 11.1% to 32.9% of the total number of operating banks in 2013 – 2014.

The tendency of domestic banks to reduce revenues remained unchanged during 2015 – 2016. Thus, the revenues of the banking system of Ukraine decreased to 199.2 billion UAH in 2015 and to 190.7 billion UAH in 2016. At the same time, the banking system's costs had a tendency to grow during 2015 – 2016, and reached a record increase of \$ 350.1 billion in 2016. This resulted into the record loss-making financial result of the Ukrainian banking system totaled 159.4 billion UAH in 2016. This was caused by loss-making activity of PJSC Commercial Bank "PrivatBank" due to the lending of bank-related individuals in the amount of 148 billion USD, which was classified as non-performing loans, and the bank was nationalized.

Obviously, in such a situation the profitability of banks' assets and capital was observed only in 2012 – 2013. The return on total assets and equity was negative during the 2014 – 2016 periods. The return on total assets reached -12.6%, and the return on equity – -116.74% at the end of

2016, that is the evidence of unsatisfactory level of the Ukrainian banking system's financial security.

According to the results of the analysis, the trend model of the impact of non-performing loans on banks' profitability during 2007 – 2016 has been constructed (Figure 4.10).

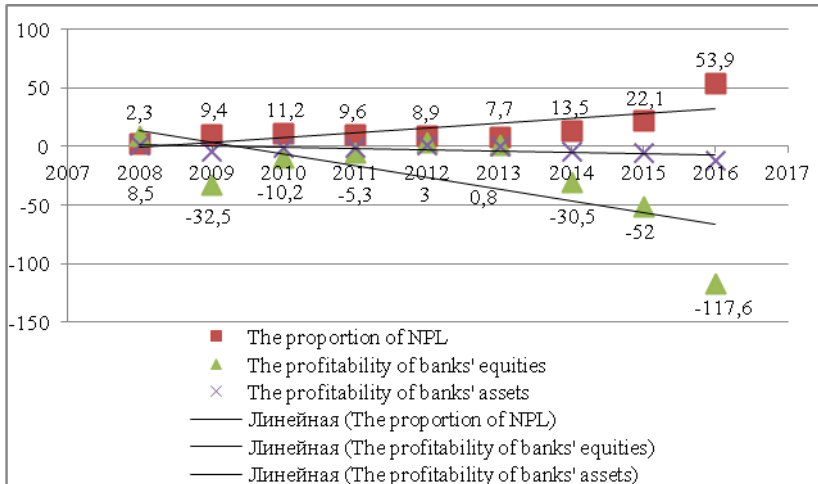


Figure 4.10 Trends of the non-performing loans' impact on the banks' profitability during 2008 – 2016

As it can be seen from the Figure 4.10 when proportion of non-performing loans increases, there is a distinct tendency of the banks' capital and assets profitability decrease.

It is obvious that the level of non-performing loans and the profitability of banks are closely related. It has been found that the level of non-performing loans is increased, and the profitability of Ukrainian banks is decreased due to the next factors:

- the instability of the national economy as a whole;
- the lack of governance mechanisms to protect the financial sovereignty;
- the possibilities for banks to meet formally the major part of the NBU requirements, evading them in reality;
- the lack of long-term development strategy and orientation of most domestic banks to get the maximum profit in the short run;
- the small size of domestic banks on a global scale. Stress testing of

the 35 largest Ukrainian banks carried out in 2014 has shown the need for their capital increase of 56 billion UAH;

- the instability of the funding base sources in the context of the significant decrease in external sources;

- the existence of credit shortness and high price drawing credit, as well as the instability of customers' deposits and their mass outflow from banking institutions;

- the significant reduction in the resource potential of domestic banks due to the withdrawal of bank deposits. Thus, according to the NBU, for the year 2014, only UAH 126 billion was withdrawn from individuals from deposit accounts;

- the weak differentiation of banks' assets (loans are prevailing);

- the lack of the long-term lending experience;

- the presence of large loans granted to bank-related individuals;

- the high concentration of credit risks and the widespread deterioration of the banks' loan portfolios' quality;

- the high dependence of banks on the NBU refunding;

- the lack of stringent standards for risk assessment by domestic banks;

- the unsettled issues concerning limitations of the bank-related individuals lending, controlled by the persons who control a bank;

- the competition between credit reporting agencies;

- the lack of the banks' financial security policy and strategies providing the financial security of the Ukrainian banking system;

- the global financial crises.

So, the steady increase in the share of non-performing loans is the evidence of the poor loan portfolio quality and the significant decrease in the banks' profitability. Firstly, the NPL rate has been continuing to grow even after the implementation of advanced supervisory technology for many banks. Secondly, identification of related loans based on the basis of the prior determination of ultimate owners and beneficiaries has confirmed the assumption that insider relationships can work in both directions. If required, the loans can be serviced properly or turn into the assets extraction channel. Thirdly, the concentration of NPL has been evidence of politically-charged lending and supervision, which have been amplified recently by ambiguous legal decisions in favor of postponing debt repayment to national banks.

The global financial crisis and the balance-sheets correction in the Euro area have shown that the speed of the economic revival and the overall financial system recovery depend on the speed of lending market

clearing. Moreover, the speed is defined both by the depth of the crisis (the scale of the pre-accumulated imbalances in the assets market and in the process of lending), the nature of crisis response measures (the programs of bad assets buyout, bad loans write-off with subsequent capital increase, banks' nationalization, additional incentives for restructuring) as well as institutional characteristics of the economy (corporate governance quality, protection of creditors' and investors' rights of, tendency to non-judicial forms of financial restructuring).

Clearing of the creditors' and borrowers' balance sheets is an important prerequisite for the lending restoration. At the same time, there is no link always observed between the NPL level and the post-crisis loans dynamics. Structural peculiarities of the economy and the emergence of new sectors with good growth prospects, as well as legal problems, or tax barriers before the bad loans write-off enable to combine lending recovery with rather high proportion non-performing loans. This means that the lending recovery speed with the presence of bad debts will depend on how much the factors of lending slowdown and credit increase compensate each other.

To solve the problem of NPL it is necessary: to ensure the protection of creditors' rights by adopting corresponding legislative acts; to solve tax problems while dealing with problem assets; to create the legal environment for the secondary loans' market in Ukraine; to create favorable conditions for the restructuring of troubled assets (both for creditors and for debtors).

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**CONCEPTUAL
MODEL'S
ESTIMATION
OF
INVESTMENT
POTENTIAL OF
RETAIL
ENTERPRISE**

One of the most important factors for the successful retail business' functioning is the organization of efficient business activities, ensuring a high level of competitiveness, developing an effective development strategy. The basis for solving these issues is the economic analysis, which provides complete and objective information for making managerial decisions in all areas of the enterprise. Considerable importance in modern economic conditions is the question of assessing the investment opportunities of the business entity, that is, the investment potential of the retail enterprise (IPRE).

The investment potential's assessment system of an enterprise should be based on observations, analysis and evaluation of investment potential and serve the purposes of functioning and retail business's development, to be an effective tool for information processing, a means of substantiating strategic decisions, and be determined by the needs of management. An assessment of investment potential becomes necessary at all stages of the preparation and investment decisions' adoption, especially at the stages of the goal formulation, the solution's development, and the selection of the best alternatives and the evaluation of the solution's results.

The investment potential's estimation of the enterprise and its elements allows eliminating the contradictions in the conditions of the highly accelerated and diverse movement of its components, managing the investment potential's structural elements. Thus, the

investment potential's appraisal system by nature is part of the management's measuring system of economic potential and the trading enterprise's development.

In the most general form, estimation is understood as the result of the definition and qualitative and quantitative characteristics' analysis of the object being controlled, as well as the control process itself [1].

A number of scientists reduce the assessment's essence to the definition of the market value of an object on the basis of economic methods, which limits it to the assessment of the value equivalent with the orientation to the past and current state without taking into account development opportunities. The collective of authors under the direction of A. G. Gryaznova treats the assessment as a purposeful ordered process of determining the monetary value of the object, taking into account the factors that affect it at a specific time in a specific market [2].

Thus, the value of value during the enterprise's evaluation is emphasized and attention is paid to taking into account such factors of its formation as time, risk and market factors, including market conditions, level and model of competition, macro and microeconomic environment, risks associated with income generation, average market yields, prices for similar objects, current situation in the industry and the economy as a whole.

Another position is Chebotarev N. F., who considers the assessment from the position of potential and real income, brought by the object of evaluation at a given time, that is, a proponent of a profitable approach.

Most of all in the scientific and methodological literature, the mechanism of the process of assessing the potential of the enterprise is simplified in the form of a relationship of goals, tools, process of evaluation management.

However, the evaluation of any phenomenon or object (including the investment potential) is a complicated complex process, which involves the presence of the following interconnected and complementary elements: the subject; object; goal; criteria; indexes; units (scale) of measurement; methods; assessment decision; results.

The investment potential assessment process is schematically presented in Figure 4.11.

Investment potential's estimation of the of the enterprise is carried out to provide the general information needs of a wide range of internal and external users, which are relied on it as the main source of information when making investment decisions.

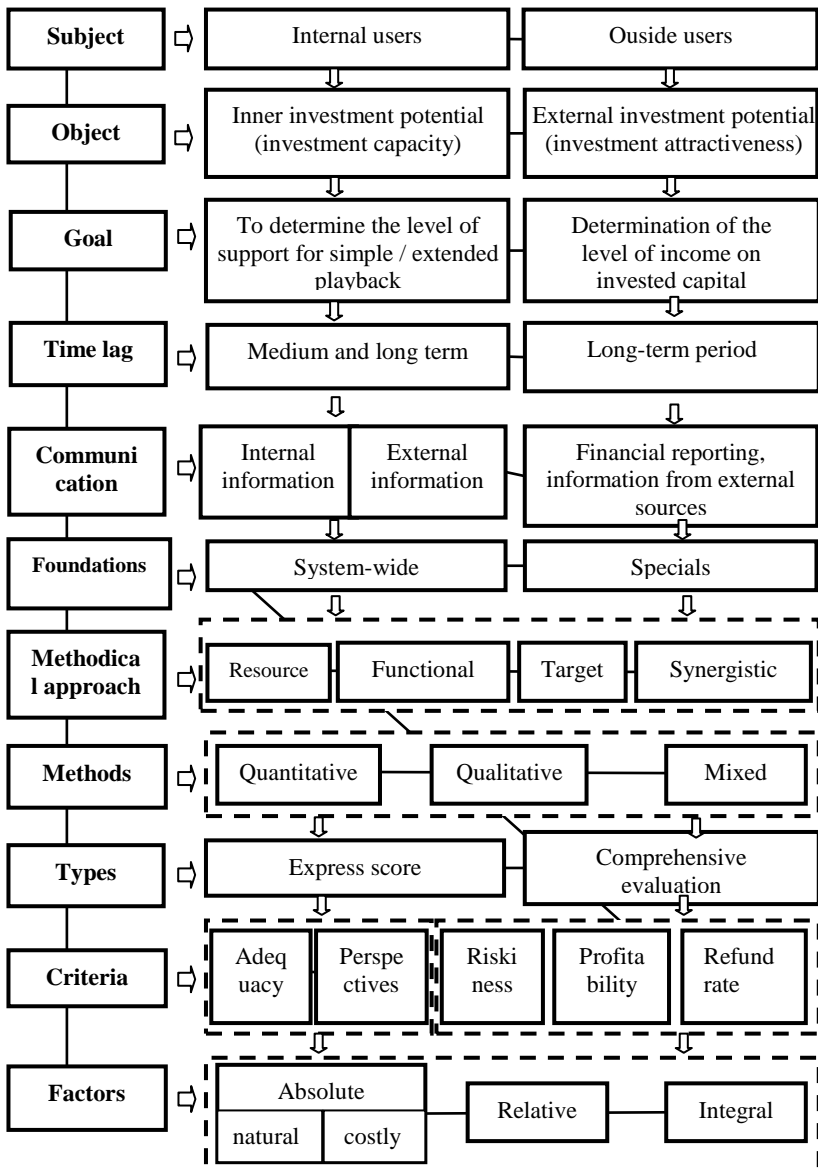


Figure 4.11 The scheme of conceptual model of investment potential assessment of retail enterprises

Source: developed by the author

These users are in the role the subjects of evaluation, each of which has certain goals. The main internal entities for assessing the investment potential of retail enterprises are: management (management) and owners of the enterprise.

External subjects of evaluation are investors of the enterprise (including potential ones), investment companies, financial analysts, competitors, etc.

The various intentions pursued by external and internal actors determine the allocation of different aspects within the selected elements of the assessment of the retail enterprises' investment potential.

Management and owners of the enterprise assess the investment potential in order to determine the effectiveness of its formation and use, to determine the scope of investment management tasks, an effective investment structure, investment strategy assessment, quality management, etc.

The investors are interested in the investment potential retailers only as the definition of frequent (shares) in the capital of the enterprise and the expected return on investment.

Competitors evaluate retail investment firms in terms of attractiveness for investors.

As the higher this attractiveness, then the greater potential opportunity, which helps, to receive external financing and increase competitiveness, which negatively affects competitors.

The investment potential's assessment from the position of the objects is a separate stage in the assessment of the economic potential of the retail company, which should be taken into account when choosing criteria and indicators. Assessment's objects of investment potential are also determined from the internal and external positions [3]. The inner investment potential is reflected in the concept of "investment power", which characterizes the investment's effective development of and financial resources received, the existing competences and capabilities of the retail company in terms of investment activity. The external investment potential manifests itself in the concept of "investment attractiveness", which presented the degree of attractiveness of a specific retailer to invest in compared with other enterprises in the industry or other industries.

Estimation's Methods and criteria the investment potential of the retail company may differ depending on the subject of its conduct. This necessitates its consideration on the basis of the main goals, namely, the information needs and the specific tasks of individual groups of users of

evaluation (lenders, investors, management enterprises, auditors, tax authorities and others well-groomed person). Thus, the targets for estimating the investment potential of the retail company are also differentiated by the entities. The primary goal of an assessment for internal users is to determine the level of security of a simple and (or) extended playback of the retail company; for external ones - determining the level of income (rate of return) on invested capital. Theoretical and methodological basis for assessing the potential of an enterprise and its components are commonly accepted approaches and methods for evaluating economic objects. Legal bases for appraising property, property rights and professional appraisal activities are determined by the Law of Ukraine "On valuation of property, property rights and professional activity valuation activities in Ukraine" [4]. Objectivity of the evaluation process is ensured by a single set of evaluation principles. With regard to investment potential, these principles can be considered as the basic rules for assessing the potential, which are based on methodological approaches that reflect socio-economic factors and patterns of its formation and use.

The analysis of scientific sources on the given subject has shown absence of the unanimous opinion on composition of principles of an estimation of investment potential of the enterprise.

Most often, there are three groups of principles for assessing the potential of an enterprise and its components [5].

Their generalization is presented in Figure 4.12.

Take into account such orientation, Russian researcher-practitioner Perminov for the fundamental principle of assessing the investment attractiveness of an enterprise (which has been identified as part of the investment potential) chooses to improve the existing valuation techniques in order to meet investor's requirements for information that influences decision-making on the direction of attachment.

Among other basic principles of constructing a methodology for evaluating a scientist, one identifies: efficiency, adequacy and objectivity, correctness (including: monotony, transitivity, additivity), systematicity, complexity, resource constraints, unlimited needs.

Taking into account the conducted research, it is considered that the process of evaluating investment potential in retail companies should obey the following principles (Figure 4.13).

The ambiguous problem of the process of evaluating investment potential is the justification of methods, methodologies and methodological approaches to its implementation.

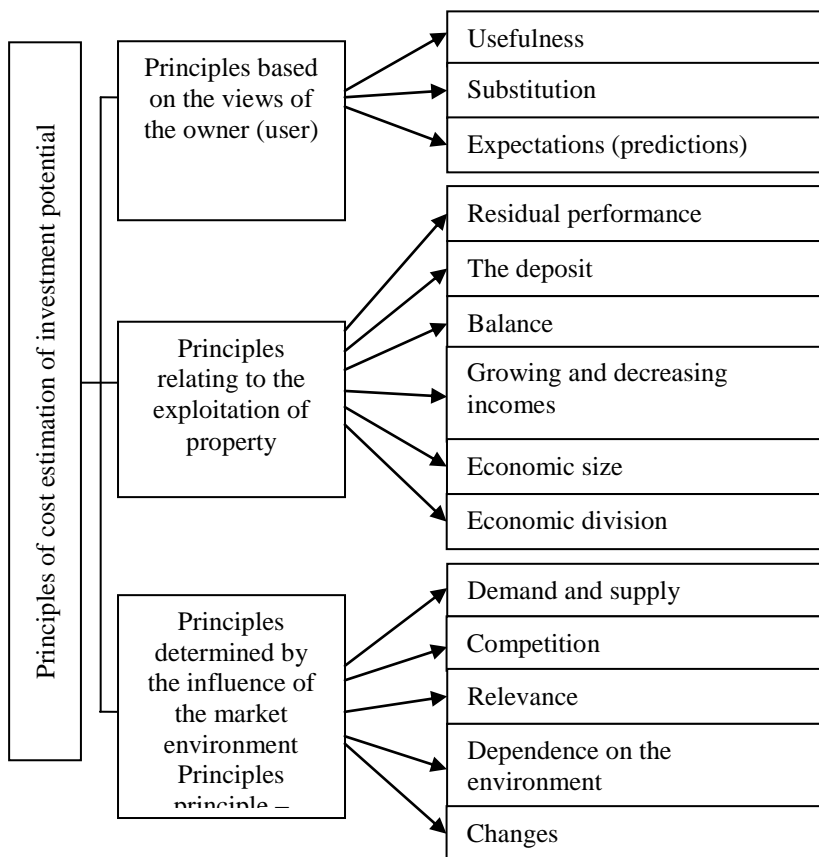


Figure 4.12 Classification of principles of cost estimation of investment the potential of the retailer

Source: developed by the author

Despite a significant amount of methodological approaches to assessing both aggregate and investment potential, it is observed systematization's absence of complicating determine the conditions of application advantages i shortcomings of individual approaches, which cannot apply an integrated approach to solving the problem of qualitative evaluation.

Based on the analysis of existing approaches to assessing the investment potential of the company, they were systematized in the following groups [6]:

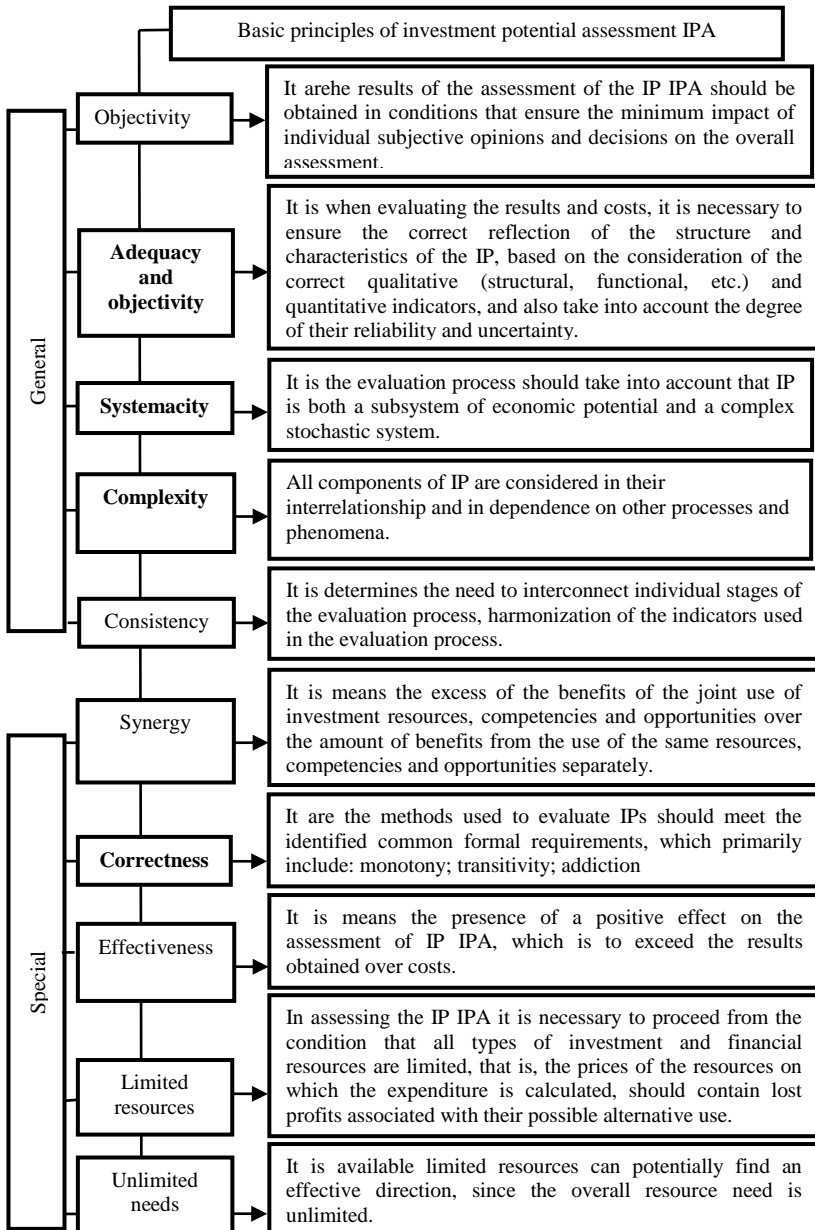


Figure 4.13 A set of basic principles for assessing investment potential retail company (developed by the author)

1) depending on the period of time taken into account during the assessment, distinguish three approaches to evaluation: cost (property), income (result) and comparative (market). The isolation of these approaches is well-known and more commonly found in the literature on the issues of business (enterprise, aggregate potential) valuation as cost.

Thus, when evaluating the aggregate potential of an enterprise from the standpoint of a cost approach, the main attention is paid to the value of the property (a set of tangible and intangible assets) of the enterprise.

The cost-based approach is based on typical motivations and representations of a prudent buyer who will not pay for an enterprise more than all its assets.

In assessing potential from a position of income approach, the basis for calculations is the revenue that is expected to generate the aggregate potential of the enterprise in the future. This approach is based on the expectations of investors that determine the current value of the enterprise, guided mainly by the forecast value of future revenues from the use of the potential of the enterprise, rather than the availability of those or other assets (principle of expectation).

The application of a comparative approach in capacity assessment is based on the determination of the cost of an object on the basis of the purchase / sale price of similar enterprises or their shares (shares) that have already been made. The comparative approach is based on the principle of substitution (the value of an enterprise cannot differ significantly from the value of another enterprise, which has a similar utility to the potential buyer).

The approaches discussed have both advantages and disadvantages, certain spheres of application and combine a large number of different methods from which the appraiser chooses the most appropriate for the assessment of investment potential. Boichuk, Parakonnii and Paracon emphasize that it is expedient to attribute valuation methods to a group of expenditures in case of taking into account only the past time; to comparative (market) – past and present time; to the profitable (resultant) – the future time.

2) essentially distinguish three main approaches to the assessment of investment potential: resource (or accounting and reporting), functional (structural) and target (problem-oriented, productive).

Functional (structural) approach is a system of methods and methodical techniques, oriented to determine the rational structure of the investment potential of the enterprise by the selected functional subsystems. It is advisable to agree with Kushnirova and

Nepomnyashchaja that the analysis and evaluation of the structural characteristics of the investment potential are associated with certain difficulties, since all its elements function simultaneously, in aggregate and interaction. It practically makes it impossible to determine the contribution of each type of resource, competencies and opportunities to investment potential.

The targeted (problem-oriented, effective) approach to the assessment is aimed at determining the conformity of the existing investment potential to the objectives of investment activity of the retail enterprise, that is, characterizing the continuous orientation of investment activity, investment decisions and the processes of their implementation on the final results, taking into account socio-economic characteristics, which are constantly changing due to the development of a system of needs, quantitative and qualitative changes both in the investment and in the aggregate potential Retail companies, for which a targeted approach is applied.

Individually applied resource, functional and target approaches do not give an adequate assessment of the investment potential of an enterprise, consisting of resources, competences and opportunities, the use of which is aimed at achieving a certain result. It is the use of resource, target and functional approaches in the complex (at the same time) objectively determines the internal and external investment potential of the retailer, taking into account the influence of internal and external factors.

The synergetic approach allows us to consider investment potential, first, not as a simple amount of resources, but will reflect the possibilities of their total use; and secondly, as a model that takes into account the actual dynamics of evaluation indicators.

Therefore, we consider it expedient to assess the investment potential through a synergistic approach that involves determining the synergy coefficients.

By the degree of detail of the procedure, the investment potential can be assessed through a comprehensive (in-depth) assessment and an express evaluation.

The express assessment is conducted with the purpose of providing a general unambiguous answer to the achievement of the determined objectives of assessing the investment potential of the retail enterprise.

An integrated (in-depth) assessment of the investment potential specifies and complements individual express-estimation procedures and involves a more thorough study of the property and financial status of

the enterprise, the results of its activities and opportunities, and the identification of factors of influence.

Methods for evaluating investment potential should be aimed at obtaining a concrete result, namely, determining the level of security of a simple and expanded reproduction of the retail business and determining the level of return on investment invested by investors. As a result of the analysis identified a number of methods that can be used to assess the investment attractiveness and investment capacity of an enterprise, including expert, index methods, analogical methods, rating, factor analysis, simulation methods, scenarios, economic and mathematical methods, etc.

The quality of the results of the assessment of the investment potential is determined by correctly selected and substantiated criteria and relevant indicators.

Criterion is a sign on the basis of which the evaluation, definition or classification of anything is carried out; checking means, assessment benchmark. Through a system of indicators criterion allows to link the purpose of evaluating the investment potential with a means of holding and characterizes the degree of achievement of users purposes i tasks.

Taking into account the goals and objectives of evaluating the investment potential of external and internal users, the criteria are proposed to select: 1) to achieve internal goals – sufficiency and promising; 2) to achieve the external goal – return on equity, risk and time (speed) return of invested funds.

The sufficiency criterion characterizes the adequacy of investment resources and competences for a simple reproduction of the retail business, and the criterion of perceptivity is the adequacy of investment resources and competencies for extended reproduction.

The criteria of riskiness, profitability and speed of return are characterized by the efficiency and security of investment by investors in a particular retailer.

Each criterion corresponds to certain indicators. In the financial and economic analysis, a large number of different indicators are used, which are differentiated according to different characteristics into natural and costly ones; general and specific; absolute and relative; quantity and quality; generalizing, partial and auxiliary; factor-oriented and productive; normative, factor-oriented and productive; normative, planning, register, reporting, analytical and so on. All indicators used in the assessment of the investment potential of retail enterprises are interconnected and interdependent, deriving from existing links between

economic phenomena that they describe.

Formation of the system of indicators is a complex task that will be solved in the subsequent research authors.

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MECHANISMS OF STATE REGULATION AGAINST CORRUPTION IN THE FRAMEWORK OF ENSURING ECONOMIC SECURITY IN UKRAINE

The realization of the idea of building an effective legal state is connected with the overcoming of corruption phenomena in the bodies of state power and administration. Usually the basis of corruption is based on low-quality legislation, draws on the shortcomings of the state's financial system and spreads because of the lack of effective control over the activities of officials, state and local authorities. The fight against corruption is a priority task of the current government in the state, because corruption can make it impossible to carry out any positive changes in our country, many of which begin right now.

The gradual worsening of the financial situation in Ukraine indicates a decline in the level of domestic financial security of the state. One of the main factors negatively affecting its condition is the large-scale corruption acts taking place in our state. In recent years, much has changed in our country: the European vector of development for Ukraine was finally chosen. But one of the most complex processes that hinder the development of the state remains systemic corruption. Any positive changes in the state can not be effectively and timely implemented without internal or external investment in projects. But in the case when people who do not observe financial discipline control the financing of these projects, it is almost impossible to finance the project in full. All the presidents of Ukraine repeatedly called corruption the number one problem for the Ukrainian society. Everyone tried to

overcome it, but could not. Quite often, the Verkhovna Rada adopted laws of Ukraine that were aimed at combating corruption. But significant practical steps to address this important issue for the state of financial security have not been done so far, nor has the desired results been achieved.

It is common knowledge that corruption exists in all countries of the world. However, it manifests itself in different scales and affects the life of society in different ways. According to the international organization Transparency International [2], as of the end of 2016, Ukraine is among the states with the highest incidence of corruption.

A high indicator of the negative perception of corruption by citizens is due to the lack of effective reforms in the sphere of combating corruption and ineffective activity of law enforcement bodies in identifying corrupt offenses and bringing those responsible to justice, as evidenced in particular by Ukraine's unsatisfactory fulfillment of international obligations to implement anti-corruption standards.

It should be noted that a lot of publications are devoted to the fight against corruption in domestic and foreign scientific literature. In the works of scientists, corruption is described primarily as a nation-wide phenomenon, but the latter is hardly considered as a factor affecting the state of ensuring the financial security of our state. Taking into account the researches known to us, it is possible to speak about insufficient development of problems of influence of corruption acts on the national financial security of the state.

So, the scientist E.V. Nevmerzhitsky notes that corruption is not only certain actions, but also a system of negative views, beliefs, attitudes, methods [3, p. 92-95]. Some scholars write that corruption always creates serious problems for the development of any country in the world. It destroys the institutions of power and impedes the effective management of the state, as it violates the legal procedures [4, p. 12-15].

After analyzing the opinions of scientists, we return to the current legislation of Ukraine, where Article 1 of the Law of Ukraine "On the Prevention of Corruption" gives us a definition of the concept of "corruption offense", indicating that this act, containing signs of corruption committed by a person for which criminal, disciplinary or civil liability. By the same article, the legislator quite broadly interprets the very concept of "corruption", noting that it is the use by a person of his official powers or related opportunities for the purpose of obtaining an undue profit or taking such a benefit or making a promise/offer of such benefit to himself or others or, accordingly, the promise/offer or

the granting of improper benefit to the person or upon his request to other individuals or legal entities with the intent to induce that person to misuse the official powers granted to him or those associated with them [1].

Corruption in the minds of citizens in recent years has become an abstract term that exists on its own. Everyone talks about her and struggles with her, but with varying success. But the overwhelming majority of citizens can hardly imagine what exactly is meant, because the very term “corruption” includes many different manifestations of the weakness of human nature.

According to statistical data, corruption in the territory of Ukraine is quite large. In many respects, because of their scale, the economic situation in Ukraine is deteriorating, which is evidence of a decline in the level of domestic financial security of the state. The highest officials of the state have repeatedly spoken out about the need to combat corruption, but quite few steps have been taken in this direction of development important for the whole society. Because of corruption, Ukraine annually loses more than 5 billion dollars [5].

Indeed, the large scale of corruption significantly reduces the opportunities for rapid economic development of the state. In recent years, Ukraine has still not been able to significantly improve the state of its own industry and agro-industrial complex. Therefore, we have a situation where domestic financial security is declining at a rapid pace. And at the same time, we do not use a powerful internal resource to maintain the well-being of Ukrainian society – a resource of corruption.

It should be noted that corruption is a rather complex and multifaceted phenomenon that adversely affects all aspects of the political and socio-economic development of society and the state. Among the most dangerous manifestations of this phenomenon in Ukraine, experts note political corruption, corruption of the judicial system, bribery in the prosecutor’s office and the Ministry of Internal Affairs, corruption manifestations in the healthcare sphere, corruption pressure on business entities by the controlling bodies.

Corruption causes internal resistance in everyone, even though it exists long enough. The reason for this is that corruption infringes not only on the stability of the economic life of society, but also on its moral principles. Former US Secretary of State Hillary Clinton, who for many years is an outstanding representative of the political establishment of her own state, expressed her position on this issue: “Corruption is a political will. If the government is corrupt from beginning to end, it

pretends that everything is normal in the country. If officials are convinced that there is political will and sanctions, the punishment will inevitably go, then they will stop engaging in corruption. And now corruption is everywhere, because it is unpunished”.

Of course, without the political will of the establishment of the state, corruption can not exist in the state in large volumes. For our state, the fight against corruption is a matter that can not be postponed. After all, Ukraine is a significant number of reforms: in the regulation of business, medicine, education, public utilities. These reforms require significant investment. The main source of the investment resource is the state and local budgets, which are filled with domestic entrepreneurship.

However, in the society there is practically no effective economic dialogue between business and government and the social responsibility of business is not realized in practice. The consequence of these shameful tendencies is a significant level of shadowing of the domestic economy. The current state of shadowing the national economy becomes a risk for the implementation of these reforms. According to international experts, in Ukraine there is a trend of outflow of significant amounts of shadow capital from the country. And the shadow capital is a powerful unused investment resource for business development in Ukraine and a resource for stabilizing its financial system, as well as for raising the level of domestic financial security.

To solve complex, above-mentioned problems, let us turn to the world experience. I would like to note right away that, as of 2017, there are practically no states on the world map that do not have corruption to some extent. Corruption arose long ago. For a certain category of people, joining a certain power position was associated with the expansion of the possibilities of their own illegal enrichment. On this occasion, even there is a quote: “If you want to see the features of any person – give it power.” In any society there are people who do not want to comply with the current legislation, and individuals, they are helped by advice or by doing specific things.

The fight against corruption during the last centuries in the states was conducted differently. Very useful for our state can be the experience of Sweden, where until the middle of the XIX century, corruption was significant. But the leadership of the state carried out modernization, one of the consequences of which was a set of measures aimed at eliminating mercantilism. Since then, state regulation has concerned more households than firms, and was based more on incentives (through taxes, benefits and subsidies) than on bans and permits. Access to

internal state documents was opened, and an independent and effective system of justice was created. At the same time, the Swedish parliament and the government set high ethical standards for administrators and began to work for their implementation. Gradually, honesty became the social norm among the bureaucracy. Salaries of high-ranking officials at first exceeded the earnings of workers 12-15 times, but over time this difference decreased to twofold [6]. And already for more than a century and a half, Sweden has one of the lowest levels of corruption in the world. To bring the corruption act in our country even after the last changes in the anti-corruption legislation is rather difficult. The above problem can be solved by actively using the experience of Hong Kong [7].

If in Ukraine the notion of “presumption of innocence” is legally fixed, then in Hong Kong among the bureaucratic apparatus another principle is used, namely: “the presumption of corruption”. In modern Hong Kong, there are practically no officials who allow them to take bribes. In the “anticorruption” rating of Transparency International, Hong Kong is on the 12th place, higher than such developed countries of the world as the FRG and Great Britain. This is all the more surprising, because the vast majority of the population of Hong Kong is Chinese, accustomed to such illegal actions. And in the middle of last century, the vast majority of officials were corrupt. The situation was critical. Therefore, in 1974, a state structure was organized under the name “Independent Commission against Corruption”. It consisted of officers who submitted personally to the governor, and independent public observers, consisted entirely of intellectuals and businessmen.

An independent commission against corruption was formed from three departments: the operational department, which was engaged in investigative work, that is, showed bribe takers, interrogated them and sent cases to court; preventive, who showed corrupt ties in the state apparatus and studied the schemes of bribe takers. Its main task was to find vulnerabilities in the state machine; Department of Public Relations, which monitored the mood in society and covered the course of anti-corruption work in the media. The independent commission against corruption has received rather wide powers. Its employees could arrest officials, guided only by reasonable suspicions, and also keep them in custody without charges and, in addition, could freeze bank accounts. The aforementioned rather radical innovations were properly fixed in the legislation. The civil servants who lived at the expense of dishonest incomes had to prove that their property was acquired legally.

If this was not possible, they were arrested and confiscated. Already six months later, many important officials were imprisoned. All these events were widely covered by the press. The population began to help more actively and participated in the work of the commission through complaints, informing the authorities about cases of bribery. As a result of the above actions, over 30 years the level of corruption has been reduced from 90 to 3%. Taking bribes has become a dangerous and unprofitable affair.

Analyzing Hong Kong's experience in fighting corruption, the following points should be noted: 1. The presumption of innocence for civil servants was abolished. Instead of it, the principle "prove that I bought the property is not for bribes". This principle has proved quite well in Hong Kong, but it has much in common with the principle of confiscation of property "in rem". It provides for the confiscation of property if it exceeds the income of an official at a cost, and the person can not document that the money received from other sources is legally obtained. 2. An independent anti-corruption body has also been established in our country. The salary of the employees of this body is also quite high. Therefore, it would be nice to create a mechanism for monitoring the National Anti-Corruption Bureau of Ukraine, and this should be done by public organizations created from intellectuals and business. 3. On the issue of interaction with the public – this is one of the most important and problematic measures. At first, citizens are skeptical of any initiatives of the government aimed at fighting corruption. It is interesting that Hong Kong treats those citizens who are forced to pay bribes, so corruption in Hong Kong is not a crime for reasons beyond the control of a person. For example, if a businessman gave a bribe to an official who issues permits for business, then only an official is to blame, he will be punished. And the businessman will remain out of pursuit. Therefore, people who are victims of corruption are not afraid for their safety and often report to the "Independent Commission Against Corruption" about the facts of the corrupt acts of such officials. 4. In contrast to other provinces, the People's Republic of China in Hong Kong did not apply or apply the extreme penalty to persons who committed financial crimes, including corruption. Despite this, corruption has been reduced tens of times in a fairly short period of time. Hong Kong's experience eloquently testifies: if there is a real desire to overcome corruption and the will to act decisively, then it is possible to achieve the desired result [7].

For comparison, in the PRC, where anti-corruption legislation is

considered to be one of the most stringent in the world, all officials seen or suspected of machinations will face severe punishment, up to the death penalty. It is also practiced to cut hands off bribes. Since 2003, 10 thousand officials were publicly shot, whose guilt was proven, another 120 thousand received 10-20 years of imprisonment. Despite this, a high level of corruption in the state remains. They can see ordinary monetary bribes, trade posts, abuse of authority, excessive use of budget money, even bribes in the form of sexual services. Along with the brutal ways to combat corruption in the PRC humorous ones are used. In particular, the Central Commission of the Communist Party of China for Discipline Inspection invited the population of one of the poorest districts of Tsiussian to draw caricatures on specially designed walls of the houses, expose officials in bribes. Subsequently, these comics were posted on the Commission's official website, along with a set of other measures, according to Party statistics, led to a significant decrease in reports of official corruption [8].

The experience of combating corruption in the Republic of Singapore is indicative. In this state, corruption became one of the main problems in the middle of the last century. A public authority was created to combat corruption in the state – the Corrupt Practices Investigation Bureau. In 1960, the Anti-Corruption Prevention Act was adopted. In the normative legal act, the most corrupt articles were changed and the punishment for committing corrupt acts was toughened. The Corruption Prevention Act eliminated several major obstacles, namely: provided a clear and complete definition of all types of corruption. The bribe-takers could no longer shirk responsibility by receiving improper remuneration, and use vague wording in the legislation; the act regulated the work of the public authority to combat corruption and gave him serious powers; increased prison sentences for bribes.

The Corruption Prevention Act allowed the above-mentioned Bureau to detain potential bribe takers, conduct searches in homes and at work, check bank accounts and so on. The department created three departments: operational, administrative and information. Strict control gave good results, so more attention was paid to preventing corruption. A thorough work was begun on the “quality” of the bureaucracy, where wages were seriously raised, which was supposed to deter officials from receiving bribes. In Singapore, as in Hong Kong, a new legal principle, presumption of corruption, was introduced specifically for civil servants. That is, at the slightest suspicion, a civil servant is considered a criminal

until he proves his innocence. If it becomes known that an official violated the law and provided someone with an unreasonable personal benefit, then the prosecutor is not required to prove that it was a corrupt act. The accused himself argues that he is not a criminal.

Today salaries of senior officials in the Republic of Singapore are calculated according to average earnings in business and reach up to \$ 20-25 thousand per month, that is, higher than the salaries of the relevant officials in the United States. The leadership of the state intended to make the profession of an official not only highly paid, but also respected. Therefore, at the state level, the principle of meritocracy is preached, that is, the way to the top opens before the most intelligent and progressively thinking. The most gifted help to enter the university send for training and internships abroad, encourage success. Thus, the bureaucratic apparatus was gradually updated by properly studied and well-educated cadres, many of which were enriched by the ranks of law enforcement officers. Subsequently, the level of corruption in the state fell at times. The attitude of investors to the Republic of Singapore has also changed. As a result, American and Japanese transnational corporations laid the foundation for a large-scale high-tech industry of the republic [7].

It would be quite positive to use the experience of the Republic of Finland, which can serve as an example of a state where corruption does not take root. But it was not always so. A large anti-corruption company was conducted there in the middle of the last century. Paradoxically, there is no special anti-corruption body in Finland, the Ministry of Justice deals with these issues. Serious corruption acts are in the competence of the National Bureau of Investigation, cases are simpler transferred to police patronage. The term “corruption” does not exist in the criminal code, but there is a concept of “bribery” for which an official can be fined or imprisoned for up to four years. Corruption is considered as part of criminal criminality. But cases of corruption are rare, most of them are made public through the media. The scale of corruption scandals is minimal. Indeed, the authorities in the Republic of Finland are as public as possible. All protocols and records of discussions held in administrations are open to every citizen. Among the most important factors hampering the spread of corruption in Finland are high material security and social security of officials. But the accusations of bribery and punishment for them are not saved either by official position, or by deputy mandates, or by public popularity.

Indeed, the fight against corruption in our state would look quite

impossible, if not for several examples of modernity, which demonstrably prove that even a sufficiently corrupt society can change in a few years. These examples include Georgia. It is hard to imagine that corruption could be completely destroyed. There is an indicative experience of the state of Georgia, where in the early nineties they began to form their own system of the mechanism of the state – Georgia. In this state until 2004, there was a rather high level of corruption. The latter, as a phenomenon, significantly hampered all reforms in the state. Since 2004, the government has carried out a number of reforms in the state, which were aimed at increasing the level of financial security of the state. One of the priority tasks was a significant reduction in the level of corruption in the state apparatus of Georgia. The number of officials was significantly reduced and at the same time their mobility and financial security were significantly increased.

Now Georgia, according to the international organization Transparency International, is included in the group of the least corrupt states of the world [2]. According to the results of the Transparency International poll, only 3% of citizens of Georgia took part in corrupt acts. An illustrative example is that the aforementioned set of reforms was carried out in a fairly short time (about 5 years). Developed European states have been going this way before, but in a few decades.

One of the key stages in the fight against corruption in Ukraine is a total reduction in the number of licensing procedures. To realize this issue, it is necessary to restore partnership relations between citizens and the state. Of course, in our state there are single licensing centers, single registration offices, single investment windows. But, for example, in Georgia more than 300 administrative services citizens can get in the Georgian Houses of Justice. That is, most citizens can get most administrative services quickly (up to 15 minutes) and without intermediaries (notaries). At the first stages of the work, with a large-scale pooling of the provision of services into one structure, there are some inconsistencies, but later they are compensated for avoiding duplication of functions and saving time as citizens, which are the basis of any state and employees of the state apparatus. It is not necessary to forget that it is the citizen who is the leading element of the legal system of the state. After all, it is the state apparatus that should serve the citizens of the state, and not citizens should for a long time “solicit” certain socio-economic benefits from the bureaucratic apparatus. This is stipulated by the Law of Ukraine “On Administrative Services”.

The concept of the State target program for the creation and

operation of an information system for the provision of administrative services for the period until 2017 [9] and the concept of development of the system of providing administrative services by executive authorities [10]. Ukraine is a special country. Based on the experience of predecessors, it will be long and difficult to struggle with such a large-scale phenomenon as corruption with the help of only administrative methods. Corruption mechanisms in our state were created simultaneously, and it is also impossible to reverse them completely at once. It should be noted that in the world there are no ideal schemes to combat corruption. And you do not need to look for them. The purpose of these measures is not to completely eliminate corruption from Ukrainian society, but to minimize it and limit it to certain limits. A positive result can be considered the fact that for every hryvnia spent fighting corruption, the budget will receive more than one hryvnia of income by reducing corruption.

Corrupt schemes are created by smart people who have several higher educations and a certain length of service in the state apparatus. The fact is that a significant part of the funds, of which taxes are not paid, does not fall into the budget. To illustrate this mechanism it is possible in the following way: the enterprise A sells its production to the intermediary firm B, which resells the same production to the intermediary firm B, which resells the same products to the enterprise D. Under market conditions, enterprise A could also sell its products to the enterprise D. In a pinch, they could take the help of an intermediary firm b (or B). But even from a logical point of view, one of the intermediary firms is in this scheme of selling products superfluous. However, the second intermediary firm is not superfluous in cases when the purpose of its activity (as well as creation) is to conceal funds from their taxation. After all, at an unexpected moment the second intermediary firm can simply disappear from the Ukrainian legal field. We propose to combat this phenomenon by a side-step method, namely: to introduce a 20% excise on operations with raw materials or products, which are carried out by the second and subsequent intermediaries.

Certain hopes were placed on the new Law of Ukraine "On the Prevention of Corruption" [1]. This regulatory act has allowed expanding the powers of controlling bodies to combat corruption phenomena. Only one and a half years after its adoption, officials begin to file declarations in electronic form and inform in the public register. Separate restrictions on civil servants have also been created, and the notion of a potential and apparent conflict of interest has been

introduced. The law was fixed for the possibility of comparing the incomes and expenses of officials, checking the financial sources of the declarant and the responsibility of the official in case of revealing the facts of illegal enrichment. The role of public control over corruption in the ranks of officials has also been strengthened.

The statements of the above-mentioned leaders can, of course, be perceived as the beginning of a new era in the fight against corruption in our state. But so far, there are not enough large-scale deeds. In July 2016, US Vice President Joe Biden was on an official visit to Ukraine, according to which there is not a single democratic country in the world where corruption is rampant. This is what he said, speaking from the rostrum of the Verkhovna Rada. He also called for judicial reform to be able to hold those responsible accountable, and that senior officials should separate their interests from state interests, all should act according to the same rules, without resorting to pressure on judges.

Corrupt manifestations significantly reduce the level of financial security of the state and slow down the positive economic transformations in our country, especially in the conditions of the world economic crisis. All the changes that recently occurred in the legislation in the sphere of fighting corruption as a threat to the national financial security of the state remained only a declaration of the state's intentions to combat this negative phenomenon. Over the past six months, there have been no cases of public transfer to the management of business of high officials, and there were no cases of bringing any of them to account for violation of this requirement. Mainly, middle-level officials are prosecuted for their participation in corrupt acts. This state of affairs must be changed. The establishment of the National Agency for the Prevention of Corruption and the National Anti-Corruption Bureau of Ukraine is quite positive.

But it was not possible to completely eliminate corruption as a phenomenon in any civilized state. Our state, like others, seeks to minimize this phenomenon and its impact on the financial security of the state. In our opinion, in order to reduce the spread of corruption in society, it is necessary to systematically introduce a set of measures to reform various spheres of public administration. In more detail, we should dwell on: improving the system of state regulation of administrative and financial services; decentralization of budgetary allocations; harmonization of legislation with EU standards in parts of the definition of the customer of public procurement; the fight against charging wages illegally (without paying taxes and fees); formation of

the Unified State Register of Persons Who Committed Corruption Offenses.

In order to combat corruption, the following tasks should be implemented: establishment of a systemic anti-corruption expertise of legislation; a thorough analysis of the activities of state and local authorities. The implementation of any administrative procedures should be as transparent as possible; the improvement of the apparatus, as well as strict regulation of the rights and duties of officials, without forgetting the creation of a working mechanism for resolving conflicts of interest in the civil service and in business. Further, there should be a significant reduction in the types of documents and services provided by government. Here the key words are trust and respect both between the state and the citizen, and between citizens. But the existing measures to combat corruption are not sufficient to radically reduce the level of shadowing and corruption in the domestic financial system. Corruption itself, as a socio-political phenomenon, constitutes a sufficiently serious threat both for the development of our perspective state and for ensuring the financial security of Ukraine as a whole. To raise the level of domestic financial security, the state must resolutely and relentlessly combat corruption manifestations on the territory of our state. All highly developed states of the world have already implemented such measures (including those mentioned above). But they reached a high level of development and well-being of their own society only after reducing the level of corruption in their own territory to a minimum. Indeed, the funds used in corruption cases do not fall into the State Budget of Ukraine, can serve as a powerful internal reserve for raising the level of domestic financial security of Ukraine.

Conclusions

Gradual deterioration of the economic situation in Ukraine indicates a decline in the level of domestic financial security of the state. One of the main factors negatively affecting its condition is the large-scale corruption acts taking place in our state.

Corruption to some extent exists in all states, but manifests itself and affects the life of society on various scales. We state that in the world there are no unified administrative and financial and legal measures to counter corruption and other abuses that corruption mechanisms were created in the states not simultaneously and under specific conditions, and still no one managed to change them immediately and completely. It is recognized as expedient to use in a comprehensive manner the experience of Sweden, Hong Kong, Singapore, Finland and Georgia in

Ukraine, the essence of which is not to completely eliminate corruption from Ukrainian society, but to minimize it and limit it to a certain scope. The positive use of such experience is the creation of the National Agency for the Prevention of Corruption and the National Anti-Corruption Bureau of Ukraine, but it is inexpedient to rely entirely on the said bodies, as practice shows.

Legal realization of the financial security of the state in the conditions of the economic crisis is realized by: neutralizing the influence of the world financial crises and deliberate actions of world subjects, shadow structures on the national economic system; ensuring the stability of the financial and economic development of the state; ensuring the sustainability of key financial and economic parameters; preventing the movement of capital abroad, including from the real sector of the economy; prevention of conflicts between the authorities of different levels regarding the distribution and use of the resources of the state budget and other budgets; effective attraction and use of foreign borrowing; prevention of crimes and administrative offenses in financial relations.

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**IDENTIFICATION OF
FACTORS OF FORCED
MIGRATION RISKS IN
CONDITIONS OF
MILITARY THREATS IN
UKRAINE**

Growth of the volumes of migration flows in Ukraine caused by the factors of exogenous and endogenous nature, in particular of political, economic and social character, are reflected in perception of migration activity as a certain type of social protection of population from the increasing risks in society. Therefore, migration becomes a natural manifestation and resource necessary to support or balance economic, demographic and even socio-cultural systems. In this regard, the perspective opportunities and meeting the needs reflected in the concept of “social and economic protection of migrants” are the resulting effect of the views, activities and coherence or cooperation of public, regional, local and international initiatives on social protection and security of migrants in terms of risks.

The country has realized the need to adopt the Law of Ukraine “On Foreign Labour Migration”, which in general terms defines the legal and organizational foundations of public regulation of foreign labour

migration and social protection of Ukrainian citizens abroad (labour migrants) and members of their families; provides the rights of labour migrants, in particular to decent work conditions, remuneration, rest and social protection (is regulated by the legislation of host country and international agreements, the binding nature of which is approved by the Verhovna Rada of Ukraine); and lays down the procedure of taxation of labour migrants' income. The Law becomes an important component of country's activity in the sphere of visa regimen liberalization with the EU [1]. However, the increasing migration activity of citizens in the context of Ukrainian national security priorities, which has gained the massive character, requires its institutional maintenance in the first place. It concerns the need to scientifically explain the nature and peculiarities of forming, territorial organization and development of migrants' social and economic protection as the system and to develop the advanced mechanisms of its maintenance, especially after the 2013–2014 political events. They led to annexation of Crimea and Donbas occupation and loss of 18 % of population and 20 % of the GDP in these regions as well as deprivation of considerable share of mining and processing industries.

It should be emphasized that the events in Donbas have resulted in huge *migration losses* of population from foreign migration unregistered by state statistics and forming of a new type of migration for Ukraine – emergence of *internally displaced persons* (IDP) in the country leading to redistribution of population, in particular the working age category among the regions. Total confirmed losses of Ukrainian population due to migration resulting from the conflict amount to 1.1 million persons. This number should also be supplemented with the losses from increasing intensity of temporary foreign labour migration transition into the permanent one. In such a way, the number of foreign labour migrants, who have not returned to Ukraine, grows at least by 200–300 thousand persons. Therefore, the overall migration losses of Ukrainian population unregistered by state statistics in 2014–2015 amounted to 1.3–1.4 mln. persons, the majority of which accounted for Donetsk and Luhansk oblasts [2].

The conflict situation in the East and partially in South regions was the result of insufficient policy of influence on crisis processes in the country and caused the emergence of the following threats:

- transforming of the conflict into the permanent one in terms of the status of its participants' professionalization;
- physical losses of civilian population (in progress, due to

emergence of frontal conflicts directly in the settlements);

- infrastructure destruction and a threat of technological disasters;
- increase of the threat of humanitarian risks in the Donbas region in the medium-term perspective;
- collapse of economy in the region, the threat of spontaneous social disturbances – social deprivation, threat of massive social marginalization, unemployment, destruction of social infrastructure, collapse of the system of social protection, etc [3].

It is worth mentioning that possible or specific actions, events or processes able to harm a person or social group, undermine their welfare and destroy natural, material and spiritual values are the *threats in social and economic sphere*. Excessive number of risks as well as growth of their display in cumulative effect turns the threats into the critically dangerous situation. Analysis and possible display of modern types of social threats can be caused by various reasons: social and economic (lack of food, catastrophic inflation, general unemployment, etc); political (dissatisfaction with government policy, suppression of democratic freedoms, emergence of political corruption); ethnical (violation of the rights of nations and national minorities, language problems, ignoring of historical and cultural values); religious (misunderstandings and conflicts between the representatives of various confessions); criminogenic (confrontation of crime groups) [4]. Taking into account the fact that *social risks* are the set (multiplicity) of conditions and factors that contribute to emergence of threats (deterioration of situations), which should be prevented by public migration policy (in this case through countering the massive leaving of working age population outside Ukraine by influencing the migration factors and improving of welfare in general), we have selected the *factors of risks by 5 types*: (geo)political, socio-economic, genuinely social, socio-cultural, socio-psychological, demographic (Table 5.1).

Mostly the risks are the factors that can adjust the change of social situation towards the deterioration. The following are the most risky factors of social tensions nowadays: the level of population density of a region with social contrasts; level of unemployment (qualitative and quantitative parameters); level of life of region's population by property census; availability of militarily prepared population that can be the recruitment units for criminal and extremist organizations; turnover of unregistered weapon in a region; development level of infrastructure and transport communications; availability of hazardous industries in a region; incoherent activity of public and executive authorities.

Table 5.1

Classification features of risk types and factor of their emergence

Type of risk	Factors of risk
Geopolitical	<ul style="list-style-type: none"> - emergence of external military threats - risk of violation of territorial integrity - low reliability of external security guaranties - corruption - obstacles to forming of a single civil identity - worldview geopolitical orientation of a migrant - risk of induced information danger - technological disasters - risk of the deficit of military staff - risk of illegal turnover and use of weapons - risk of social disturbances (protests) - risk of forming of conflict capacity (terrorism, extremism, separatism)
Socio-economic	<ul style="list-style-type: none"> - unfavourable job offers - emergence of the so-called «voluntary» unemployment among the IDP - loss of IDP labour capacity and productive capability - emergence of inter-professional competitive conflicts - increase of the number of deviant accidents and crimes - emergence of conflicts on the basis of income inequalities - tensions in socio-labour relations - risk of destruction of social infrastructure in a conflict region and overload of infrastructural objects in a host region-society
Social	<ul style="list-style-type: none"> - growth of passive consumption of social resources in a region - problems at the healthcare establishments while seeking the qualified medical assistance - low quality of public services when addressing the social services - problems with registering a child in a kindergarten or a school - risk of interrupted education (shortfall in educational services)
Socio-cultural	<ul style="list-style-type: none"> - emergence of linguistic misunderstandings - emergence of ethnical conflicts and international tensions - tension in terms of interfaith relations - deforming of socio-cultural relations - moral abuse, displays of xenophobia and social division - problems of segregation and marginalization of displaced persons - conflict of values (axiological disharmony) - risk of emergence of russification tendencies
Socio-psychological	<ul style="list-style-type: none"> - intense psychological situation among the colleagues - risk of mentality desocialization - risk of discrimination of personal freedom (political views, religion, etc) - risk of rights discrimination by sex, age, etc - risk of families' disruption
Demographic	<ul style="list-style-type: none"> - ekistics-demographic risks - critical number of migrants' localization - risks of physical demoreproduction

Source: developed by author

Therefore, the society of risk or its certain regions-societies become politically unstable and accordingly the confidence in existing political

institutes and organizations falls. Concentration of risks in such kind of society leads to universalization and globalization of risks, which can ruin even the national networks. Moreover, mainstreaming of risk is at the same time the beginning of its producing. In the developed countries of modern world, the social production of wealth is constantly accompanied by social production of risks. Accordingly, the problems and conflicts of wealth distribution in the retarded regions becomes more complicated due to problems and conflicts generated by production, defining and distribution of risks emerging in the process of scientific and technical activity [5].

It is worth mentioning that the risks are constantly produced by society, and this process is legitimate and takes place within the institutional structures in all spheres of human activity – economic, political, and social and in the sphere of migration. In such a way, it creates the “vicious circle”: the risk is so to say “consumed”, leading to accumulation and growth of risk “mass”, as far as the risk is not absorbed but accumulated in the course of consumption, thus generating the growth of risk critical mass [5]. Therefore, an important role in the concept of the society of risk is played by political and economic factors and influence of public policy on the key components of the society of risk in the process of reflexive modernization. Political and economic factors are the central ones for measuring of these threats. Political factor operates as the factor capable of consolidated actions in the global society of risk determined by ecological crises, global financial crises and terroristic threats [6].

Regarding the Ukrainian conditions, the social project of modern society of risk, which has always had peaceful security as the normative ideal, is acquiring clearly negative and protecting nature [7]. In other words, orientation at meeting new socio-protective needs changes into orientation at their self-preservation, and the system of usual values is replaced by the system of security society values.

The specific feature of such society lays, among others, in the fact that the risk is one of the aspects of decision-making process, in particular, the decision about the forced replacement of citizens, and the very choice among the options available is made in conditions of uncertainty and unclear consequences of replacement [8]. Development of two different approaches to resettlement and employment are the options regarding the forced migrants: for the persons, who are not eager to change their residing place, and for persons, who plan to come back to the place of their original dislocation (previous residing place) after

the situation is normalized. At the same time, the policy regarding the IDP should be directed at maintenance of the balance between the interests of host society, territories-recipients and creation of decent conditions of displaced persons' life and employment.

Because of the emergence of advanced social risks and threats in the activity of regional (territorial) migration systems, the following issues become of the utmost importance:

- complication of demographic situation, which is manifested in the further growth of urbanization level with depopulation of many areas (especially rural ones) and significant modification of resettlement system;

- domination of general openness of territorial social systems, in particular regarding the migration movement of workforce, which considerably influences the outflow (in other cases – inflow) of not only intelligent but also low-skilled staff into the coordinates of certain territories;

- local specifics of regions in manifestation of social, economic, natural-climate, cultural and historical-political factors and peculiarities of communities' social and economic life in conditions of decentralization and acquisition of extended authorities;

- level of passionarity, social and professional mobility and labour activity of population in different regions, which have been formed in specific historical and cultural conditions;

- peculiarities of ideological and cultural environment and mentality differences, which influence the residents' social and psychological condition and contribute to selection of the way to realize their living strategies, including the orientations of migration direction;

- interregional differences of social and economic development, which influence the residents' employment opportunities and receiving of incomes by them, often not commensurate with expectations;

- strengthening of financial and economic crisis with considerably limited social-protective resources, especially regarding the forced migrants.

Furthermore, availability and level of use of hidden capital in the host region-society is the competitive advantage of certain categories of displaced persons, and the intensity of housing purchase, development of self-employment in business and conducting of somewhat disharmonized way of life testify to that.

Therefore, methodological basis of identification of new social-migration risks and factors of their influence on the development of

regions in the focus of conflict situation in a country bring us to the conclusion that transformation into the “society of risk” is one of key features of Ukrainian society. Thus, usual living environment turns into the risky one. Basic social protection of migrants (social maintenance, social assistance, social insurance) as well as acceleration of forming of common values in terms of labour, human development, realization of human capacity and human relations will contribute to achievement of migrants’ security in the host society. Forming of the culture of permanent population tolerate attitude towards migrants will contribute to overcoming of linguistic barriers (studying of Ukrainian language as official and, if required, the native language of certain ethnical groups of migrants), and as the result – to the development of a single cultural platform of national civil identity. Language and cultural policy has to become the instrument of forming of citizens’ worldview, the way they perceive the world and their own identity based on democratic values peculiar to Ukrainian nation and Ukrainian civil society [9]. The development of the mechanisms of migrants’ integration into the host society will direct the policy on internally displaced persons towards the maintenance of balance between the interests of local communities and the need to create decent conditions for life and work of affected people.

In such a way, creation of IDP employment conditions and other forms of migration capacity realization (based on the selective approach) through introduction of migration processes’ monitoring by socio-economic and demographic indicators plays the most essential role in overcoming of major risks of forced migrants’ life. In the first place, it stipulates the use of migrants’ capacity in regional development programs (its adaptation to the needs of regional labour markets). However, the programs of integration (reintegration) for the internally displaced persons have to not only be directed at maintenance of employment for them, but also promote the social and economic development of local communities using the available human capacity of displaced persons: their considerably high social and territorial mobility, economic activity, intellectual and demographic capacity [10, p. 175].

In general, establishment of efficient migrants’ social integration into the host region shall eliminate the display of migrants’ integration risks – deviant, property related, protective, socio-mental, moral, corruption-related and nature protective in order to bring closer the views of displaced persons and local population and to establish better mental, value-based, behaviour and patriotic norms. Indeed, activation of

cultural continuum oriented at elimination (extinguishing, neutralization) of possible centrifugal attitudes and aspirations in terms of the country among some IDP part and prevention of local demographic crises in general due to migration factor will bring about the effect of increased region-society role in the development of a state as an open, integral and unitary social organism.

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**FACTORS OF
ECOLOGICAL AND
ECONOMIC
SECURITY
INTERACTION
WITHIN THE
FRAMEWORK
AND CONDITIONS
OF
GLOBALIZATION
OF THE REGIONS**

In today's conditions, more and more attention is paid to the theory and practice of economic security, the development of directions and mechanisms for its implementation in public policy. The transition of the Ukrainian economy to market-based regulatory methods has increased the uncertainty of economic development indicators, led to a decrease in the level of economic security in all spheres of society's activity, including environmental. The peculiarity of the current stage of Ukrainian society development in the context of limited investment resources to the environmental sphere of exploitation of environmentally “dirty” technology and technologies is the growing threat of the ecological crisis.

Environmental safety is a category that also characterizes the state of the national economy, which at the expense of state institutions ensures its steady growth, effective satisfaction of public needs, the freedom of business and business at the national borders, the protection of the environmental interests of domestic business entities on international level. The criterion for economic security is an assessment of the state of the economy: resource potential and the possibility of its development; level of resource efficiency; competitiveness; social stability, etc. [1]

Within the framework of economic security, ecological safety is a set of measures aimed at ensuring the environmental protection of individuals, societies and states; provides protection of citizens, society and nature from the negative impact of production on the environment.

The analysis of the researchers' views on the problem of relations between our society and the environment makes it possible to conclude that each historical period of time is characterized by an appropriate level of environmental safety. The reasons for reducing the level of environmental safety can be seen in the change of the type of interaction between nature and society. Social production the basis of all material life conceals the threat of human existence.

In order to obtain a detailed and comprehensive assessment of the ecological safety of the territory, a comprehensive analysis of the main factors posing a threat to this security has been made.

Studies carried out by the authors showed that the threats to environmental security can be classified in relation to the territory into internal (any objects of economic activity) and external (transboundary impacts of pollution); anthropogenic and natural sources of environmental hazard; natural spheres such as threats to the atmosphere, hydrosphere, lithosphere of the biosphere.

Within the framework of geotropic concept and on the basis of the allocation of the main characteristics of the ecosystems of the territory can be identified threats that cause violations of material, energy and information interactions in the natural environment. In Table 5.2 are given examples, to which types of threats are related different interventions of human economic activity in the natural environment.

In connection with the abovementioned provisions, can be given the following definition of the concept of environmental safety.

Environmental security of territory is a state of protection of the vital interests of the individual, society, environment of the territory from threats that cause violations of material, energy and information interactions in the natural environment. Environmental safety as an

economic category is a set of relationships between economic entities and the population of the territory in relation to the use of nature and the preservation of a qualitative state of the environment.

Table 5.2

Examples of threats to environmental safety, causing interference with the environment

Type of impaired interaction	Disturbance of material interaction	Disturbance of energy interaction	Disturbance of information interaction
Threats	Decrease of bioproductivity of living organisms		Manufacture of genetically modified products
	Disturbances of food chains of ecosystems		Reducing plant and animal species
	Disturbances of cycles of substances	Depletion of natural resources	Mutations of types of microorganisms

Aspects of the interaction of environmental and economic security are shown in Figure 5.1.

The main threat to ecological safety is the emergency situations of natural and anthropogenic types and the impact of the economic sectors on the environment. Implementation of threats to environmental safety will lead to crisis situations in the economy, ecology and society. The degree of depletion of environmental technology is one of the integral indicators of the level of environmental security of the territory. The impact of the depletion of environmental technology on the state of economic security can be estimated from the set of indicators.

Therefore, in the framework of the study when considering economic security from an environmental point of view, the task is to determine the environmental factors that affect the state of economic security of the region.

The results of the study can be used in the formation of the concept of sustainable development, as well as in the development of ecological and energy-economic programs for the development of regions.

Methodological approach to environmental safety assessment of the region

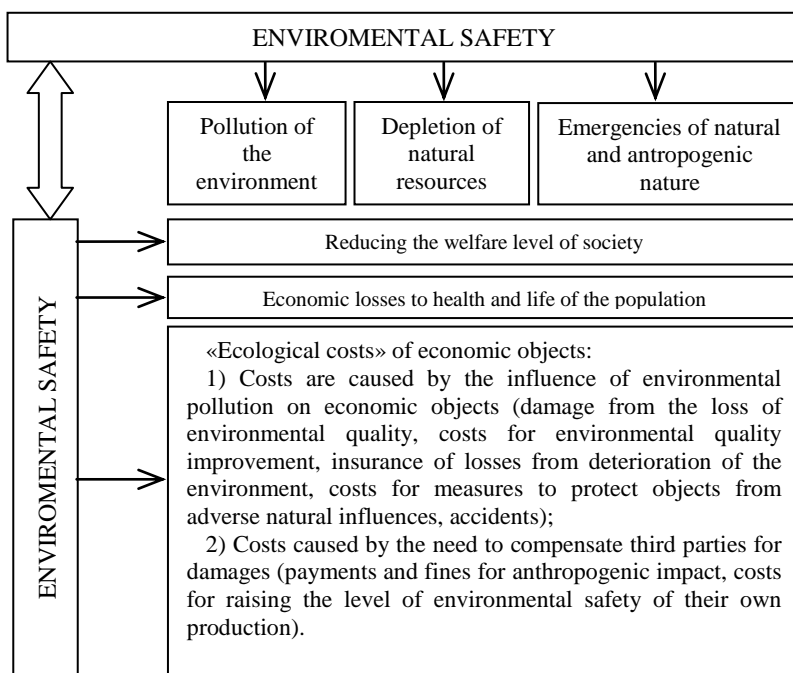


Figure 5.1 Factors of the interaction of environmental and economic security [2]

In the framework of the performed research (Scientific research work No. 01160000713, “Organizational and Economic Mechanism for Sustainable Development of Regions”), developed and tested methodological apparatus for diagnosing ecological and energy-economic security was, which allows to determine the level of environmental security of industrial regions and, comparing to existing approaches includes the calculation of environmental capacity, environmental technological capacity. Formed threshold values for delimiting of the basic state of environmental security.

The main indicator that characterizes the reproductive capacity of the environment may be the ecological capacity of the territory. The use as the basic parameter of environmental capacity is explained by the fact that when the ability of the environment to self-healing is lost, the economic system will not meet the main criteria. Based on these positions the degree of exhaustion of the ecological system will allow us to judge the level of environmental safety of the territory.

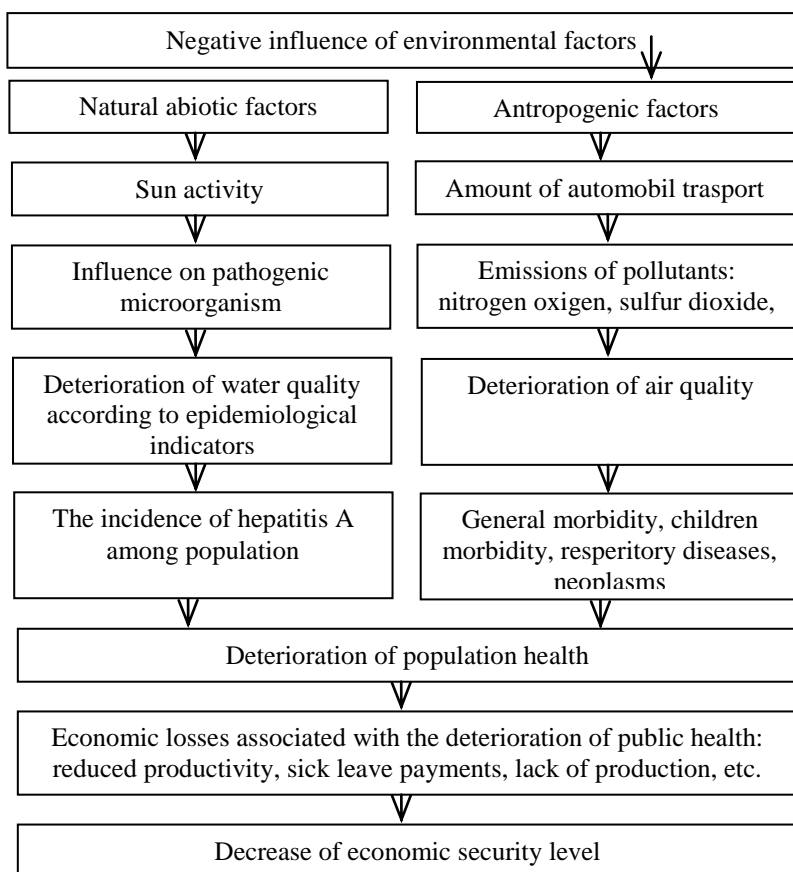


Figure 5.2 Influence of specific ecological factors on the economic security of the territory

The methodical approach to assessing the *ecological safety* of the territory is based on the following basic provisions:

1. In order to assess ecological safety, it is proposed to use a methodological approach based on the ecological characteristics of natural conditions aggregate and recipients of the territory, their sensitivity and endurance in relation to antropogenic interactions. In accordance with this approach, the ecological technological capacity of the territory is expressed as part of the overall ecological capacity of the territory, which is determined by the static maximum of natural variability of ecologically significant parameters of the system. This

approach is tested in practice, characterized by the availability of static information, which includes an assessment of the reproductive capacity of the natural environment.

2. Assessment of the level of environmental safety is carried out on the following key environmental parameters of the environment of the territory such as the quantitative characteristics of oxygen in the atmosphere, the presence of natural water and vegetation resources. Deviation of the characteristic composition of the medium (oxygen, water, vegetation) from the natural level of its oscillations is determined by the coefficient of variation, the value of which is selected taking into account the background level of pollution in the territory.

3. In order to assess the environmental capacity of atmospheric air, it is suggested to use an approach based on the determination of the annual volume of oxygen reproduction.

4. Comparison of ecological techno-capacity with the amount of depletion of environmentally significant substances in the natural environment gives a quantitative characteristic that allows us to assess the level of environmental safety. This ratio shows the degree of exhaustion of the biosphere. Therefore, it is proposed to name the coefficient, which estimates the volume of exhaustion of natural resources, the coefficient of exhaustion of environmental techno-capacity. The obtained calculations of the value of the coefficient can be compared or set within the threshold values of the change of the indicator. The boundary values make it possible to rank territories according to the level of environmental safety, which is important for conducting a comparative analysis of the territory at the regional level.

The authors' methodical apparatus for assessing environmental safety by the coefficient of depletion of the techno-capacity of the territory is proposed in the study. These methodical tools include not only the assessment of the ecological techno-capacity of the territory, but also the determination of the volume of depletion of environmentally significant substances in each sphere of the environment.

The level of environmental safety is calculated in the logical sequence shown in Figure 5.1.

Calculation of indicators of ecological safety of the territory is carried out for the region in three contaminated environments such as air, water and surface of the earth, for which the environmental capacity is determined.

For the first environment which is air, the environmental capacity (E_1) is determined based on the volume of oxygen reproduction, and is

calculated by the following formula:

$$E_1 = \Pi_B \cdot F_1, \quad \text{t/h} \quad (5.1)$$

where F_1 – the rate of multiple updating of the mass of oxygen, hour¹;
 Π_B – the volume of annual oxygen reproduction, t (calculated taking into account the area of biocenoses and their oxygen productivity by 1 km²)².

The ecological capacity of the water environment and the earth's surface (the main component of the biota) is calculated by the volumes of surface water streams and surface area, the content of the main ecologically significant substances in these environments and the rate of multiple renewals of water and biomass.

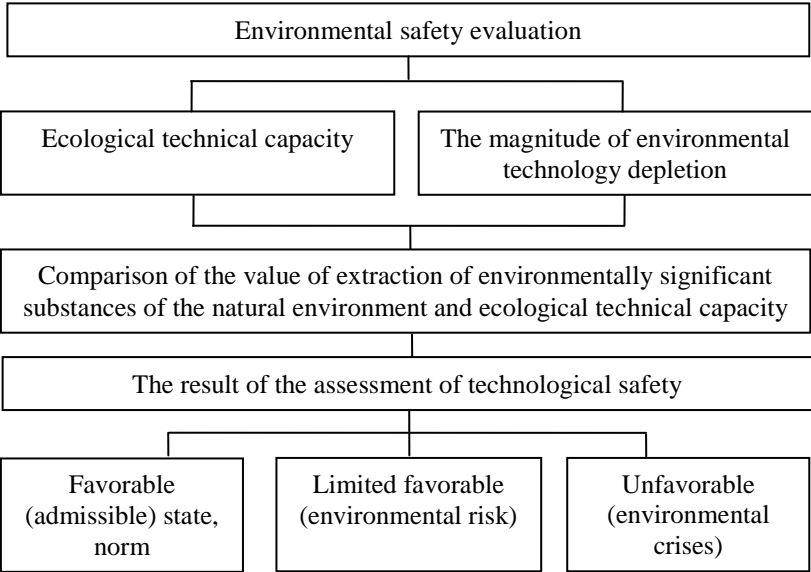


Figure 5.3 Block diagram of environmental safety assessment of the territory [2]

The level of ecological technological capacity (T_n) is determined by each specified medium:

$$T_n = E_1 \cdot X_i, \quad (i=1,2,3), \quad (5.2)$$

where T_n – ecological techno-capacity of the i environment of pollution, t/h.; E_1 – ecological capacity of the i environment, t/h.; X_i – coefficient of variation for natural vibrations of the content of the main substance in the medium.

The calculation of the amount of atmospheric oxygen depletion includes the annual indicators of emissions of pollutants from stationary sources and motor vehicles that bind oxygen, thereby reducing its amount in the atmosphere, for hydrogen objects, the value of extracting an environmentally significant substance of hydrogen resources is estimated by the magnitude of their irreversible consumption. For soil, the indicator of the depletion of environmental capacity can be the area of land that has been disturbed as a result of economic activity and cannot produce biomass.

Comparison of the amount of depletion of ecologically significant substances of the natural environment of the territory (U) and ecological techno-capacity (T) gives the value of the level of ecological safety of the territory proposed by the dissertation, to estimate the coefficient of depletion of ecological techno-capacity ($K_{depletion}$). Calculation of the coefficient of depletion of ecological techno-capacity is determined on the basis of each and every medium of contamination by comparing the technogenic capacity (potential) and the amount of extraction of resources of the i natural environment of the territory. In the case of consolidated safety evaluation area there is an integral factor depletion of techno-ecological capacity which is calculated as the sum of the coefficients' mediums which are weighted as index of contamination significance of each of the considered mediums.

Assessment of the level of the territory ecological safety

Condition	Norm (N)	Environmental risk (ER)	Environmental risk (ER)
Threshold values K	< 0,5	0,5 - 1	> 1

Approval of the methodology for assessing the level of environmental safety has been implemented for the Dnipropetrovsk region (Ukraine).

The calculation of the coefficient of depletion of environmental technology in each medium of pollution indicates that the priority problem for the territory of the Dnipropetrovsk region (industrial conglomerates Kryvyi Rih, Kamyanske, Dnipro, Nikopol etc.) is the depletion of environmental techno-capacity of the atmospheric air: $K_{depletion} = 6,95$. The amount of atmospheric oxygen extraction exceeds its ecological techno-capacity by 5,6 times.

The integral coefficient of depletion of environmental technology is equal to 3,3. The territory of the region is in the zone of the ecological crisis. This information provides an understanding of the fact that the environmental situation in the area is intense. Calculations on the level of environmental safety confirm conclusions drawn on the basis of (based on materials of the State reports about the state of the environment and the impact of environmental factors on health of the population of Dnipropetrovsk region) and the calculation data of other methods.

Estimated coefficients of depletion of environmental techno-capacity for each pollution medium and integral coefficient of depletion of environmental technology for Dnipropetrovsk region are presented in Table 5.3.

Table 5.3

The coefficients of depletion of environmental techno-capacity in the Dnipropetrovsk region (2010 - 2016)

Coefficients of depletion of ecological techno-capacity	Indicators
Atmospheric air	6,95
Water objects	4,45
Earth surface	4,18
Integral coefficient	5,19
The level of environmental safety	EC (ecological crisis)

In Figure 5.4 is shown the dynamics of coefficients of ecological techno-capacity depletion for the period 201-2016.

The methodology for assessing the level of environmental safety reveals priority issues in the environmental protection medium, it ranks the territorial entities according to the severity of the environmental situation. The results of environmental safety assessment are the basis for decision-making in the field of environmental safety management and the development of program-targeted measures for neutralization, understanding and elimination of threats to the ecological safety of the territory.

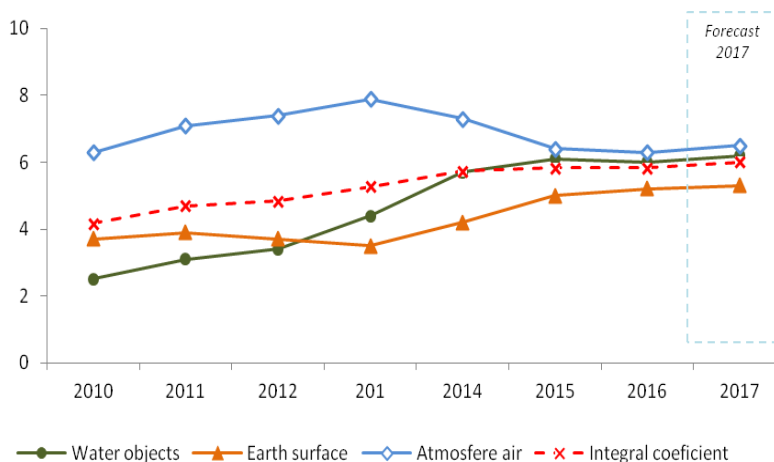


Figure 5.4 The dynamics of the coefficients of depletion of environmental technology for Dnipropetrovsk region for the period of 2010-2016 and the forecast for 2017

Having reviewed the influence of emissions of automobil transport on childhood morbidity, nitrogen oxides (M_1), sulfuric anhydride (M_2), solids (M_3) and hydrocarbons (M_4).

Each factor of influence is changed to nondimension form:

$$M_i(t) = \frac{V_i(t)}{V_i(t_n)}, \quad (5.3)$$

where $V_i(t)$ – the mass of emissions of i contaminants at the time moment t ; $V_i(t_n)$ – the mass of emissions of i contaminants at the time basic moment t_n .

Integral factor $M(K)$ depends on the weight of each factor K , defined by the expert (4). $M(K)$ is a time-limited function (5.5):

$$M(K) = \sum_{i=1}^n M_i(t) \cdot K, \quad (5.4)$$

$$\frac{dM(K)}{dt} = AM(K) - B(M(K))^2. \quad (5.5)$$

where A , B – parameters that determine the dynamics of the integral factor $M(K)$.

Childhood morbidity in a given area is a time-limited function. The larger the value of the integral factor $M(K)$, the higher the rate of growth of childhood morbidity:

$$\frac{dy}{dt} = A_1 y - B_1 y^2 + L_1 y M(K). \quad (5.6)$$

where A_1 , B_1 – parameters determining the incidence of morbidity among children; L_1 – coefficient characterizing the influence of $M(K)$ on y .

As a result, we have a system of two nonlinear differential equations (5.7):

$$\begin{cases} \frac{dM(K)}{dt} = AM(K) - B(M(K))^2, \\ \frac{dy}{dt} = A_1 y - B_1 y^2 + L_1 y M(K). \end{cases} \quad (5.7)$$

The reverse task – according to the statistical data, the factors are selected so that the curves could describe the statistical data in the range of years under consideration in the best way.

The results of the solutions of the dynamic equations system (5.7) on the territory were presented in the form of curves shown in Figure 5.5.

The result of the simulation is the equation in the canonical form and the prediction of children morbidity from emissions of polluting substances by automobil transport by 2017. With the co-operation of the pollutants under consideration, the incidence of children morbidity in the Dnipropetrovsk region by 2017 will be increased from 2190.4 up to 2827.5 per 1000 children.

The advantage of the proposed method of modeling the dependence of one value on the other one is that it is possible to construct a forecast for the development of the situation, taking into account the cause of the consequence.

The performed research allows us to formulate the following conclusions.

Threats to ecological safety can be classified in relation to the territories of the regions on internal (any objects of economic activity) and external (transboundary interregional impact of pollution); source of environmental hazard is anthropogenic and natural; natural spheres are threats to the atmosphere, hydrosphere, lithosphere and biosphere.

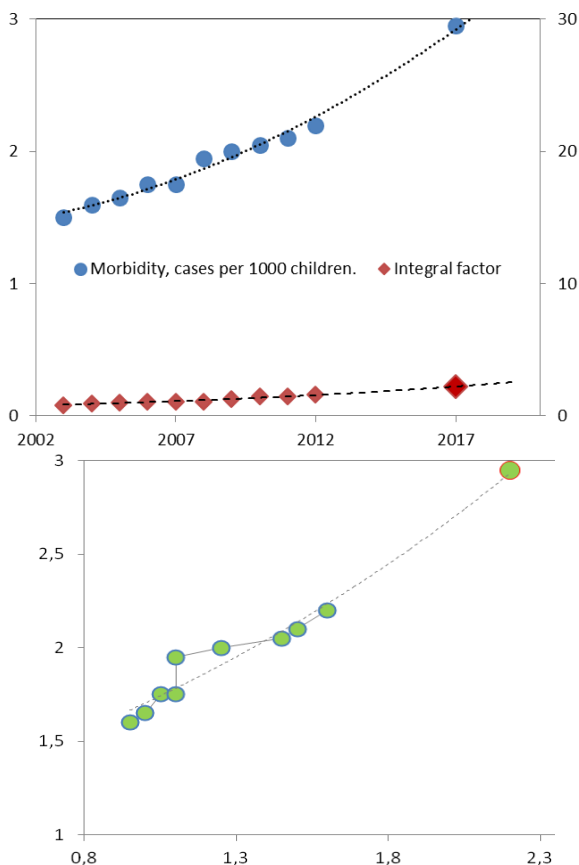


Figure 5.5 Results of simulation of the impact of pollutants emissions from automobil transport on children morbidity in the Dnipropetrovsk region: $A = 0,057$, $B = 4,762 \cdot 10^6$, $A_1 = 0,055$, $B_1 = 1,762 \cdot 10^3$, $L_1 = 0,019$. PR – point of forecast for 2017.

Within the framework of the geotropic concept and based on the main characteristics of the ecosystems of the territories, it is possible to identify the main threats that cause violations of material, energy and information interactions in the environment of the territories of the regions [3].

The tested methodological apparatus for diagnosing of ecological safety allows determining the level of environmental safety in conjunction with the factors of interaction of environmental and

economic security within the region, including due to the determining of the impact of specific environmental indicators on the economic security of a specific territory of the region. In this case, the environmental capacity of atmospheric air can be determined using a balance model of reproduction of atmospheric oxygen consumption based on the nature of the region's recreational industry.

Modified method for assessing the state of ecological safety, which includes the calculation of environmental capacity and the coefficient of depletion of environmental techno-capacity separately for each sphere of the environment and is tested on the example of the large agroindustrial region of Ukraine, Dnipropetrovsk region.

In general, it was identified the need for further research on the issue of socio-ecological, energy-economic security within the region's territories, including industrial regions.

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IMPROVEMENT OF PUBLIC MIGRATION POLICY IN THE SYSTEM OF COUNTERING THE THREATS TO THE NATIONAL SECURITY OF UKRAINE

An increase in social tension and armed conflicts in the world, the intensification of international migration processes (both voluntary and forced) exacerbates the problem of their regulation. Indeed, inefficient

migration policy not only causes the range of problems of social-economic and cultural nature, but also leads to emergence of real threats to national security of a country. Thus, poor border control, illegal migration and low level of immigrants' integration into the host society generate the following negative phenomena: rise in crime level, separatism, terrorist attacks, military aggression, etc. Moreover, intensification of emigration processes in the recent years results in the outflow of the most precious human capacity outside the country, leading to demographic losses and social and economic crisis. All the abovementioned problems are nowadays relevant to Ukraine and their solution emphasizes the need to improve the migration policy of our country.

Public migration policy is the target-oriented activity of central authorities on regulation of migration and integration processes and factors related to them in order to optimize the migration activity of population based on national priorities and harmonization of individual and social interests. It is intended to contribute to improvement of living standards and integrity of society in close interconnection with other types of policy and should correspond to the development needs of a state and an individual as a supreme value. Major role in forming and implementation of migration policy should belong to public structures created at various management levels, which accomplish their functions on the basis of means within their competence. Non-governmental institutes play a supportive role in regulation of migration processes in cooperation with state authorities or acting on their own.

As far as public migration policy is the component of both external and internal public policies, the scientific literature accordingly distinguishes external and internal migration policies. Processes of immigration, emigration and transit of population are the objects of external migration policy regulation (Figure 5.6). Internal policy aims to regulate the processes of internal migration of population, both voluntary and forced ones.

In order to understand the nature of state migration policy comprehensively and to define its major tasks we suggest allocating of one more important element regarding the external migration in the structure of internal policy. However, the problems related to this migration are solved mostly domestically. It is the matter of adaptation and integration of foreigners, who come to Ukraine for permanent residence or for a long-term period, the necessity to develop efficient mechanisms of returning Ukrainian citizens, who reside abroad, and

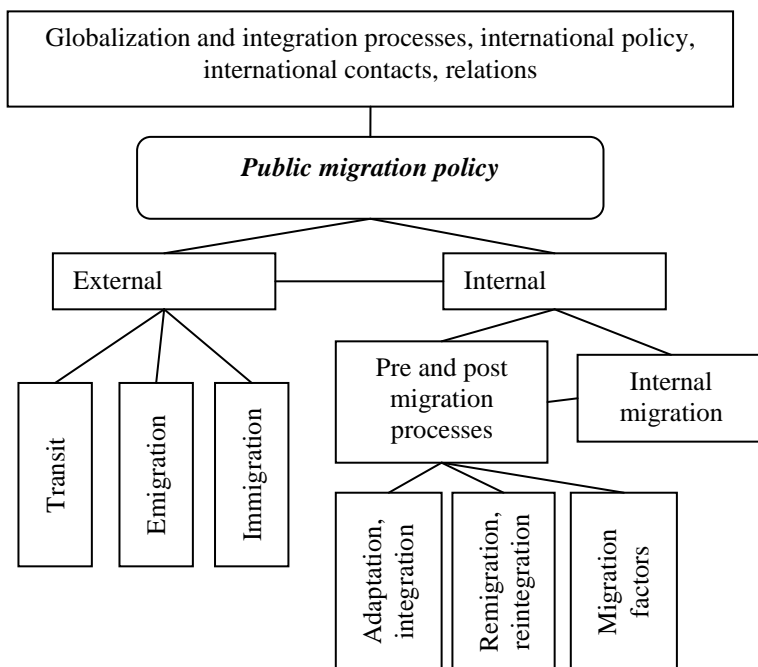


Figure 5.6 Structure of public migration policy

Source: elaborated by the author

assistance to their successful reintegration. Moreover, we believe that nowadays prevention of mass emigration of Ukrainian citizens abroad through influencing the factors that become the reasons of the latter is also an important task of migration policy.

Determining of objectives and goals is the key issue of any policy, including the migration one. However, the basic document that lays down the conceptual foundations of public policy in the migration sphere – the Concept of Public Migration Policy (as of May 30, 2011) – provides neither the concretely formulated definition of migration policy nor its objective. Although the preamble mentions what the document is directed at and in such a way its tasks are defined [1]. It is worth mentioning that the Concept was adopted in a hurry back in 2011, without the proper civil and expert discussion, therefore it requires further significant consideration and modernization.

Certain conceptually combined principles are crucial for

development and implementation of migration policy objective and tasks. In this context we support the approach of the eighth Secretary-General of the United Nations Ban Ki-moon (2007-2016), who emphasized in one of his speeches that: “major principle of migration policy is that each person should have an opportunity to live and be successful in the native country” [5]. Therefore, the fundamental and top priority task for both migration and other directions of public policy is to apply the principle of elimination of “pushing” factors and providing of decent standard of living for each member of Ukrainian society.

In our view, the objective of public migration policy in current conditions should include the following issues:

- ✓ protection of national interests, security and territorial integrity of Ukraine;
- ✓ countering the depopulation, reduction of migration costs;
- ✓ maintenance of legal and socio-economic protection of Ukrainian people abroad;
- ✓ stimulation of remigration, repatriation and circulating migration;
- ✓ creation of favourable conditions for integration of foreigners and internally displaced persons into the host society;
- ✓ prevention and countering the discrimination, racism and xenophobia;
- ✓ promotion of international integration and consolidation of Ukrainian society.

These aspects have partially been outlined in the 2025 Strategy of Public Migration Policy of Ukraine, which provides that such policy should “positively influence the consolidation of Ukrainian nation and state security, accelerate social and economic development of the country, promote the deceleration of depopulation paces and stabilization of quantitative and qualitative structure of population, meet the economy’s needs for workforce and correspond to international standards and international liabilities of Ukraine” [11]. In terms of the latter point of formulating the objective, it is worth mentioning that correspondence to international standards is rather the principle of forming and implementation of migration policy than its objective.

In addition to everything stated above, the following issue should be added to formulation of the objective provided by the Strategy: “...to promote more complete use of positive migration capacity and minimization of its negative consequences”. All the more so as further goals emphasize the need to reduce the negative consequences of

emigration from Ukraine and improvement of its positive influence on the country's development.

Moreover, we believe the following statement could be improved: "The Strategy is aimed at ...maintenance of transition from reaction policy ... to more active and target-oriented one". Instead, we suggest the following: "...transition from the policy of reaction to the emerging problems to the preventive policy through influencing the migration factors". It is worth mentioning that so far the document has not entered into force, because the Cabinet of Ministers of Ukraine has not approved it yet.

Therefore, the functional purpose of migration policy should go beyond the boundaries of regulation of migration movement, because it includes also the influence on migration factors. Thus, in addition to regulation, control, diplomacy, integration and compensation functions, the migration policy should also perform the function of prevention – the function of migration loses prevention. In general, its nature lies in improvement of employment opportunities, creation of favourable conditions in social and labour spheres, maintenance of appropriate level of labour remuneration and citizens' life within their country, preventing their massive leaving abroad.

Successful implementation of preventive function as well as the range of other functions of migration policy is possible in case of constant monitoring of public attitude towards migration and residents' needs and interests as well as determining of major migration causes. Moreover, the principle of migration policy complementarity is also important. Therefore, realization of its objective and implementation of major tasks is possible only in close interaction with other spheres of public policy.

Nowadays it is worth admitting that migration is the integral part of modern globalized world. It cannot be banned or avoided somehow. The major task of any state's government is to learn to regulate this process in order to maximize the positive effects of migration and minimize its negative consequences. Secretaries-General of the United Nations have been repeatedly mentioning the necessity to strengthen positive aspects of migration in their reports and speeches in the recent years. In particular, in late 2017 Antonio Guterres in the report "Making Migration Work for All" rightly noted that migration should be the source of prosperity and international solidarity [3].

Evaluation of possible consequences of public migration policy for main institutional units directly or indirectly involved in migration

processes is the precondition of development of efficient activities in terms of strengthening of migration positive aspects (Table 5.4). A migrant, his family, his country of origin and the host society are the units. One migration occasion can have different consequences for different parties-participants of migration processes. Onset of a certain migration effect depends on many factors. First of all, it depends on the very type of migration. For example, the country of migrant's origin suffers demographic losses in case of irreversible migration and gains the use of new knowledge and European values expansion of the reverse one.

In general, not only immigration but also massive emigration can impose a threat to national security. Therefore, inhibition of human capacity losses in a country should be the priority task of public migration policy implementation in conditions of intensification of Ukrainian population emigration abroad, depopulation and growth of migration capacity. The term "inhibition" translated from Latin (*inhibere*) means "to retain", "to slow down"» [10, p. 260]. On one hand, deceleration of losses in human resources can be maintained through public policy directed at reduction of emigration paces (Figure 5.7). It is necessary to find the factors of migration through monitoring surveys and then by influencing them to reduce migration capacity and to slow down and reduce the flows of leaving abroad. Statistical analysis and results of sociological surveys serve as an important precondition of development and implementation of relevant inhibitors (public policy measures), capable to efficiently improve the situation in migration sphere.

Inhibition of migration losses can take place both through reduction of emigration and activation of remigration and repatriation processes. In this direction an important task is to develop and efficiently implement the programs of migrants' encouragement to return to their Motherland and to establish closer cooperation with main countries-recipients of workforce from Ukraine.

In the recent years, more and more Ukrainian youth leaves abroad for higher education, and only a small part returns. For example, the latest sociological research confirm the fact that the third part of Ukrainian students seeks to be employed in Poland and every fifth of them plans to emigrate to the other country [7, p. 10]. It is actively encouraged by Polish immigration policy. Indeed, starting from 2014 the foreign graduates of Polish higher educational establishments have an opportunity to remain in the country to find employment [7, p. 6].

Table 5.4

Possible consequences of international migration of population

Institutional units	Positive consequences	Negative consequences
Migrant and his family	Solution of unemployment problem; Opportunity of self-realization; Acquiring of new knowledge, skills, experience; Expansion of the circle of acquaintances, cultural enrichment; Improvement of financial situation and quality of life	Loss of qualification (if the job does not correspond to specialization); Declining health (in case of overtime hard work in hazardous conditions); Social orphanhood often leading to deviant behaviour of children; Worsening of family relations, family breakdown;
Migrant's country of origin	Reduction of unemployment, reduction of tensions at the labour market; Reduction of poverty; Improvement of effective demand, which fosters economy development; Investment in various social spheres; Expansion of foreign experience, European values, norms and labour culture; Expansion of national culture and information about the donor country in the world, creation of its positive image; Forming of social networks, promoting trade relations and creation of subsidiary enterprises, etc.	Demographic losses (in case of irreversible migration); Loss of the most competitive productive workforce, «brain drain»; Costs of training of specialists, who further work outside the country; Shortfall in Pension and Social Funds contributions (in case of illegal migration); Growth of demographic burden (in case of returning of retirement age migrants)
Host country	Meeting the need for workforce; Savings in the preparation of specialists; Improvement of demographic situation (in case of irreversible migration); Growth of society's innovative capacity due to diversity of its structure	Reduction of labour costs; Changes in the national structure of population; Expansion of new standards of culture, norms and customs; Social disintegration; Emergence of social tensions; Alteration of social order, growth of crime level and terrorist threats

Source: elaborated by the author on the basis of sources [2, p.178-179; 9, p.13-14]

Such situation actualizes the need to develop specific programs on returning of talented youth, which were widespread in the 60s years of the XX century in Turkey, India, South Korea, etc [4, p. 24]. However, the focus should not be placed only on material inhibitors, and the role of moral and spiritual ones should not be underestimated. For example, the well-designed informational policy of a state (internal and external) is of particular importance, as well as educational and cultural activities for pupils and students and patriotic education of young generation, etc.

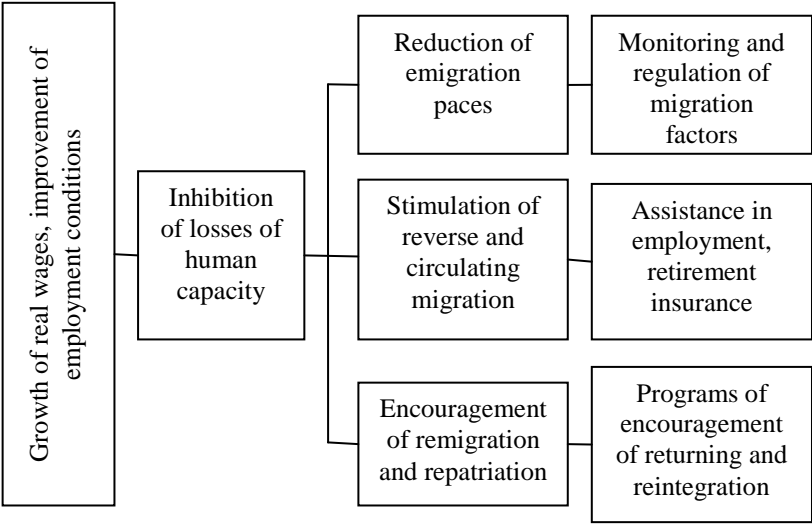


Figure 5.7 Inhibition of losses of human capacity and ways of its maintenance

Source: elaborated by the author

Stimulation of reverse and circulating migration is one more important way to slow down the paces of migration losses. Circulating migration stipulates the temporary stay abroad, repeatable migration trips during a certain period of time, voluntary nature and legality [6, p. 97]. The concept of circulating migration took an important place in forming of Common EU Migration Policy back in 2005. As far as circulating migration takes place in accordance with international agreements (controlled and organized), it is seen as an efficient alternative to illegal migration [6, p. 97]. Forming of circulating migration model in the first place stipulates the following: concluding of

relevant agreements with countries – recipients of workforce; improvement of retirement insurance system for labour migrants along with the countries of migrants' employment; establishment of a system of closer cooperation with migrants during their stay abroad.

On the other hand, efficient social and economic policy of a country should also promote implementation of one of the most important tasks of migration policy. In particular, European experience testifies to the fact that improvements in the sphere of human rights protection and overall economic situation of the country – donor of workforce automatically contributes to return of labour migrants to their Motherlands [8, p. 137]. Therefore, growth of the level of real wages, improvement of opportunities to find employment on national market, creation of favourable environment for entrepreneurship development, etc can not only slow down the paces of human resources' outflow outside the country, but also encourage the return of long-term labour migrants.

Thus, improvement of regulative basis is primarily an urgent direction of public migration policy improvement in Ukraine. It concerns in the first place the significant refinement of existing Concept of Public Migration Policy and adopting it in the new version, as well as amendment and adopting of the Strategy of Public Migration Policy of Ukraine. Moreover, it is important to provide realization of already existing legal norms regarding migration, protection of migrants' and foreigners' rights in Ukraine and strengthening of the rule of law in general.

The mechanisms that could provide the reversibility of migrants flows require an additional research. Moreover, nowadays the problems of integration of immigrants and internally displaced persons in the host regions are of urgent importance and underresearched. Therefore, these issues constitute the perspective for further research on the problems of improvement of public migration policy in Ukraine.

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**STATE
REGULATION
AS A
MECHANISM
OF SECURITY
OF ECONOMIC
SECURITY OF
THE STATE**

In the national security system, economic security provides well-defined functions, carries a significant functional load. Its essence lies in the fact that it is the material basis of national sovereignty and determines the real possibilities for securing other types of security. That is, economic security is the basis for the functioning of all its other elements that are part of this system (military, technical, food, environmental).

In generalized, synthesized content, national security is viewed objectively as the ability of the state to respond in a timely manner to internal and external destabilizing factors that manifest themselves in the form of economic, social, political, military and other threats, the presence of which can lead to profound socioeconomic upheavals and violations the integrity of the country. Since the security of the state in all its forms is realized through appropriate state financing, the basis of which is the gross domestic product, the most important component of it is economic security. It is characterized by such a state of the national economy, which makes it possible to maintain resilience to internal and external threats, ensures the competitiveness of the state, its independence from the external environment and economic welfare of the population.

Problems of economic security of the state were investigated by foreign and domestic scientists – O.I. Baranovsky, V.M. Heyets, V.V. Gubsky, M.M. Yermolenko, V.I. Kirilenko, P.V. Melnik, V.K. Senchagov and others. Today, security has become the same commodity as oil, gas, metal and information. There is demand for it, and it is quite significant. In relation to the level of development of modern market relations and the environment in the country, the greatest demand in the security market is used to provide physical and technical protection services. However, with the establishment of the market for such services, the demand for these types of security will be narrowed, and demand for technology and techniques for protecting trade secrets, information security services, and risk protection in commercial activities, that is, the specific skills of counterintelligence, intelligence, and commercial security analyst analysts».

In the economy, the benefits are, at first glance, accessible to the general public, because they satisfy certain needs and are not worthy of the public. These include the so-called public goods, one of which is economic security. The problems associated with public goods, for the most part, are the basis for state intervention in a market economy. Economic policy and state interference in the provision of public goods are needed first and foremost to compensate for the ineffectiveness of their production.

The main national interest is the sustainable development of the economy and the welfare of Ukrainian citizens. Ensuring national interests and economic security are the most important functions of the state, the realization of which is intended to strengthen the position of the international community. National Security of Ukraine as a state of protection of the vital interests of the individual, society and the state from internal and external threats is a necessary condition for the preservation and enhancement of spiritual and material values.

In the very first approximation, the country's economic security means the protection of all levels of the country's economy from dangerous actions, which may be as a result of the deliberate influence of any factor, or the spontaneous influx of market forces. Such actions, which lead to deterioration of the economic state of the country to a critical level, can be considered dangerous. The concept of economic security is closely linked to the notion of national security. Since the economy is one of the vital aspects of society's activity, the notion of national security necessarily involves a reliable protection of the economy in the event of possible external or internal threats. That is

why the economic security in the national security system should be the leading place. After all, economic security is the foundation, the basic basis on which other types of security are based in all spheres.

Among the most acute problems of the present in the field of providing national security in general, and economic, in particular, highlight: significant strengthening of financial security and maximum improvement of the investment climate; achievement of real economic growth and formation of an effective system of social protection of the population; increasing labor-resource safety; raising the level of food security of the state; creation of reliable guarantees of technogenic, ecological and technological safety, development of scientific and technical potential; strengthening of energy security; provision of information security of the state; deepening of the integration relationship; raising the level of competitiveness of the state taking into account national interests in all components of foreign economic policy.

The generalization of the opinions of scientists and experts on the sources of threats to economic security makes it possible to argue that the main threat lies in the absence of a targeted policy of state regulation of economic processes in the context of the implementation of the declared strategies of socio-economic development of the country. The decisive factor in conducting economic reforms should be the combination of a pragmatic policy of protecting national interests with a constructive course on the welfare of the general population. The material basis of this process should be the revival and accelerated development of promising sectors of the national economy in the presence of constructive programs for restructuring the economic complex of the country.

In the strategic plan, economic security is guaranteed only by a competitive economy. Instead, there is now a tendency to implement only tactical measures on the socio-economic development of the economy. This state of affairs is mainly due to factors of an objective nature, but it is not possible to reject the subjective factors.

It is also important to develop a system of economic indicators that would provide a quantitative assessment of the country's socio-economic development. They need to be added to the current statistics. In particular, indicators of Ukraine's economic development are reflected in the Bulletin of the National Bank of Ukraine and on the official website of the NBU on a monthly basis: macroeconomic indicators (GDP, consumer price index, capital investments, budget revenues, budget expenditures, budget deficit); indicators of monetary

policy of the NBU (discount rate, refinancing rate, etc.).

Thus, we can say that economic security is a dynamic category, which is constantly moving and is modifying under the influence of a huge number of socio-economic, political and socio-cultural factors.

Proceeding from the priority national interests and threats to the country's economic security, measures of the state policy of economic security covering the scientific and technical, economic, social spheres, as well as politics, military, ecological, informative spheres are provided for ensuring the overall national security of the country.

The criticality of the current economic situation is that either destructive processes will become irreversible and lead to a loss of statehood or, at best, provide Ukraine with the role of a secondary state and raw material appendage of highly developed countries, or will manage to stop negative processes, achieve economic growth and a decent place in the world.

That is why, in our opinion, the appropriate and effective mechanism for ensuring economic security of the state is the state regulation of these processes. In particular, it is a modern threat to the country's economic security – money laundering, shadow economy, corruption, etc. Consideration of these threats requires detailed and developed consideration, therefore we will focus our attention, namely on state regulation as the main mechanism for providing economic security.

The theory of state regulation of the economy proclaims the need for a systematic approach to the choice of means and methods of influence of the state on subjects of economic relations. Adjustments are subject to complex processes of vital activity of society, which cannot be effectively influenced by individual levers or any selective, unbalanced combinations. The effectiveness of state regulation is increasing if these levers are used not by chance or under the pressure of groups of special interests and conjuncture, but systematically, based on long-term goals and current tasks of socio-economic development.

The system approach involves the integration into a holistic system, firstly, elements that form the strategy of socio-economic development, and secondly, the elements that form the subsystem of the regulators.

Strategic benchmarks and specific conditions for socioeconomic development, associated with changes in the market conditions, determine the use of a whole arsenal of methods of state regulation of the economy.

The question of the economic security of the state does not remain beyond the attention of certain parts of the state leadership. In particular,

the Ministry of Economic Development and Trade of Ukraine together with the Mission of Ukraine to NATO and the NATO Liaison Office in Ukraine is organizing *meetings of the Joint Working Groups* involving representatives of the Ministry of Defense of Ukraine, the Ministry of Foreign Affairs of Ukraine, the National Institute for Strategic Studies, and also the International Secretariat of NATO and a number of non-governmental foreign organizations. This suggests that the problem of economic security, security of energy infrastructure and energy security is global in nature, and therefore its solution is one of the most important tasks of the overall security and economy of the international organizations.

At the meeting of the Ukraine-NATO Joint Working Group on Economic Security (March 2017), the delegations of Ukraine and NATO noted that holding meetings in the framework of the NATO-Ukraine Joint Working Groups on economic security is an important measure of practical cooperation between Ukraine and the North Atlantic Treaty Organization. The resumption of SRGEB is part of the Comprehensive NATO Assistance Package for Ukraine, endorsed by the NATO-Ukraine Commission Summit in Warsaw on July 9, 2016. During the group discussions were made on proposals for further activities in the areas of information security, concerning financial and price aspects. Subsequently, Ukraine and NATO plan to hold seminars on budgeting, restructuring of the defense industry, planning and management of national defense programs, and economic security. This will allow Ukraine to continue to receive NATO advisory assistance and take on the best practices of leading countries.

At the same time, in parallel with the issue of economic security, attention is paid to the national security of Ukraine. In particular, the Decree of the President of Ukraine dated *May 26, 2015, No. 287/2015, approved the National Security Strategy of Ukraine*. It defines general principles, priority goals, tasks and mechanisms for protecting the vital interests of the individual, society and the state from external and internal threats.

In the Strategy of National Security of Ukraine, for its economic component, the main goal is formed through the criterion of the accepted level of ensuring economic security. This criterion is a complex indicator integrating the level of competitiveness, the ability to maintain sustainable development, the state of productivity of production and employment, which, in turn, is the result of a generalization of the aggregate of indicators that are formed at the

appropriate levels of the tree of the goals hierarchy. The strategy outlines the priorities and directions of the state's activities in the field of national security. The key to ensuring an acceptable level of economic security is improving the investment climate, activating innovation activities, reforming the tax system and carrying out land reform.

Also, in order to determine the conceptual foundations for the formation of an effective and effective mechanism of public risk management aimed at preventing and minimizing the consequences of the potential negative impact of both external and internal factors, the Cabinet of Ministers of Ukraine, *on August 15, 2012, by its order No. 569 approved the Conception of ensuring the national security of Ukraine in the financial sector*. The implementation of the proposed measures in the Concept will ensure protection of the national interests of the state in case of emergence and deepening of threats in the financial sphere, development of the mechanism of public risk management in the financial sphere and minimization of the consequences of global threats in case of their occurrence, which will promote balance of the financial sphere and ensure the effective functioning of the national economy and economic growth of the state.

The practical maintenance and effectiveness of ensuring state security in modern conditions depends to a large extent on the application and scientific approaches to the problems of this area. Large-scale studies in the field of economic security of the state led the West to create a new science, called "economic security of state", that is, the science of economic security. The essence of ecosystems is that it is the basis for any other trends, manifestations and branches of economic security of the state, in that due to the accumulated knowledge of this branch, it is possible to predict the effects of external or internal actions in order to reduce their possible negative or increase the positive impact on development of the state.

In order to improve the legal and organizational framework for preventing and combating corruption, *on April 29, 2015, the Cabinet of Ministers of Ukraine approved Resolution No. 265 "On Approval of the State Program for Implementing the Fundamentals of State Anti-Corruption Policy in Ukraine (Anticorruption Strategy) for 2015-2017"*. The purpose of the Program is to create an effective national anti-corruption system based on new principles for the formation and implementation of anticorruption policy.

Also, the Government of Ukraine approved the Law of Ukraine

dated 14.10.2014 No. 1698-VII *“On the National Anti-Corruption Bureau of Ukraine”* which defines the legal basis for the organization and activities of the National Anti-Corruption Bureau of Ukraine. In the case of the city, the National Anti-Corruption Bureau of Ukraine is a state law enforcement agency, which is responsible for preventing, detecting, terminating, investigating and disclosing corruption offenses attributed to its jurisdiction, as well as preventing the commission of new ones. The purpose of the National Bureau is to counter the criminal corruption offenses committed by senior officials authorized to perform state or local government functions and endangering national security.

In addition, the Law of Ukraine dated 14.10.2014 № 1700-VII *“On Prevention of Corruption”*, which defines the legal and organizational principles for the functioning of the system of prevention of corruption in Ukraine, the content and procedure for the application of preventive anti-corruption mechanisms, rules on the elimination of the consequences of corruption offenses, was approved. Also, this legal document allows the introduction of a modern mechanism of financial control over the state of civil servants – the declarations will be filed electronically, made public in an open register, and will also be subject to an independent audit. In the event that the official’s life clearly does not correspond to his income, it is envisaged to carry out a detailed examination of both the incomes and expenses of such official, as well as bringing him to account, if facts of illegal enrichment or commission of another corruption offense are confirmed.

Also, the list of legal and regulatory components of economic security can be supplemented by the following:

1. Decree of the President dated October 14, 2014 № 808/2014 *“On the National Council on Anti-Corruption Policy”*;

2. Resolution of the Cabinet of Ministers of Ukraine dated September 4, 2013 No. 706 *“Issues of Prevention and Detection of Corruption”*;

3. Law of Ukraine dated April 7, 2011 No. 3207-VI (Revision of 01.05.2016) *“On Amendments to Certain Legislative Acts of Ukraine on Responsibility for Corruption Offenses”*;

4. Decree of the President of Ukraine dated October 5, 2011 № 964/2011 *“On the priority measures for the implementation of the Law of Ukraine” On the Principles of Prevention and Combating Corruption”*;

5. Order of the Ministry of Justice of Ukraine dated January 11, 2012, No. 39/5 (Ed. 03.07.2015) *“On Approval of the Regulation on the*

Unified State Register of Persons Who Made Corruption Offenses”;

6. Order of the SCFM of Ukraine dated 23.12.2013 No. 152 (as amended in accordance with the orders of the SCFM of April 14, 2014 No. 51, dated 10.10.2014, No. 133 and dated July 13, 2015 No. 91) “Some issues of prevention and detection of corruption in the State the Financial Monitoring Service of Ukraine”;

7. Order of the Ministry of Justice of Ukraine and the Ministry of Economic Development and Trade of Ukraine dated September 30, 2013, No. 2055/5/1153 “On the National System for Assessing the Level of Corruption”, etc.

Thus, on the basis of the foregoing, one can say that the issue of economic security is not left to the attention of both authorities and scientists. To do this, major steps are being taken in the legislative field, in the scientific search for new means of creating the country’s economic security, or in improving the existing means of combating corruption, money laundering, the shadow economy, etc. That is why the state should continue to worry about creating a market for economic security services. The political and economic prerequisites for the security of the national economy should create an atmosphere of functioning of the national economy without such shameful phenomena as corruption, bribery, raiding and other economic crime.

The globalization of the world economy needs to be strengthened by anti-corruption efforts. For international investors, the need to give a bribe and deal with official extortion is equivalent to additional taxes, but, unlike the official tax, corruption does not bring tax revenue to the state. Reducing the level of corruption is more effective by improving the country’s economic situation than reducing taxes, because it does not reduce government revenues. Corruption, in addition to reducing economic growth, greatly increases the likelihood of macroeconomic instability in a globalized environment. The gap between countries that can manage corruption and benefit from globalization is expanding, and those that not only do not do so but are also exposed to great threats from the negative aspects of globalization, such as the volatility of international capital flows or the monetary and financial crises. That is why, for the further development of the state, it is necessary to counteract corruption and identify in a timely manner the factors that undermine the stability, socio-economic security of the state. This question is important for social progress, normal life and the prevention of other challenges and threats.

Therefore, today, as before, we face an extremely important issue:

ensuring economic security of Ukraine, which is one of the most important national priorities, and requires the attention of representatives of power structures, political parties, academics, the general public, and also serves as the guarantor of Ukraine's state independence, a condition for its progressive economic development and the growth of welfare of citizens.

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CURRENT STATE AND PROSPECTS OF DEVELOPMENT ECONOMIC SYSTEMS IN THE AGRARIAN MARKET

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COMPENSATION OF RISKS IN THE FINANCIAL SUPPORT OF THE INNOVATIVE PROCESS OF AGRO- INDUSTRIAL PRODUCTION

The experience of the leading countries in the field of financial support of innovation activity shows the lack of organization of the policy of stimulating innovation processes in Ukraine. As a result, the current economic situation is characterized by low level of use of scientific knowledge, extremely slow growth of innovative potential.

This problem concerns the whole economy and is confirmed by the calculations, which testify to the unsatisfactory correlation between the amount of expenses for scientific and technical activities in Ukraine and the volume of its results transformed in the innovation, which is 1: 1,06, in comparison with the same indicator in foreign countries 1: 10.

Achieving the level of financing of highly developed countries and ensuring proper economic development requires the reorientation of the domestic economy to the knowledge economy with elements of understanding and spreading the risks of innovative processes without the risky agrarian sector of the Ukrainian economy.

The innovation process is the basic precondition for the economic development of both the country and the agro-industrial complex, since agro-industrial production plays an important role in the economic development of the national economy of the country. The agroindustrial complex of Ukraine has a high degree of complexity of the organizational structure, various forms of scientific and technical and innovation activity, heterogeneous problems and directions of research activities having personal, regional, industry characteristics, as well as

considerable duration of research. The current state of innovative activity in the agro-industrial complex is characterized by a disunity of management at the state and regional levels.

The choice of managerial actions in the formation of an effective system of financial provision of the innovative process of the agro-industrial complex requires the construction of an effective system of management of innovation risks, reflecting the functions, special features, properties inherent in this group of risks and methods of influencing them. The management process should be of a long-term nature and be carried out continuously, involving all subsystems of the agro-industrial complex, increasing the quality of management with the entry to each new level by increasing the efficiency of management of innovation risks.

The risk of an innovation process is a type of economic risk that has a dialectical objective and subjective structure and characterizes the likelihood of rejection of the actual result of innovation activity from the planned consequence of the variability and uncertainty of the economic environment. On the one hand, it acts as a deterrent to innovation, as it has a certain likelihood of getting a negative result of the innovation process. On the other hand, it is a powerful incentive to outperform competitors and gain market benefits.

Providing a certain predictability in the innovation process is one of the most difficult problems, because often quite significant costs can give zero result due to significant risk, since risk is defined as a state of knowledge when one or more variants are known for each alternative and when the probability of realization of each result is known to a person, the decision maker. Proceeding from the fact that the inherent characteristic of innovations is an increased risk, the primary task of any innovative-active subject of the agrarian sector is risk management.

Risk management should be integrated into the general economic process. It is important not only to manage risks, but also periodically review the measures and means of such management.

The management of the risks of the innovation process must be carried out continuously, taking into account that the internal processes of the economic systems of the branches of the agro-industrial complex occur at different speeds and under different schemes under the influence of a rapidly changing macro- and micro-environment. At the same time, in order to ensure an effective innovative development of the agro-industrial complex, management must take into account all the features of innovation risk. In this case, management of innovative risks

is a complex of measures aimed at reducing the impact of negative environmental factors and the choice of such an alternative to innovation development, which will lead to the effective and safe implementation of innovations.

The main factors of the macro level that have a significant impact on the innovation process are: scientific and technological development; economic condition; political and legal situation; social status; ecological state.

Micro-level factors – financial institutions; competitors' consumers; suppliers; intermediaries internal factors are the strategy and type of activity; financial resources and their use; technology and equipment; quality and level of staffing; management structure.

Identify the priority of a factor is impossible, because they are related: the change of one factor may lead to change of others, and therefore their influence on the level of innovation risk is interconnected. Factors of the external and internal environment influence both the probability of occurrence of innovation risk, and its level and duration in time.

The impact of macro-level factors on the risk of an innovation process is the threat of unfavorable conditions for innovation in general. One of the main factors of the environment during the implementation of the innovation process is the development of the scientific and technological process, the low degree of which leads to the moral aging of technologies and equipment, management methods and sales, products, etc. As a consequence, there is a significant risk in the implementation of innovations.

One of the factors of external uncertainty is the distortion of information at the stage of its collection. In particular, this problem may be due technically – due to the limited accuracy and analytical capabilities of the equipment. In this area, an applied theory of measurements is actively developing, according to which the information is subsequently taken into account with the errors that limit the range of uncertainty. The emergence of uncertainty at the stage of gathering information may also be due to the peculiarities of methodological support. The most obvious problem is manifested in the conduct of sociological and marketing research, when the fact of gathering information can cause its distortion.

The generalization of literary sources enables to propose the following algorithm for the process of risk management of the innovation process in the agroindustrial complex (Figure 6.1).

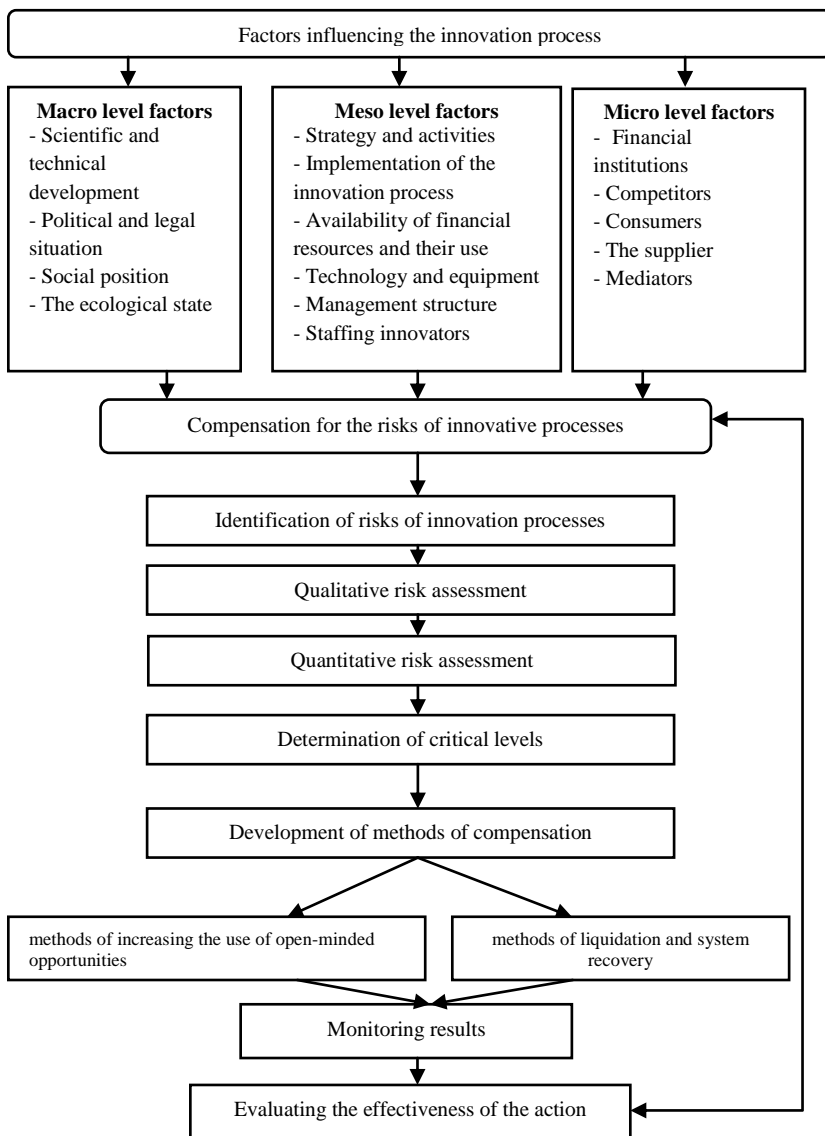


Figure 6.1 The algorithm of compensation of risks of innovation process in agroindustrial complex

The innovation activity of the agro-industrial complex is significantly influenced by the state of economic processes taking place in the country and in the world. Unfavorable changes in the economic conditions in the local, regional, sectoral, national, international markets, falling consumer purchasing power, rising prices, inflation, devaluation, etc., cause a significant level of risk, as well as its long-term nature. Significant influence on the level of innovation risk has an economic situation in this industry, therefore, first of all, it is necessary to take into account the changes that occur in it.

The imperfection of the political and legal environment: legislative, executive and judicial systems, the credit and financial system, political rights and guarantees increases the degree of innovation risk. The impact on the level of innovation risk of legislation and government bodies is controversial. On the one hand, they organize the innovation activity, but, on the other hand, for the legislation regulating the activities of enterprises, characterized by mobility, and sometimes uncertainty. And this can lead to unexpected changes in terms of investment, which create unfavorable conditions in the innovation activity of enterprises.

The process of managing innovation risks should be based on the following basic principles: awareness of risk taking, manageability of the risks taken, the ratio of accepted risks to the level of profitability business transactions, correlation of accepted risks with possible enterprise losses, time factor accounting, enterprise strategy accounting in the process of risk management, accounting for the possibility of transferring risks to third parties.

Particular attention is required to study the peculiarities of the impact of economic risks on the course of innovation processes in the agroindustrial complex.

In this aspect, it should be noted that Ukraine possesses all the necessary natural and climatic resources that are capable of ensuring the high development of agrarian production and become the leading producer and exporter of agricultural products in the world.

The change in the level of innovation risk in the agroindustrial complex is influenced by social factors such as contradictions in the interests of various social groups, worsening of the demographic and social situation: a significant differentiation of the population by income level, a decrease in the quality of life, social insecurity, the share of the population of working age, etc.

The peculiarity of innovative activity in the agro-industrial complex

is that the degree of innovation risk increases rapidly with the possible negative impact on the environment of innovation production or innovation product.

Macro level factors are practically uncontrolled, may be caused by a mass of random events and events of a probabilistic nature, have a direct or indirect effect on the level of innovation risk, which can only be minimized when effectively managed.

Negative influence of factors of a micro level manifests itself as a complication of the conditions of implementation of innovation activity.

The success of innovation in the agro-industrial complex has a high degree of uncertainty, which raises doubts about the expediency of investing. First of all, for investors, the main thing is to maximize profits with minimal risk, so it's most difficult to get the required amount of investment for pioneer innovations, where the degree of innovation risk is the highest.

Active opposition of competitors, especially of agribusinesses that are developing intensively, increases the level of innovation risks. As a result of competitive pressure, unstable and weak producers will have to leave the market. Thus, competition creates a mechanism of economic competition, forcing entrepreneurs to analyze their economic strategy. The more competitors in the market, the greater the likelihood of new strategic initiatives. Competitive struggle also intensifies if demand for goods, services grows slowly, because agribusinesses need to fight for a market niche. This struggle stimulates the emergence of new strategic ideas aimed at conquering consumers of goods and services.

The lack of acceptance by consumers of new products, especially if it differs sharply from the traditional ones, as well as possible changes in consumer needs and preferences from marketing research to product release to the market, causes a change in the level of innovation risk.

The degree of innovation risk increases with possible changes in the conditions of cooperation between the innovator and the sales and marketing intermediaries, since a new product may require a change in existing or the formation of a new system of sales that may lead to resistance of suppliers, especially if the reaction of consumers to innovation is not determined.

Changing the terms of supply as well as the profile of suppliers' activity increases the level of innovation risk. It is essential that traditional raw materials, materials and components may be unsuitable for an innovative product, therefore, it will be necessary to change suppliers or additional motivation of existing ones.

The influence of internal factors on the degree of risk is determined by the internal features of the organization of management and functioning of both the agro-industrial complex as a whole, and its structural elements. The main internal factors influencing the level of innovation risk include the status and availability of such resources as: technical and technological state; personnel support; form of organization; information support; financial position. The assignment of a factor to a particular group depends on a certain level of management and the length of the implementation period of the decision. The effectiveness of management of innovation risks in the agro-industrial complex depends on the level of management and is specified in the transition from the higher level to the lower, that is, when the scope of risk decreases and specifies the management of it.

The success of risk management in innovation affects a number of interrelated factors, among which include:

- organization of risk management;
- level of development of tools, methods and tools for risk management;
- quality of implementation of measures on management of innovative risks.

Lacking or insufficient manifestation of one of these factors destroys the entire risk management system.

The organization of effective management of innovative risks includes information and methodological support, a system of distribution of rights and responsibilities, powers and responsibilities. Effective organization of risk management is aimed at a rational combination of all elements of the management system into a single technological process.

In practice, management of innovation risks is often carried out unsystematically and intuitively, which negatively affects the results of the implementation of the chosen strategy. The effectiveness of innovation activity directly depends on the accuracy of the assessment and risk assessment, as well as on the adequacy of the methods for managing it.

When managing the innovative risks in the agro-industrial complex it is important to take into account the pace of adverse events, as there are two directions of development of administrative actions:

in the first case – the speed of the control system is much higher than the speed of change – the management system has time to react quickly and take the necessary steps before adverse processes begin to occur,

which will lead to structural changes of only some elements, and not the entire economic system as a whole;

in the second case, the system does not have time to respond to adverse events and interfere with the immediate effects of their effects, and only later, risk management methods will manifest themselves in the elimination of the consequences and the restoration of the system.

In general, different methods and tools are currently used to manage innovation risk. Taking into account the connection of innovative risk with the possibility of realizing both negative effects and opportunities, all methods and tools of management of innovation risk by the nature of influence on risk factors can be divided into:

- 1) methods of reducing the degree of factors of innovation risk;
- 2) methods of increasing the use of open-minded opportunities.

These methods should be implemented in the ratio of relevant factors for the emergence of innovation risk. Warning of the onset of innovative risks should begin at the design stage of innovation, with further adaptation of management, depending on the stage of project implementation and changes in the environment environment.

In the event of adverse events, the pace of innovation risks can significantly outweigh the effectiveness of counteracting negative factors. Therefore, it is necessary to identify the main areas of innovation risk, determine the methods for managing them and quickly remedy the weaknesses of the management system, which includes:

- identification and understanding of the most significant factors of influence on the level of innovation risks in the agroindustrial complex;
- implementation of differentiated investments in management of the most significant for agroindustrial complexes by innovative risks;
- an effective assessment of innovative risks within the entire agro-industrial complex, the establishment of a reporting system and personal responsibility for management actions;
- active use of information technology and electronic communications capabilities to confirm investors and analysts of the effectiveness of the management of innovation risk.

Since innovation risk management is carried out in many cases in times of acute shortage of time and continuous changes in the agro-industrial complex itself, the risk management system of innovation should be dynamic, to be forward-looking and to take into account the existing level of development of the economic systems of the agribusiness sectors.

In order to effectively manage the innovative risks of the agro-

industrial complex, it is necessary to manage in three interrelated directions:

1) reducing the level of innovation risk within the innovation activities of the whole complex;

2) increase of efficiency at the expense of optimization of expenses for implementation of control procedures in the branches of agrarian and industrial complex;

3) improvement of financial results both by reducing the level of innovative risk, and by reducing the costs of agribusinesses.

We note that the agro-industrial complex is a complex system with numerous structures, both private and state owned often fragmentation and autonomy of functions of management of innovation risks, internal control and compliance with legislative requirements, as well as a violation of the balance of these functions.

In order to increase the efficiency of managing innovation risks and gaining competitive advantages, the industries of the agro-industrial complex need to use the limited resources effectively, improve the decision-making process and quickly eliminate the negative consequences, management of innovation activities must be carried out taking into account the main risks.

The mechanism of their management should be based on the rational combination of instruments of state regulation, market self-regulation and expanded delegation of powers to regional bodies of management of agro-industrial complex.

In summary, it should be noted that agricultural production is the most volatile and, therefore, unattractive for potential investors in the industry. Deep analysis and accounting of regulated risks, such as information, insurance, realization, financial, will allow agrarian enterprises to timely orient themselves in the situation and avoid negative consequences.

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FEATURES OF ORGANIC AGRICULTURAL MARKET DEVELOPMENT IN UKRAINE

In many countries, organic agricultural markets have already been formed and have established economic relations between producers, processors, dealers, retailers, consumers, and have been integrated into the world trade system. The countries of Asia and Africa are becoming the most active participants in the global organic products market, because they are allowed to realize the competitive advantages of agricultural production in the niche of higher value added goods.

The growth rates of retail sales on the world market for organic products significantly exceed the indices of the market of traditional agricultural products – for 2011-2015 the average annual growth

amounted to 14.1%, while the total food production was about 8% [1].

The systematic study of the organizational and economic basis for the development of the market for organic agricultural products is important in the theoretical and practical aspects. Research of prerequisites and peculiarities of the market for organic agricultural products is carried out by Bezus R., Shtrichun Kh., Urban I. and others. The development of organic production is facilitated by the study of international organizations and national civic organizations: Research Institute of Organic Agriculture (FiBL), Food and Agricultural organization of the United Nations (FAO), Organics International Action Group (IFOAM), Organic Federation of Ukraine, State statistics Service of Ukraine.

Publications of foreign and domestic authors reflect many important theoretical, methodological, and scientific-practical aspects related to the factors of development of the market of organic agricultural products, quality control, the formation of the regulatory and legal framework and the corresponding policy on the development of production and marketing of organic products. However, some issues require further research. In particular, regarding the improvement of the economic and institutional environment of market development, the formation of the appropriate infrastructure, identification of ways to optimize production and increase the competitiveness of organic products. Therefore, the study of the conditions and potential of the market for organic agricultural products in Ukraine is relevant.

The organic agricultural market is a dynamic segment of the global agricultural market, a system of economic relations between producers, dealers and consumers of organic products. The development of the organic agricultural market is closely linked to the peculiarities of the resource base, the production process and the marketing of these products.

For the development of the organic products market in the country, it is necessary to create the following prerequisites:

1. Only soils of ecological quality that are not contaminated with substances that are forbidden to be used in the production of organic products (raw materials), or other substances harmful to human health shall be used.

2. Qualitative change in the structure of the resources used: the use of organic fertilizers and biological means of plant protection, crop rotation and methods of natural regeneration of soils, the use of natural pastures.

3. Maximum adaptation of production to the conditions of the agroecosystem of the region.

4. Use production technologies that prevent contamination or minimize any increase of environmental pollution.

5. Increasing of the population of useful insects, microorganisms and natural parasites as biological control of pests and plant diseases.

6. Use only certified organic seeds and planting material.

7. Products for cleaning and disinfection in the production of crop products are used only if their use is permitted in organic production.

8. When choosing breeds, the ability of animals to adapt to local conditions, their viability, resistance to diseases, and the way of keeping animals should be close to natural conditions is taken into account.

Achievement of the objective of a stable socio-economic and ecological development of regions can be achieved only on conditions of observance of principles of production and sale of organic products. These principles include:

1. Cycles – if possible, use waste from production in related industries.

2. Environmental friendliness – choose a production method that ensures ecosystem conservation.

3. Principle of health – assumes the safety of manufactured products with maximum content of nutrients [2].

4. The principle of care – reflects the responsibility of future generations for the preservation of the environment and health.

5. The principle of diversity – provides support for species diversity [3].

6. The principle of interaction with the consumer – ensures the fastest implementation of organic products, the efficiency of deliveries from the manufacturer and the processor to the consumer.

7. The principle of social responsibility – the manufacturer constantly adheres to the standards of organic products, does not use the appropriate markings during the transition period, and cares about the minimization of environmental pollution.

The experience of advanced countries shows that the development of organic production allows getting the following effects:

1. Economic: growing of use of local renewable resources (fertilizers, natural fodder, energy resources, labor force, etc.), strengthening of food security of the country, expansion of innovative and export opportunities.

2. Social: sustainable development of rural territories, preservation of

traditions of business activity, increase of employment of local population, maintenance of safe working conditions, gradual increasing of life expectancy and increasing of health of population, increasing of ecological consciousness of the population.

3. Ecological: conservation and reproduction of soil fertility, agroecosystem [4].

Such peculiarities of the production process are determined by the specific features of the market for organic agricultural products: it is poorly linked to the market of material resources of industrial origin, is oriented towards the implementation of technological progress, needs advanced infrastructure support, especially as regards to the specific conditions of storage and transportation of products, certification systems, information and advice services.

Specifics of demand for organic products are due to the motives of purchase, the willingness of consumers to pay a higher price. The main motives for consumers to buy more expensive organic products are: positive effect on human health, the absence of GMO components, better flavor, and natural conditions for the maintenance of animals. Issues concerning the identification of organic products, quality control of products and compliance with the conditions of production of organic products, expansion of the range [5] are relevant for consumers. Therefore, increasingly important is the development of marketing, especially marketing relations.

Organic products, in comparison with traditional ones, occupy a small part of the agri-food market of Ukraine, but the potential for growth of its production is significant. The development of such production and the relevant market should take place considering the socio-economic and ecological situation in the regions, accumulated foreign experience in stimulating and regulating of this sphere.

Ukraine has significant potential for the development of the market for organic agricultural products. The main indicators, characterizing the potential and production of organic products are given in Table 6.1.

Records stated in Table 6.1, show that all indicators of the organic sector development tend to increase during the analyzed period. Growth rates have increased since 2013, which is due to the adoption of the Law of Ukraine No. 425-VII “On the production and circulation of organic agricultural products and raw materials”. Statistical surveys of the FiBL show that in 2002 there were 31 organic farms registered in Ukraine, in 2010 there were 142 and in 2016 already 294 farms were certified as producers of organic products.

Table 6.1

Indicators of organic production development in Ukraine

Indicators	2010	2011	2012	2013	2014	2015	2016
Area, all [ha]	270226	270320	272850	393400	400764	410550	381173
Area, share of total [%]	0,65	0,65	0,66	0,95	0,97	0,99	0,89
Wild collection, [ha]	280,00	300,00	330,00	530,00	530,00	540,00	550,00
Producers, [no.]	142	155	164	175	188	210	294
Retail sales, all [Mio €]	2,4	5,1	5,1	12,2	14,5	17,5	21
Retail sales, all [€/person]	0,05	0,1	0,1	0,26	0,31	0,39	0,49
Exports, all [Mio €]	...	...	...	36,0	70,0	50,0	59,0
Operators, exporters	30	32	36	36	55	30	...
Import, all [Mio €]	...	...	...	...	...	4,0	4,0
Operators, importers	7	28	41	41	60	50	...

... - no data

Source: formed by the author on the basis of data: [1]

The total area of certified organic agricultural lands in 2016 was 381173 hectares, which is 41% more than in 2010. Most Ukrainian organic farms are located in Odessa, Kherson, Kyiv, Poltava, Vinnytsia, Zacarpattia, Lviv, Ternopil, Zhytomyr regions. Ukrainian certified organic farms, of various sizes, range from several hectares, as in most EU countries, to several thousand hectares of arable land.

The domestic consumer market for organic products in Ukraine has started to develop since the beginning of the 2000s, reaching 400 thousand euro in 2006, 1.2 million euro in 2009, and in 2016 – up to 21 million euro.

Organic products began to appear in Ukrainian shops relatively recently. Shelves with the words “Organic products” do not have regular buyers yet. Organic products are also more expensive than their uncertified competitors by 5-25%. The main consumers of organic

products are mothers with children, athletes, vegetarians, modern youth, people with diseases of the gastrointestinal tract, allergies.

Production of organic products is cost-effective. So, the minimum price for organic raspberries in 2016 was 2.25 € / kg, while the traditional maximum did not exceed 1 € / kg. Fertilizers for organic produce are produced in Ukraine, so their price has not risen so much as on imported chemical wages, but wages have risen, but insignificantly, the berries were sold for currency. However, individual berry producers are frightened by the presence of a 3-year transitional period and the cost of certification, lack of experience in entering external markets.

Export volumes ranging from 36 million euro in 2013 to 70 million EUR in 2014 and again decreased in 2015 to 50 million EUR.

Ukraine has exported organic products to the Netherlands, Germany, Great Britain, Italy, Austria, Poland, Switzerland, Belgium, the Czech Republic, Bulgaria and Hungary, the USA, Canada, Australia and some Asian countries. In 2017, the main organic products (by volume) that were exported from Ukraine were corn, wheat, soybeans, barley, spelled wheat, sunflower, millet, rape, blueberries (frozen), oats, millet, lupine, apples (fresh), buckwheat, mustard, elderberry (fruits), pumpkin seeds, birch sap, flax, flakes, rye, walnut (core).

Perspective export cultures are flax, rye, lupine, oats, both ordinary and brownish. It is these crops that are increasing the demand of both world and European importers, and the margin for domestic producers is quite high.

Ukraine needs to develop the export potential of organic products, as it is a product with high added value and growing demand in the EU countries.

An important stimulus for the development of domestic organic products exports should be the transition to TRACES (an electronic system for monitoring the movement of food across the EU), which should make it much easier to obtain the necessary permits.

Imports of the corresponding products are insignificant, due to its high cost and lack of development of demand for this product.

The growing importance, prospects and opportunities to enter Ukraine's external markets for organic agricultural products make it necessary to create an institutional environment that includes a set of political, social, legal and economic rules that determine the conditions for the interaction of market participants.

The institutional environment of the market for organic agricultural products in Ukraine includes the following components:

1. Legislation and support programs – determine the conditions of activity, the features of state support and guarantees. Ukraine has the Law of Ukraine No. 425-VII “On the Production and Circulation of Organic Agricultural Products and Raw Materials” [6], which determine the legal and economic basis for the production and circulation of organic agricultural products and raw materials, and measures to control and oversee such activities. In the Strategy for the development of the agrarian sector of the economy for the period up to 2020, priority is given to promoting the development of organic agriculture, first of all, in individual peasant and medium-sized farms [7]. The State Target Village Development Program provides for the need to achieve 10% of the share of organic produce in the total gross agricultural output [8].

2. Financial support – includes direct and indirect support for organic producers and certification organizations, science, sales, and advisory services. In Ukraine, producers operate under the general conditions of support and taxation with other agricultural manufacturers.

3. The system of certification and quality assurance includes institutions and a set of procedures for standardization, attestation, certification and marking of both finished products and process of production. In Ukraine, there is not yet a unified base of organic certified producers working in the territory of Ukraine. This complicates the transition of manufacturers to the corresponding production standards. In general there are more than 20 foreign certifying agencies and 1 domestic [9].

4. The product marketing infrastructure allows improving the organization of market relations, promoting compliance with the conditions for the implementation of organic products, and reducing the need for dealers. Regarding this area of support, a single state logo for organic products (raw materials) has been registered in Ukraine. The main distribution channels for organic products in Ukraine are supermarkets and specialized online stores [10]. At the stage of development, there are projects to create networks of ecological production. Insufficient attention has been paid to farmer markets [11].

5. The educational-scientific subsystem involves research, development and training of specialists. In Ukraine, training is carried out in the field of knowledge “Agrarian Sciences and Food” by universities. Educational work is carried out by the Swiss Research Institute of Organic Agriculture (FiBL). There are business schools (for example, the Organic Business School), which carries out educational work and helps in drawing up business plans.

6. Information and advice support. Includes a comprehensive counseling system that combines government agencies, producer associations and private organizations. The Union of Organic Certified Product Producers and the Federation of Organic Movement of Ukraine have been established in Ukraine. Issues the publication “Organic.ua”. Conduct informational work on the specifics of activities and certification of organic products. Conduct a register of producers and distribute information about them.

The given data testify of creation in Ukraine of preconditions for the development of organic production. However, the lack of targeted state financial support results in a slow pace of development of such production and failure to achieve the targets set in the state program documents. Measures to support the development of organic production should relate, first of all, to producer support. The urgent task is to develop mechanisms for compensating producers for certification costs. However, other components should also develop systematically, creating the basis for the development of the domestic market and support the export of organic products. The development of distribution networks should be stimulated by the tools of indirect support – through the support of marketing cooperatives. Information work is also very important, as the problematic aspects of market development are the lack of experience of producers about the technology of production of organic products and the peculiarities of its certification, and lack of awareness and mistrust of consumers towards the organic logo.

The main problems hindering the development of organic production in Ukraine can be described as follows:

1. Imperfect is statutory regulation. Although the Law “On the Production and Circulation of Organic Agricultural Products and Raw Materials” is in force, however, in practice, sub-legal regulations, defining mechanisms for the implementation of the law, have not been developed. The Ministry of Agrarian Policy does not have a unit that would be responsible for stimulating organic farming, for registration, certification and control of organic products, which results in poor institutional coordination. Frequent cases are unlawful use of product marking.

2. Lack of direct state support and complicated access to funding sources. There are no special incentives for organic producers, and the lending system is virtually unavailable for small businesses.

3. Insufficient demand due to low solvency of the population (as evidenced by double the volume of sold products abroad compared to

domestic sales) and lack of consumer awareness.

4. A long transitional period (from 1 to 3 years), reduced crop yields in the early stages of production, lack of appropriate management practices and support, high cost of certification procedures are constraining factors for producers.

5. Imperfect state regulation on financial support of producers and inspection of quality of certified products.

6. Difficulties in product sales due to underdeveloped infrastructure (in particular, for processing, sales, storage and transportation). Often this becomes a problem for the producers themselves who do not have enough financial resources to solve these problems.

7. Scientific development, distribution and introduction of technologies of organic production are not enough and not close to the manufacturer.

8. Training and the system of organic production consultancy are only being formed.

So, the development of organic production in Ukraine has an important socio-economic value. The production of organic products can provide the population with ecologically safe food, improve the quality of soil, promote sustainable development of agroecosystem, increase responsibility and initiative of producers and strengthen the competitiveness of domestic products in foreign markets.

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ALGORITHMS OF ARTIFICIAL INTELLIGENCE IN THE MANAGEMENT OF AGROHOLDINGS

The rapid development of the digital economy requires the appropriate development of information systems (IS) and information technologies (IT), changes the direction of the state strategy to overcome the current challenges of the need to build relationships with the global giants of the IT industry (Google, Apple, Facebook and Amazon), total capitalization which exceeded the GDP of many developed countries of the European Union. For Ukraine, the question arises about the choice of priorities, which requires an extremely rapid transformation of the traditional economy into its traditional paradigm to the modern information intellectual digital economy, which involves a synergistic effect from building the foundation on the concepts of "digital economy", "knowledge economy", "information society". In

this context, the process of “consumption” of IT products becomes more significant. That is – not only to produce powerful IT solutions for other countries, but also to implement modern IS and IT in the national manufacturing sectors. In addition, the analysis of deep trends in energy and raw material geopolitics shows a sharp increase in energy, natural resources and food needs, which will exacerbate tensions due to access to these resources. Producers and at the same time consumers of these resources are complex territorially-distributed systems (CTDS) or – economic entities for which the tasks of management of large pools of resources (labor, financial, material, etc.) are the most relevant and significant.

Agro-holdings as vertically integrated structures have obvious advantages, as they provide an opportunity to improve the security of business entities with raw materials, expand their sales opportunities, and oppose their competitors. However, the growth in the scale of agricultural holdings due to the increase in the number of their enterprises entails a number of serious problems in the sphere of management. Studies have shown that a business entity becomes multi-level, when an agribusiness is dominated by an industrial management company, and above it is a parent company of the entire agro-holding. It would seem that vertical integration should be a means of reducing transaction costs. But in fact, these costs as the involvement of new industries and enterprises in a vertically integrated structure can significantly increase, both internal, due to the management process, and external, involving the involvement of new counterparties. Only transactional costs for securing contracts with previously independent enterprises that have entered the holding are reduced, namely, they are transferred from external to domestic. In agroholdings (AH), management costs increase, communication of received investments with the results of enterprises decreases, as well as investment efficiency, payback periods increase and the probability of return of funds. Therefore, this role is played by the use of innovative intellectual technologies in the management of holdings

In the unpredictable directions of development of the world production system, the use of intelligent information technologies is a necessary means for making strategic decisions in the following areas: development of strategies of state regulation of market segments, integration processes of the economy of Ukraine and the EU, increase of investment attractiveness of national economic entities, including AH, vertically-integrated national companies (VINCs), cluster development

of territorial entities.

Currently, logistics is one of the fastest growing areas of productive activity. This process is associated not only with the growing demand for logistics services, but also with the strengthening of mutual integration of business opportunities while logistics and infrastructure development of the Territories. The most significant development of methods and algorithms of interaction of the logistics processes are due to the rapid development of information technology, which resulted in a widespread network of organizational forms of business, on-line flow of documents, the transition to electronic payment systems, virtualization logistic processes, etc. On the basis of the information infrastructure of innovation Logistics takes you to a new level of intelligent control processes, the formation of new logistics concepts "PartyLogistics".

Given the factor that Ukraine is one of the largest of the manufacturers and suppliers of grain to the world food markets, as well as the high quality of the cereal, national agricultural area has a very high investment potential Ukraine is able to influence the world food market, from Ukraine depends heavily on food security measure. Ministry Agrarian Policy and Food of Ukraine in 2015, has developed a draft single integrated strategy to develop agriculture and rural areas in the 2015-2020 years, one of the main goals of which is increase efficient use of existing infrastructure, the creation of a stable climate for investment in Agrologistics, reduced logistics costs.

In April 2015 in Ukraine, given start of development national control movement of goods on the basis of modern information technologies, which attaches great importance to the solution of the problem of optimization of logistic processes in agricultural holdings.

One of the main trends of the world market is to increase the concentration of capital for the main core business. To perform non-core functions can be created subsidiaries. However, at the present stage, these functions are increasingly directed to outsourcing. In full, this trend is observed in the area of logistics services. You can use as an example the United States, where the turnover of logistics services is about \$ 40 billion. Currently, logistics is one of the fastest growing fields. This is due not only to increased demand for logistics services, but also to the development of infrastructural capacity in this business. The most significant changes in the ways and forms of interaction of the logistics caused by the development of information technologies, which resulted in the spread of networked organizational forms of business virtualization of logistics processes, the spread of electronic document

management, the use of electronic payment systems and so forth.

On the basis of innovation information logistics infrastructure is the development of management tools, formed new logistics concepts such as “Party Logistics” [1], which are based on determining the level of involvement of independent companies (logistics providers / operators) to solve customer business problems. Now it allocates 1PL-, 2PL-, 3PL-, 4PL- and 5PL-logistics. 5PL-level (Fifth Party Logistics) provides support for advanced network computing.

Distributed following classification of logistics operators [2] in the context of supply chain management.

- 1PL – an autonomous logistics, in which all operations are carried out by the contracting authority;
- 2PL involves engaging a third party to perform work of a certain type;
- 3PL provides for the use of subcontractors;
- 4PL solves the problem of formation of the supply chain, planning, management and monitoring processes within the logistics organizations.
- 5PL provides the organization of logistics outsourcing by utilizing a global information space.

Table 6.2

Features of the existing types of logistics, depending on the resource base

Type logistics	Features of information space, resource properties	Type of communication resources
1PL	Own resources, focus on specific customers	Resources directly under the manager
2PL	Dedicated resources division, a wide range of customers	Resources are separated in division
3PL	Outsourcing resources, resources as customer	Possible outsourcing autonomous resources
4PL	Consulting, diverse resources, customers	The decision of the problem of cooperation of different resources
5PL	Resources are combined within the portal	Cooperation resources in the form of free interactions in the information space

Activities 5PL-provider (operator) is based on a complex of modern

information technology.

Thus, 5PL-operator controls the main flow of information about orders, resources, plans and the actual state of the transport network. Models of management of interactive scheduling within 5PL considered in works [3].

5PL-provider – logistics outsourcer, providing full range of services through the use of global information and technology space. You could say that this - the so-called "Virtual" logistic partner in whose hands all the information about the logistics capabilities of market participants and the high-tech IT-products, allowing to build the most optimal supply chain. The European Union is actively financed from the budget of the new global development of IT-technologies in the field of logistics. As one of the potential outcomes of this process may appear unified information logistics network in the entire European Union. In Ukraine, begin work on the implementation of a new level of logistics services 5PL, enabling it to become one of the first countries in the world in this direction, because She is one of the leading places in the world in terms of IT professionals. Given the significant factor that in a period of consolidation of the world market producers competitive advantage will be the company with the right structure assets and investment strategies that use a flexible operating model and apply new information technologies. To take advantage of the huge opportunities offered by increasing global demand for agricultural qualitative products, agricultural companies must also apply more effective methods of business management. Selection of the unsolved parts of the general issue of problems key optimal structure of agricultural holding is vertical integration, which should ensure the value chain and the decline in market (price) risks.

Using business process modeling can not only analyze the current structure of agricultural holdings, but also to work out details of its new architecture. Through a simplified representation of real-world business processes in the form of a model achieved these goals:

- improving business processes through the development of scenarios and simulations;
- elimination of business processes which do not adding value;
- the elimination of overlapping functions / processes / roles / positions;
- creating a framework for the assessment and monitoring of the effectiveness of business processes;
- standardization activities;

- providing storage and knowledge transfer / replication of business processes;
- simplifying the process of learning and reducing the duration of the training of new employees.

Using business process modeling can not only analyze the current structure of agricultural holdings, but also to work out details of its new architecture. This leads, in turn, need to find new, previously unused management systems of agricultural enterprises, which would give the opportunity to obtain a synergistic effect due not only to optimize their facilities management, but also due to the interaction with related parties in the chain of promotion of agricultural raw materials and processed products (Table 6.3).

Table 6.3

The value chain of agricultural products, depending on the depth of processing

1st chain	2nd chain	3rd chain
raw materials	raw materials	raw materials
plant growing	plant growing	plant growing
harvest safekeeping	harvest safekeeping	harvest safekeeping
Sale / Export	processing	fodder
CUSTOMER	distribution channels	cattle breeding
	CUSTOMER	meat-processing
		distribution channels
		CUSTOMER

In operation on the 1st chain of the crop agricultural producers forced to sell immediately after harvesting to cover current expenses and short-term loans. In this case the price of the product – the lowest.

Operation on 2nd chain suggests keeping harvest to saving facilities (elevators). It is possible to consider the seasonal price increases. In addition, the availability of own or leased processing capacity allows to reduce the influence of international markets for grains and to diversify sales with products of deeper processing.

Operation on the 3rd chain includes, in addition to its own distribution channels cattle breeding and meat-processing. Cattle breeding are another one of the options to reduce the impact of the price situation by selling animal feed, meat in live weight, carcasses, milk, eggs and other agricultural products. Meat-processing and the milk-processing also allow managing market risks by offering deep-processing products, differentiation and branding.

It is such an effective tool for managing agribusiness companies in Ukraine may be the concept of optimization of logistics in the direction of combining theoretical and methodological approaches used by the modern world experience optimizing material flow in logistics formations.

Due to the fact that Ukraine is estimated Ukrainian Logistics Association (ULA) [4] only formed logistics outsourcing market, forecasts for its growth on the order of 30-40% per year. Due to the significant impact of innovative technologies on the production capacities of Ukraine, observed the growth dynamics of logistic operators.

Table 6.4

The dynamics of growth of the national logistics operators

PL-level	2006	2010	2014
1-PL	10	8	6
2-PL	89	73	34
3-PL	1	14	69
4-PL	0	1	5
5-PL	0	0	0

The main purpose of this article is to assess the current state of automation of logistical processes in Ukraine, study possibilities of integration in the supply chain of the European Union at the level of SPL- Logistics, rationale for the use of evolutionary algorithms for solving the optimization of logistic processes. The expediency of applying the method of group account of arguments based on neural network for short-term forecasting of the basic economic indicators of agricultural holdings.

As the domain objects have been chosen following agro - Education: AK KERNEL (international level), Astarta – Kiev (national level), LLC “Octane” (regional level, Poltava region).

In the framework of this topic provides the following solutions [5]:

1. Software implemented the classic genetic algorithm, which was used to optimize the process of transport routes in the above AH. Summary economic effect lies in the range 4.5-5% of the initial amount of costs.

2. On the basis of WEB-technologies programmatically implemented algorithm ant colony that was used for the automation of optimal schedules and routes of freight traffic on the database Akhtyrsky plant Shishatskiy area in the Poltava region. Summary economic effect – from

4.84% to 9% of the original reference plane.

3. A software module short-term forecasting of major economic indicators AX based GMDH neural network:

- cost of sales;
- gross income;
- net income;
- the volume of goods and services;
- selling, general and administrative costs.

Total of 15 budget items AH. The deviation from the actual predictive values in the range (0.9% to 9.89%).

4. An automated information system for fleet management in the conditions of agricultural holdings taking into account the timing of technical inspections of units of utility vehicles, with the possibility of recording, analysis and prediction of all expense items.

5. An automated information management system storage capacity in a given agricultural holding, depending merchantability stored agricultural products from the time of its storage. Forecast module enables short-term forecasting of the basic indicators.

6. The automated management information system generating capacity under agricultural holdings, taking into account the structure of the cost of seed, taking into account the current state of the fertile layer, taking into account the costs of seasonal irrigation on fertilizing, management certification of industrial assets Arts. Forecast module enables short-term forecasting of the basic indicators.

7. Implemented a software application to solve the transportation problem in small transport companies (up to 25 units of transport) based on the use of software MS Excel. Minimizing the total cost of transport is an average of about 8%.

8. Create Web – monitoring system of flights and the automatic distribution of technological transport flights in the online mode, to collect data on the actual costs of fuel, speed, traffic, monitoring current location of transport in real time.

The proposed structural modules for intellectual information systems to support the adoption of managerial decisions, based on which possible implementing ERP-system (4PL-level) and Internet Logistics (5PL-level) can improve the quality indicators of the national logistics services. Ukraine world's first introduced the concept in the context of 5PL Development Program in Ukraine and strategies 2020[6].

Reforms that in Ukraine are one of the leading places in the world for programmers and IT professionals, the process of implementing the

concept of “5PL-Logistics” can be treated as a component of the formation of a new innovative thinking.

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Chapter 7

EUROPEAN MODERNIZATION AND REFORMS IN UKRAINE IN CONDITIONS OF SOCIAL-ECONOMIC ASYMMETRY OF THE WORLD ECONOMY

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EUROINTEGRATION OF DIRECTION AND THE DIVERGENCE TRAP OF UKRAINE

Ratification by Ukraine in September 2014 the Agreement of Association with the European Union was the starting point for the institutional acceleration of its progress along the path of European integration. As show the experience of other countries of Central and Eastern Europe, recently become members of the European Union, on this way there are barriers and risks that need to be overcome, ensuring the work of a convergence mechanism – a phased rapprochement with the EU on key social-economic parameters.

According to experts of the World Bank, this mechanism is of paramount importance, since it was the “convergence machine” – as they called the unique European economic model – that, after World War II, allowed the united Europe to rise on one of the highest in the world level well-being and quality of life the population. Under the influence of the recent global and a number of internal crises, in recent years the convergence processes in the European Union have been stalled and, according to certain indicators, the gaps between its member-countries are growing, that is, in fact, there is a socio-economic divergence. The World Bank believes that way out of the situation may be modernization of the European “convergence machine”, which should, firstly, provide for a two-dimensional expansion of opportunities – for people (professional skills and education) and for firms

(innovations), and, secondly, to ensure equal conditions for such expansion by means of flexi-curing labor markets and maintaining a favorable business-environment [1, pp. 134-135].

It is obvious, that in the post-crisis period the idea of restarting social-economic convergence in the EU is maintained at the highest level of this integration project. Thus, in the Rome Declaration adopted in March 2017, leaders of the European Union and 27 member-countries, their commitment was clearly documented to work to create a rich, stable and social Europe – as a Union in which economies are converging and which on the basis of sustainable development contributes to economic and social progress, cohesion and convergence [2, p. 1]. First and foremost, this indicates the recognition by the EU leadership of the key role of the convergence mechanism in restoring sustainable growth of economics, improving the welfare of citizens, as well as strengthening the integration processes in the European Union and its international competitiveness.

For Ukraine this means exactly that the task of ensuring social-economic convergence with the European Union is a priority in the context of its strategic European integration development. However, given the current realities, this task is difficult to achieve and requires significant institutional changes, and first of all in order to break the rapidly growing trend in recent years in the divergence of the dynamics of the development of the EU and Ukraine. Obvious signs of the increasing divergence of their socio-economic systems – primarily on the criteria of the well-being of the population and labor productivity – have been noted since 2014, marked by the emergence of a military conflict on the Donbas and a deep crisis in the economic and social sphere of Ukrainian society.

For the period 2014-2015¹ the real GDP of Ukraine has total decreased by 16.1%, and its growth by 2.3% in 2016 and by 2.5% in 2017 [3] looks very weak for the necessary coverage of losses and exit to the stability path. But if in the economic sphere of Ukraine statistics indicate weak shoots of post-crisis recovery, its social sphere, as show the main indicators of income, employment and quality of life of the population, is still in a state of stagnation.

So, for the last four years the average salary of Ukrainians has

¹ Here and further: statistical data of the State Statistical Service of Ukraine for 2014-2018 are given without taking into account temporarily occupied Crimea, Sevastopol and parts of the territories of Donetsk and Lugansk regions.

decreased more than 1.5 times – from 408 \$ (3265 UAH) in 2013 up to 267 \$ (7104 UAH) in 2017, and the average pension – more than 2 times, – from 191 \$ (1526 UAH) in 2013 up to 93 \$ (2480 UAH) in 2017 [3].

A high level of consumer inflation (for the period of 2014-2017 prices grew up 2.3 times) and a disproportionately low nominal increase in basic social standards (with the exception of the minimum wage) causes a significant reduction in the solvency of Ukrainians. Only for the period 2014-2016, according State Statistical Service of Ukraine, real disposable incomes of the country's population decreased by 30.7%.

Accordingly, there was a rapid decline in people's living standards and increased poverty – according to official data, the population with average per capita total income per month is lower than the actual subsistence minimum, increased from 6.3 million people in 2014 up to 19.8 million people in 2016 or – from 16.7% to 51.1%, if estimate as a percentage to the total population of Ukraine [3].

Also rapidly increased the number of Ukrainians to need of social maintenance of the state. According to the State Statistical Service of Ukraine, at the beginning of 2018 the 9.6 million Ukrainian households or almost 2/3 (!) of their total number were financially unable to pay for housing-communal services (in cities) or purchase of liquefied gas or household fuel (in the villages), so they were forced to formalize the receipt of so-called housing subsidies. For comparison, at the end of 2014 such subsidies total received only 1.8 million households [3].

A significant impact on the spread of scales the poverty in Ukraine is worsening the state of the national labor market and galloping labor migration to the EU and Russia. The unemployment rate among the population aged 15-70 years, calculated on the basis of the ILO methodology, rose to the beginning of 2018 up to 9.5%, although at the end of 2013 this indicator was 7.3%. According to different expert estimates, today on abroad working by 4 to 8 million Ukrainians (out of 17.2 million economically active population of the able-bodied age registered by the State Statistical Service of Ukraine). According to official data of the National Bank of Ukraine, in the last three years (2015-2017) migrant workers every year sent money to Ukraine at the level of 7.0-9.3 billion \$ or 7.6-8.4% of the country's GDP [4 , p. 14], which is typical for poor countries with underdeveloped labor markets.

Weak competitiveness of the domestic labor market is directly related to low level and insufficient guarantees of labor remuneration.

So, for 2018 the minimum wage in Ukraine is legislatively set at the level of 3723 UAH (EUR 122.1 at the current exchange rate), which is two times lower than in the poorest EU country – Bulgaria (260.8 EUR), 4 times – than in Estonia (500.0 EUR) and Poland (502, 6 EUR), 5.5 times – than in Portugal (676.7 EUR) and Greece (683.8 EUR), 12 times – than in Germany (1497.8 EUR) and France (1498.5 EUR) and about 13 times less than in the Netherlands (1578.0 EUR) and Ireland (1614.0 EUR) [5, pp. 3-4].

In addition to the low level of wages, an acute problem in Ukraine remains the accumulation of arrears in payment of wages – a phenomenon almost unthinkable in the EU. As of 1 May 2018 the total arrears on the payment of officially calculated wages reached in Ukraine the 2473.7 million UAH, having increased in comparison with the beginning of 2014 (753.0 million UAH) in 3.3 times [3].

Of course, the problems described give a very incomplete picture of the “core issues” of social-economic development in Ukraine, without which it is impossible to successfully advance it towards the objectives of the Agreement Association with the EU. But in this context they allow us to more objectively assess the opportunities and prospects for the convergence of Ukraine and the European Union, and try to substantiate the following thesis. In our opinion, while preserving the negative social dynamics and the invariability of the social-economic priorities of the country, in the process of European integration, *Ukraine risks falling into the “divergence trap”*, which can be regarded as a synthesis of two phenomena known in economic theory – “poverty trap” and “nonconvergence trap”. Let’s briefly outline their content and the corresponding linkage to Ukrainian realities.

The economic phenomenon of the poverty trap or low-income trap describes the situation of the underdeveloped countries, where for a number of interrelated reasons there is a long-term conservation of poverty at the macro level. This situation is also described in the models of the vicious cycle of poverty, which, since the 1950s, were developed by economists-theoreticians, who studied various aspects of the problem of capitalization of the economy. The most well-known is the model of the vicious cycle of poverty R. Nurkse, who describes the cyclical scheme: “low incomes level → weak purchasing power → insufficient incentive to invest → lack of capital → low labor productivity → low income level”, as well as its interpretation in works H. Leibenstein, B. Knall and authors of the Keynesian direction [6, p. 61].

Overcoming poverty traps is a serious challenge for public policy in

many countries and requires a clear understanding of the reasons that lead to falling into such traps. The most common among these reasons experts call the following [7, pp. 140-143]:

- intersectoral overflows of excess demand (with a lack of investment in one of the interdependent industries with interdependent demand);
- act the effect of scale production and exogenous factors associated with human capital, scientific potential and technology;
- the existence of suboptimal (ineffective) institutions.

All three situations that trigger the fall into poverty trap have been observed in Ukraine at different moments of its history as an independent state, and some, first of all, the functioning of inefficient and a number of destructive institutions (ultra-high corruption, large-scale shadow economy) – are still the case. The search for an effective strategy and mechanisms for withdrawal of the Ukraine from the poverty trap should be based on an adequate assessment of its scale and dynamics, as well as comparison with poverty indicators of other countries, first of all, the “beacon” countries by which can serve that the post-socialist states of the European Union.

A fairly complete picture about poverty in Ukraine at the macro level gives relevant assessments of authoritative international structures. Thus, the IMF calculates such a traditional international indicator of poverty as the value of nominal GDP per capita expressed in terms of currency [8]. According to the data IMF, indicator GDP per capita of Ukraine increased during the period 1991-2016 in 1,5 times, but having reached a maximum in 2013 (3969 \$), then significantly collapsed and will reach these positions only approximately by 2023 (Table 7.1).

A comparative estimate shows that gaps in the per capita income of Ukraine and individual EU countries have been declining since 2000 to 2013 inclusive, then in Ukraine there was a sharp jump in the level of poverty and following the results of 2017 its GDP per capita amounted to only 6.5% the same indicator of France and 18.7% indicator of Poland. Obviously, Ukraine will have to overcome a very long convergence path for a tangible rapprochement with the newly integrated EU countries, and even more so with it's highly developed states.

The macro-level cut of poverty can also be determined by the size of household welfare, which is estimated by the research institute of the financial consortium “Credit Suisse” in terms of the market value of assets per one adult household participant [9]. Over the past four years,

Table 7.1

The dynamics of GDP per capita in the EU countries and Ukraine for 1991-2016 (fact) and 2017-2023 (estimate), \$, in current prices

<i>Countries</i>	<i>1991</i>	<i>2000</i>	<i>2010</i>	<i>2013</i>	<i>2016</i>	<i>2017</i>	<i>2023.</i>
Denmark	27053	30799	58177	61326	53774	56444	77408
France	22517	23313	42249	44105	38205	39869	53839
Czech Republic	n/a	5998	19831	19913	18506	20152	33623
Latvia	n/a	3334	11228	14952	14009	15547	25716
Hungary	3350	4628	13074	13645	15531	15531	21980
Poland	2101	4476	12602	13777	13823	13823	20980
Romania	1249	1670	8212	9568	10757	10757	18521
Bulgaria	224	1614	6744	7696	7496	8064	12166
Ukraine	1490	664	2983	3969	2199	2583	4216
<i>Ratio of indicators of Ukraine and:</i>							
<i>France, %</i>	<i>6,6</i>	<i>2,8</i>	<i>7,1</i>	<i>9,0</i>	<i>5,8</i>	<i>6,5</i>	<i>7,8</i>
<i>Poland, %</i>	<i>70,9</i>	<i>14,8</i>	<i>23,7</i>	<i>28,8</i>	<i>15,9</i>	<i>18,7</i>	<i>20,1</i>

Source: [8], calculated by author

Ukraine has been among the leaders of European countries in terms of poverty level of households, and a comparative analysis of data for 2010-2017 shows that since the rapid growth of poverty in Ukraine, which began in 2014, the level of welfare of domestic households has dropped to 0.4% and 4.3% of similar indicators in France and Poland (Table 7.2).

The accelerating dynamics of the increase of scale poverty in Ukraine is also fixed by UNDP experts, who estimate them on the basis of the share of the population whose total incomes per month do not exceed the national poverty line – the actual subsistence minimum². According to UNDP data, the level of poverty in Ukraine, determined by this criterion, declined from 71.2% in 2000 up to 22.1% in 2013 [10, p. 19], and then increased sharply to almost 60% by the end of 2016 [11]. Such dynamics, among other things, points to the need for a serious adjustment of the National Strategy Poverty Reduction approved

² In Ukraine the actual subsistence minimum is calculated by the Ministry of Social Policy exclusively for analytical purposes. In April 2018, its per capita size was 3764 hryvnia, while the officially established subsistence level for this category was only 1700 hryvnia.

Table 7.2

**Dynamics of welfare of households in France, Poland and Ukraine
in 2010-2017, thousand \$, for one adult**

Years	France	Poland	Ukraine	Ratio of indicators of Ukraine and:	
				France, %	Poland, %
2010	281,9	26,0	2,9	1,0	11,2
2011	279,2	23,3	3,6	1,3	15,5
2012	275,3	27,1	3,6	1,3	13,3
2013	286,6	30,7	3,6	1,2	11,7
2014	255,5	26,0	1,8	0,7	6,9
2015	237,0	23,4	1,3	0,5	5,6
2016	244,6	23,8	1,2	0,5	5,0
2017	263,4	28,1	1,2	0,4	4,3

Source: [9, pp. 33-56; pp. 73-104], calculated by author

Decree by the Cabinet of Ministers of Ukraine No. 161-p of 16 March 2016, where the corresponding poverty target is set at 15% for 2020 and is objectively unattainable.

Obviously, for today, finding Ukraine in a poverty trap does not require additional evidence. The main issue (unfortunately, mainly in the scientific-expert community) is the definition of ways and mechanisms to overcome this trap, especially given the persisting risks of transition the Ukraine to the model of an asocial state [12]. In our opinion, the starting point in this case can serve as appropriate recommendations, developed by both foreign and Ukrainian scientists and experts.

Thus, according to World Bank analysts, overcoming negative trends in poverty in Ukraine is primarily due to the settlement of the conflict in the Donbas, the adjustment of the labor market and the wage system, as well as the improvement of public administration and the creation of anti-corruption institutions [13, pp. 21-34].

The point to the extreme importance of positive institutional changes for the way out of the poverty trap indicated the experts of the UN Economic and Social Council, considering that institutional reforms in this case should be aimed at the formation of an effective independent state apparatus aimed at servicing all citizens; expansion of the space of public confidence; the creation of institutions that promote long-term economic growth, as well as the dismantling of corruption structures that unfairly distribute its results [7, p. 241].

The IMF experts proposed recipes for overcoming the poverty trap

for countries with a high level of public debt (as for Ukraine, where at the beginning of 2018 the national debt reached 71.8% of GDP). Including, they are connected with strengthening financial stability, reducing the burden of debt and applying a responsible approach to borrowing funds [14, p. 17].

In turn, Ukrainian scientists believe that in the current situation, the necessary steps to overcome Ukraine's poverty trap and its transition to a self-accelerating development model are [15]:

- introduction of an optimal mechanism for finalizing property rights and preventing new property redistribution;
- separation of business and government, acceleration of the formation of a socially responsible state and business;
- the implementation of a new economic strategy aimed at the transition to a high-tech economy and the expansion of industrialization;
- development of the financial system as an instrument for achieving the goals of this strategy.

Thus, we have clarified the main signs of being the Ukraine in poverty trap and potential ways to break out of it. However, in our opinion, this is only one part of the solution to the problem of the divergence trap that threatens Ukraine. The second part is connected with a non-convergence trap, the effect of which in the framework of the neo-Schumpeterian paradigm was described by scientists P. Aghion and Ch. Birkan on the basis of the so-called middle-income trap [16].

The essence of the trap of non-convergence lies in the loss of states for middle-income³ opportunities in a convergence way to converge with highly developed countries, since the first former can not maintain high rates of economic growth due to being in trap the average income – a situation when, after reaching it (per capita), growth economy slows down and, in the end, almost ceases.

This problem arises when countries with low-income a certain time demonstrate high rates of extensive economic growth (that is, their

³ According to the World Bank classification, in the fiscal year 2018 by the income criterion (GNI per capita according to the results of 2016) the countries of the world are distributed thus: low-income level countries – 1005 \$ and less; countries with incomes below the average level – from 1006 \$ to 3595 \$; countries with incomes above the average level – from 3956 \$ to 12535 \$; countries with high incomes – 12236 \$ and more. Countries with low- and middle-income levels are sometimes referred to as developing countries. – For more details see: World Bank (2018). World Bank Country and Lending Groups, URL: <https://datahelpdesk.worldbank.org/knowledgebase/articles/906519>

combined factor productivity depends on the accumulation of resources (labor and capital), and, finally, they achieve an average level of income. And at this level they are “stuck”, because due to the growth of wages and the reduction of price competitiveness, they are not able to compete with both developed countries with an intensive type of growth (in which the aggregate factor productivity depends from technologies, innovations, educational-qualification level of employees, more efficient business-processes), and states with low-income level that are characterized by low wages and, in general, lower production costs. According to experts, countries with middle-income level risk falling into the trap of non-convergence in the case when their economies do not progress from extensive to intensive growth.

It is believed that in the context ensuring the convergence with more developed economies, countries with medium and low level per capita income should pursue economic and political reforms aimed at generating and supporting innovation. Without such reforms these countries risk falling into the trap of average income (a trap of non-convergence) and a low income trap (a poverty trap), respectively [17, pp. 18-21].

In our opinion, the consideration of the movement of Ukraine – as a country with a low (below average) level of income, suggests the *existence of a “divergence trap”* in the path of its social-economic convergence with the EU. Under this trap, we understand the potential inconsistency (in a certain time interval) of Ukraine to ensure convergence and, for whatever reasons, its stay in a state of divergence with the European Union.

The basis for the premise of the risks falling of Ukraine into the divergence trap are the characteristic signs of the strengthening in recent years of trends its divergence with the EU, as well as the existence of weighty factors of maintaining these trends in a fairly long-term perspective.

As already mentioned, a traditional indicator for assessing cross-country socio-economic convergence (divergence) is the volume of per capita GDP. However, within the framework of paradigm the sustainable development more congruent for such an assessment is the indicator of national well-being that is calculated taking into account human capital according to the methodology of the World Bank. In the report “Changes in the welfare of nations” for 2018 [18], as well as the open electronic database of the World Bank [19], national *indicators of aggregate welfare* are presented for the period 1995-2014 and *are*

defined as the sum of four components: natural, production, human capital and net foreign assets.

Comparative dynamics of level the welfare in Ukraine and individual EU countries for 1995-2014 testifies to the increase in “gaps” between them, which is a clear sign of socio-economic divergence (Table 7.3).

Table 7.3

Dynamics of national welfare per capita in Ukraine and selected EU countries in 1995-2014, thousand \$, in basic prices in 2014

Country	1995	2005	2010	2014	Difference with the indicator of Ukraine		
					2005	2010	2014
Ukraine	54,9	52,5	61,4	56,1	<i>n/a</i>	<i>n/a</i>	<i>n/a</i>
Bulgaria	34,6	56,9	68,9	81,9	4,4	7,5	25,8
Romania	76,0	96,5	101,4	107,0	44,0	40,0	50,9
Poland	82,2	109,4	146,6	154,9	56,9	85,2	98,8
Hungary	107,2	137,3	141,8	165,5	84,8	80,4	109,4
Latvia	98,4	172,7	178,9	236,9	120,2	117,5	180,8
Estonia	156,8	203,2	211,7	258,9	150,7	150,3	202,8
France	510,8	582,2	618,1	641,7	529,7	556,7	585,6
Germany	524,5	531,4	641,3	729,1	478,9	579,9	673,0
Denmark	663,3	799,3	819,4	854,3	746,8	758,0	798,2

Source: [18, pp. 226-232], [19], calculated by author

As shown in Table 7.3, the average level of well-being of Ukrainians in 2014 was estimated by the World Bank at 56.1 thousand \$. Its reduction in comparison with 2010 by 8.6% and “rollback” in absolute terms, almost practically to the level of 1995 points to the serious risks of losing the potential for sustainable development and improving the living standards of the population.

In the European integration context, it should be noted that today on specific welfare value of Ukraine shows a huge gap from the EU countries: from the poorest countries (Romania and Bulgaria) – by 1.5-2 times; from countries with incomes below the average (Hungary, Poland) – by 3 times; from middle-income countries (Latvia, Estonia) – by 4-5 times; from developed countries (for example, France, Germany and Denmark) – by 11-15 times. However, the threat to the European integration of Ukraine lies in not so much in the magnitude of its social “gap” with European states, but in the fact that this “gap” is steadily growing, even in comparison with the poorest member countries of the EU. Thus, over the last decade (2005-2014), the difference between the indicators of the specific welfare of Ukraine and Estonia, Hungary,

Latvia, Poland increased by 1.3-2 times, in Ukraine and Bulgaria – by 5 times (Table 7.3). Such dynamics indicate on the formation of a negative trend of divergence between the social-economic systems of Ukraine and the European Union, and the difficulty lies in the fact that there are factors that are working to enhance this trend in the long term. First of all, they are associated with the strengthening of institutions of destruction (including corruption), deepening deindustrialization, as well as the state of the labor market and macro finance system of Ukraine.

In our opinion, the most important of the domestic factors that fixing the divergence of Ukraine and the EU in the long term should be considered by the Ukrainian government at the end of 2015 restructuring part of the public debt on conditions that tightly tie the growth of the country's GDP to the size of its payments on public debt. As noted by many researchers, it is precisely the high rates of economic growth of the “outsider” countries that are a necessary condition for their convergence with the “leader” countries. In particular, this is confirmed by the experience of the post-socialist countries that joined the European Union in the first decade of the 2000s [20], and the annual real GDP growth of which in the pre-crisis period averaged 7-9%.

Achievement for the Ukraine of such rates of development is objectively inexpedient (and, taking into account the poverty trap, and impossible) because of the disincentives for growth in the economy of norm, stipulated resolution by the Cabinet of Ministers of Ukraine No. 912 of 11/11/2015 (with amendment) “On the implementation in 2015 of transactions on state and state-guaranteed debt for the purpose of its restructuring and write-off”. This document provides that during the 20-year period – from 31 May 2021 to 31 May 2040, in the event that the annual volume of nominal GDP reached 125.4 billion \$, Ukraine is obliged to pay on state derivatives the restructured part of the debt on the following terms:

- if the annual growth of real GDP is less than 3%, then payments are not made;
- if the annual growth of real GDP is from 3% to 4%, creditors are paid 15% of the excess of the 3% threshold of growth;
- if the annual growth of real GDP exceeds 4%, is paid 40% of the amount of such excess + payment under the previous option (i.e., 15% of the value corresponding to 1% of real GDP growth).

So, if the real GDP of Ukraine grows by 7% per year, the total payments to creditors within the framework of this scheme alone will amount to: $(0.4 * 3 + 0.15 * 1)\% = 1.35\%$ of its total value.

Many experts rightfully refer to the described conditions for restructuring the national debt bonded for Ukraine, because they actually force it to abandon the accelerated development and focus on GDP growth of no more than 3%-4%. However, such rates of economic dynamics predetermine not only the further location of country in the poverty trap, as recently confirmed by World Bank experts [21], but also its further divergence with the EU (falling into the divergence trap).

For a more detailed study of the phenomenon of the divergence trap of Ukraine and the development of recommendations for its overcoming, in the continuation of our study is planned construction of econometric models for checking the existence of β -convergence and σ -convergence of socio-economic systems of Ukraine and the EU or their divergence.

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**MODELS OF
ECONOMIC
PARTNERSHIP OF
UKRAINE WITH
THE COUNTRIES
OF THE
EUROPEAN UNION
AND THE
CUSTOMS UNION**

Since the creation of an independent state, Ukraine has been deeply integrated into the global economy, but remains one of the few large countries in the European space that were not included in integrational associations. Therefore, considering both global trends in “trade and economic blocking” and non-blocking positioning of Ukraine, it can be predicted that in the near future there will be an increase in the rivalry between Russia and the EU on the impact on the processes of economic integration of neighboring countries, in particular Ukraine.

Objectively, Ukraine is interested in deepening economic interaction with the countries of the Customs Union, since the basis of interest in cooperation with the members of the Customs Union is the strategic economic interests of Ukraine: the creation of a favorable and predictable economic environment in mutual relations; promoting the course for further structural adjustment and modernization of national economies, with a significant increase in the mutual turnover of the share of high-tech products and services; coordination of actions on the markets of third countries; an increase in the share of the real sector of the economy and strategic industries through the production-technological cooperation between enterprises of Ukraine and Russia in the sectors of the high technology, fuel and energy complex, machine building, space industry, electronics, shipbuilding and aircraft engineering, energy, transport and agricultural engineering, light and

food industry, agriculture and others. At the same time, Ukraine is interested in deepening its integration with the European Union, which is reflected in the legislation and the Constitution of Ukraine. The orientation of Ukraine at the same time to both integration associations also reflects the structure of Ukraine's foreign trade.

Thus, the task of creating conditions for sustainable economic development requires an adequate foreign-economic strategy that would provide answers to questions related to the development of an appropriate positioning of the state in the international division of labor. Particularly important is the definition of the benefits and risks that Ukraine will face when implementing alternative scenarios for interaction with the Customs Union.

Problematic issues of bilateral relations between Ukraine and Russia have reflected in numerous works of domestic scientists – V.S. Budkina, V.M. Heyetsa, L.I. Fedulova, V.K. Haustava, L.V. Shinkaruk. For example, in the latest scientific report of the Institute of Economics and Forecasting of the National Academy of Sciences of Ukraine, the results of research on the possible consequences of trade conflicts between Ukraine and Russia were presented and variants of cooperation with the Russian side in various sectors of mechanical engineering were considered. At the same time, an attempt to forecast Ukrainian-Russian cooperation in view of the current realities of international economic relations in the post-Soviet space was also made by Russian scholars such as: O.A. Bazaluk, N.N. Bondaryova, N.I. Komkov, V.V. Kotilko and others.

On the conceptual basis of these studies in [1] some features of modern economic relations of Ukraine with them are described. In [2] it is taken to study separate issues of possible interaction of the economy of our country with the countries of the European Union. In particular, it was noted that the introduction of commercial practices and social standards of the European Union [3] in our country will lead to rapid transitional socio-economic processes (which will require appropriate regulation), and the convergence of the low-productive economy of our country with a high-performing economy of the European Union without abandoning the modern principles of economic management in Ukraine will lead to simplification of the economic structure of society in Ukraine. The modeling of the quantitative characteristics of Ukraine's possible integration into the Customs Union was carried out taking into account the experience of the existence and analysis of the dynamics of the development of the countries of the CIS before and after its

establishment, the analysis of the results of quantitative estimates of changes in terms of trade and their impact on individual members of the integration bloc. In particular, the experience of forecasting the results of Ukraine's accession to the WTO and real indicators of export-import activity during the next three years was analyzed. However, these works did not investigate the possible alternative effects of convergence of Ukraine's economy with the economies of the European Union or Russia. In view of this, the task is to compare the possible economic consequences of the integration of Ukraine's economy into the economy of the European Union or Russia.

The aim of the study is to mathematically recreate the process of economic partnership between the two countries and to make a qualitative analysis of the mathematical model, which includes the following: to identify possible ways of developing events, to formulate requirements for the choice of control parameters and coefficients of the model, to provide economic interpretation of the results of simulation, a real alternative to the scenario of economic co-operation.

Let's consider the conceptual basis of the model of Ukraine's economy. We will take into account two groups of its participants. These are the workers, their number n_1 and owners of enterprises (n_2).

They have savings, respectively u_1, u_2 . Part α_i ($i=1,2$) of these savings they spend on personal consumption, part β_i ($i=1,2$) – on production needs ($\alpha_1=1; \beta_1=0; \alpha_2+\beta_2=1$). Owners of enterprises produce one type of aggregate product, its price p .

The quantity of produced product describes the production function $F(\beta_2 u_2 / p)$, which is dependent on capital provision $\beta_2 u_2 / p$. The amount of consumed product describes the consumption function $Q(\alpha_i u_i / p)$, depending on purchasing power $\alpha_i u_i / p$ ($i=1,2$). This function is lump-convex, it has an edge in the area between purchasing power at the level of consuming goods of everyday needs and durable goods [4].

Workers receive a salary s_1 , pay a tax on income κ_1 . Owners of enterprises pay a tax on the wage fund χ_2 and income tax κ_2 , suffering overhead production costs λ_2 .

Set the equation of a model of Ukraine's economy (without external influences). The rate of change in employee savings is u_1 proportional to

the difference between their income from salaries s_1 reduced by taxes κ_1 and personal consumption expenditure:

$$\frac{du_1}{dt} = s_1(1 - \kappa_1) - pQ(\alpha_1 u_1 / p) + \xi_1(t) \quad (7.1)$$

where $\xi_1(t)$ – a random function with zero mathematical expectation, which simulates casual incomes and labor costs.

The rate of change in the savings of owners of enterprises is proportional to the difference between revenues from sales and wage costs for workers, for production needs and personal consumption:

$$\begin{aligned} \frac{du_2}{dt} = & \frac{1}{n_2} \sum_{i=1}^2 n_i p Q(\alpha_i u_i / p) - p Q(\alpha_2 u_2 / p) \\ & \frac{n_1}{n_2} \left[(1 + \chi_2) s_1 + (\lambda_2 + \kappa_2) F(\beta_2 u_2 / p) \right] + \xi_2(t), \end{aligned} \quad (7.2)$$

where $\xi_2(t)$ is a random function with zero mathematical expectation, which simulates casual incomes and expenses of owners of enterprises.

The rate of change in the price p of goods depends on the difference between the real consumption of workers $Q(\alpha_1 u_1 / p)$ and the size of the "consumer basket" Q_0 subjectively planned monopolists in the market:

$$\frac{dp}{pt} = \theta \left[Q(\alpha_1 u_1 / p) - Q_0 \right] + \xi_p(t) \quad (7.3)$$

where θ – the parameter of inertia, $\xi_2(t)$ – a random function with zero mathematical expectation, which simulates the random deviation of the price. The equation (3) corresponds to a closed economy, in which most citizens, by any effort, can not achieve consumption higher than the needs of the day.

The solutions of equations (1), (2) are random variables that describe statistical distributions $R_1(u), R_2(u)$ indicating the number of participants in the economy that have savings within the

limits $[u, u + du]$. Since equations (1) and (2) are Langevin-like equations, in the stationary case, their solutions describe known distributions [5]:

$R_1(u_1) = R_{10} \exp(-2V_1(u_1)/G_1^2)$, $R_2(u_2) = R_{20} \exp(-2V_2(u_2)/G_2^2)$ where R_{10} , R_{20} - rationing coefficients, G_1, G_2 - function ξ_1, ξ_2 - dependent parameters. Parameters V_1, V_2 describe solvent demand, by physical analogy they are called potentials. They are:

$$V_1(u_1) = \int_0^{u_1} [s_1(1 - \kappa_1) - pQ(\alpha_1 u_1/p)] du_1,$$

$$V_2(u_1, u_2) = n_1 n_2^{-1} \int_0^{u_2} [pQ(\alpha_1 u_1/p) - (1 + \chi_2)s_1 - (\lambda_2 + \kappa_2)F(\beta_2 u_2/p)] du_2$$

If the functions ξ_1, ξ_2 are statistically independent, then the potential of the dynamic system (1), (2) is equal to the sum of potentials:

$$\tilde{V}(u_1, u_2) = V_1(u_1) + V_2(u_1, u_2).$$

Potential $V(u_1, u_2)$ describes the surface in the space of values u_1, u_2 . We will choose the value of workers' $u_1 = u_1^* = \text{const}$ savings, which are close to their real values. Let's down in the mark of savings of the owners of enterprises u_2 lower index. Function:

$$V(u) = \tilde{V}(u_1^*, u) \quad (7.4)$$

describes the potential of enterprise owners for the chosen value $u_1 = \text{const}$ of workers' savings. This is an indicator of the productive demand of producers, which are simultaneously consumers. Appropriate distribution of the number of owners of enterprises for savings:

$$R(u) = R_{20} \exp(-2V(u)/G^2) \quad (7.5)$$

Schematically, the graphs of functions $V(u), R(u)$ are depicted in Figure 7.1.

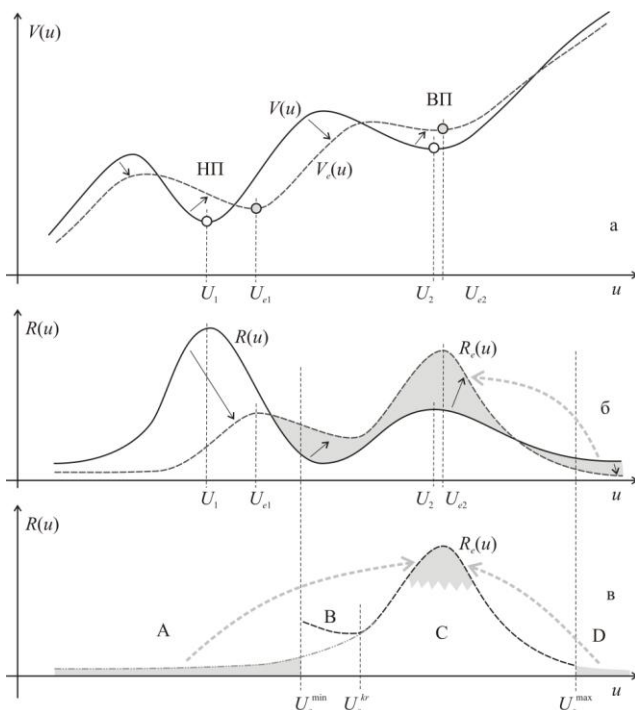


Figure 7.1 Schematic illustration of the change in the economic structure of society during the rapprochement of Ukraine's economy with the economy of the European Union

Let's consider how the model (7.1) – (7.3) will change for the possible implementation of reforms that are in line with the legal norms and practices of the European Union.

After the possible accession of our country to the European Union, the owners of enterprises receive income from the export of goods to the countries of the European Union at a price \bar{p} in amounts $\bar{Q}(t)$:

$$\begin{aligned} \frac{du_2}{dt} = & \frac{1}{n_2} \sum_{i=1}^2 n_i p Q(\alpha_i u_i / p) + \bar{p} \bar{Q}(t) (1 - \mu) - n_2 p Q(\alpha_2 u_2 / p) - \\ & \frac{n_1}{n_2} \left[(1 + \chi_2) s_1 + (\lambda_2 + \kappa_2) F(\beta_2 u_2 / p) \right] + \bar{\xi}_2(t), \end{aligned} \quad (7.6)$$

where: μ - the customs tariff, $\bar{\xi}_2(t)$ - a random function that imitates the deviation of the savings of entrepreneurs.

Under the conditions of compliance with European business practices, pricing does not depend on subjective planning (7.3), but on the difference between demand for goods and its offer.

$$\frac{dp}{pt} = \theta \left[\sum_{i=1}^2 n_i Q(\alpha_i u_i / p) - n_1 F(\beta_2 u_2 / p) \right] \quad (7.7)$$

Similarly to the indicator (7.5), the dynamic system (7.6) describes the potential:

$$V_{e2}(u_1, u_2) = n_2^{-1} \int_0^{u_2} \left[n_1 p Q(\alpha_1 u_1 / p) + \bar{p} \bar{Q}(t)(1 - \mu) - (1 + \chi_2) s_1 - n_1 (\lambda_2 + \kappa_2) F(\beta_2 u_2 / p) \right] du_2.$$

If the functions $\xi_1, \bar{\xi}_2$ are statistically independent, then the potential of the dynamic system (7.1), (7.6) is equal to the sum of potentials:

$$\bar{V}_e(u_1, u_2) = V_1(u_1) + V_{2e}(u_1, u_2).$$

For the constant value of workers' savings $u_1 = u_1^*$ function:

$$V_e(u) = \bar{V}_e(u_1^*, u) \quad (7.8)$$

describes the solvent demand of owners of enterprises that are simultaneously consumers. Appropriate distribution of the number of owners of enterprises for savings:

$$R_e(u) = R_{20} \exp(-2V_e(u)/G^2). \quad (7.9)$$

Schematically, the graphs of functions $V_e(u), R_e(u)$ are depicted in Figure 7.1.

Equations (7.1), (7.6), (7.7) and functions $V_e(u), R_e(u)$ describe the possible impact of European business practices on the Ukrainian

economy.

Consider the economic conclusions that affect the mathematical properties of functions $V(u)$, $R(u)$, $V_e(u)$, $R_e(u)$. Properties of these functions are well studied [6], in particular – concerning the economy of our country [7]. The potential of the economy of our country has two minima, which correspond to stable low-productive and high-performance states. In Figure 7.1 of them are marked accordingly U_1, U_2 . At the minimum $V(u)$ points, the distribution $R(u)$ has maxima that describe the main economic groups of the participants in the economy. The vast majority of producers in Ukraine have low financial capacity, which corresponds to the maximum $R(u)$ at the point U_1 .

According to the model (7.1), (7.6), (7.7), the convergence of the low productive economy of Ukraine with the high-performing economy of the European Union leads to an increase in the financial capacity of economic participants from the left maximum U_1 of distribution $R(u)$. In particular, this is due to the emergence of demand for their products in other countries. As a result, the extremums of the potential $V_e(u)$ and $R_e(u)$ distribution are shifted to the right: $U_{1e} > U_1$. Such successful regulation of the economy at the macro level is the result of an increase in the financial capacity of the workers and the result of the economic activity of the owners of the enterprises with the left maximum distribution $R(u)$.

The extremum U_2 corresponds to a highly productive economic state. The principles of managing Ukrainian and European owners of enterprises with savings $u > U_2$ are significantly different. In the West countries, the kind of respect for the partner of the economy with weaker financial power prevails. Due to this, most of the West's economies belong to the right maximum distribution, and the coordinate of this maximum moves to the right.

Participants in the Ukrainian economy from the region $u > U_2$, especially from the right tail $R(u)$ of the distribution, adhere to the principle of behavior $du_2/dt > 0$ (not reducing their own savings), $Q(u_1 / p) < Q_0$ (limiting the wealth of most citizens). These principles of behavior are implemented by economic methods (privatization, foreclosure of competitors, monopolization of markets and pricing), and

by means of public administration (complicating the legal framework of management, limiting the activity of licensing, financial competence, etc.). As a result, the Ukrainian economy acts as a “demon Maxwell”, which “sorts” the participants of the economy by their financial capacity and makes it impossible “their mixing.” In the symbols of the model, this leads to a shift to the left of the right maximum of the distribution of the number of participants in the economy by saving $U_2 < U_{2e}$ and reducing the area $R_e(u)$ under the schedule in the area $u > U_e^{\max}$.

Described the change in the principles of managing the owners of enterprises with large states $u > U_2$ disadvantage them in terms of short-term economic assessments. The authorities in Ukraine are not ready to abandon the “oligarchic” principles of economic management adopted by it, so there is a natural counteraction to the possible convergence of Ukraine’s economy with the economy of the European Union.

In Figure 7.1b the area of the shaded figure schematically shows how much the economic structure of society will change after the commencement of the rapprochement of the Ukrainian economy with the EU economy. The shaded area above the line $R(u)$ describes the number of business owners who improved their financial capacity by increasing the purchasing power of citizens with a steady income and as a result of changing the cost structure of producers with bigger wealth. The latter reduce the cost of personal consumption, reduce the volume of deposits and investments in other countries and, accordingly, increase investment in the domestic economy.

In Figure 7.1v dotted arrow depicts the change in the economic structure of society as a result of investing in the production of owners of large enterprises. To do this, it is necessary to produce high-tech products with a high degree of processing of raw materials, to introduce effective sales methods, etc.

The rapprochement with the EU economy is also linked to the implementation of “social standards”. According to European norms of management (in order to prevent the emergence of social tension) it is accepted to limit the number of citizens with an extremely large wealth $u > U_e^{\max}$ (section D). For this, progressive taxation, antimonopoly regulation are applied. Change in the structure of society, indicated by arrows in Figure 7.1v (transition from areas A and D to area C) is useful for society, since it leads to the creation of a single-modal distribution of the number of citizens by their status. First of all, it is interested in

owners of middle-class enterprises in the region C and skilled workers (who receive a large salary).

Social standards of the European Union differ from the social structure of Ukrainian society. In particular, the conditional boundaries of the “middle class” $[U_e^{\min}, U_e^{\max}]$ do not equal the conditional limits of the maximum distribution $R_e(u)$. Such discrepancies lead to fast transient processes that will require appropriate regulation. The distribution $R_e(u)$ in area B falls: for companies with low productivity of technology, it is less financially feasible. A fragment of the graph of the corresponding distribution is shown with a dotted line. However, according to EU standards in the B region, the distribution should increase $R_e(u)$ (in the B region, the number of workers is proportional to their qualifications). The corresponding line of the graph is depicted by a dotted line. This discrepancy concerns the activities of enterprises with low financial capacity, in particular – small farms. This contradiction between the national economic culture of Ukrainians and the standards of the European Union must be resolved without violating the development of economic and cultural processes inherent in Ukraine and not allowing the influence on this issue of Russian propaganda. In particular, it is important to improve the technical equipment of individual agrarian and other peasant farms. If you do not take care of the elements of the social structure, which are illustrated here by the fragment of distribution $R_e(u) \ u \in [U_e^{\min}, U_e^{kr}]$, then the economic structure of Ukraine’s economy will undergo a simplification, which is a sign of colonialism.

Consequently, from the foregoing follows the following conclusions. In the process of rapprochement of Ukraine’s economy with the European Union, the social and economic interests of the three economic actors are emerging: the European Union: Ukrainian citizens with small and medium-sized tribes (A, B, C), and citizens of Ukraine with large states (Region D). The introduction of European standards requires the regulatory protection of small enterprises with low financial capacity, especially in the field of traditional forms of management.

Let’s consider the peculiarities of the convergence of Ukraine’s economy with Russia’s economy. Modern Russian power connects the economy with politics, and this is the basis of Russia’s energy and military doctrine, and eventually the usual practice of commercial activity.

The function $\Xi_2(t)$ simulates the discreteness of economic relations with Russia, politically motivated by the Russian authorities. Therefore, on the average, the equilibrium U_{r1}, U_{r2} position lies to the right of the corresponding positions of equilibrium U_1, U_2 . So there is a group of participants in the economy (workers and owners of enterprises), which are economically dependent on discontinuous exports to Russia. Dice arrows in Figure 7.2 marked the movement of part of the economy from the group of producers oriented to the domestic market, the group of importers to Russia. The area of shaded figures in this figure indicates the number of such participants in the economy, which are aligned with the economic policy of Russia.

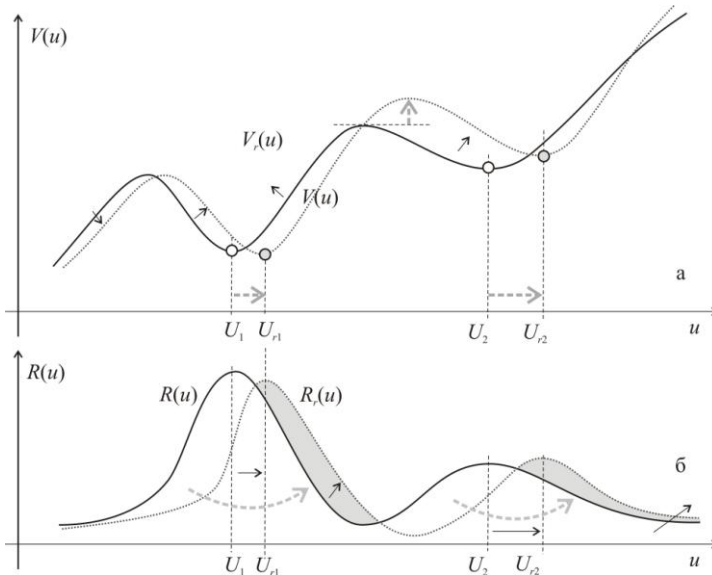


Figure 7.2 Schematic illustration of the change in the economic structure of society during the rapprochement of Ukraine's economy with Russia's economy

The second maximum $R_r(u)$ lies to the right of the second maximum $R(u)$. Dispersion $\Xi_2(t)$ is greater than dispersion $\xi_2(t)$. This suggests that the distance between the equilibrium positions in the low-productive and high-performance states described by the potential (7.5) is greater than the distance for the system described by the potential (4r):

$$\left| \left(U_1, V(U_1) \right) \right| < \left| \left(U_{r1}, V_r(U_{r1}) \right) \right| ,$$

where the symbol $\left| \dots \right|$ is the norm in the space of values (u, V) . This means that during a period of interrupted economic interaction with the Russian economy, the probability of a random transition of enterprises from a low-productive state to a high-yielding one is reduced, in particular – on the basis of the phenomenon of stochastic resonance.

From this, we can conclude: trade with non-member countries remains a key factor in the development of the economies of the countries of the world. Secondly, at the current moment of existence of the MS there are still no sufficient grounds for unambiguous assessments of the positive or negative effect of integration within the Customs Union. The absence of significant reintroduction effects for mutual cooperation may indicate an erroneous assumption by Russian experts regarding the high growth potential of participating countries as a result of the creation of a new integration bloc.

According to the results of modeling and integrated assessment of scenarios of Ukraine's interaction with the MS, scenario "Ukraine outside the MS: status quo +" is the most acceptable scenario for Ukraine. Under this scenario, Ukraine retains the benefits of openly cooperating with key partners of the country, and also benefits from strengthening economic sovereignty based on strategies for the development of a diversified, energy-efficient economy.

Comparing the economic consequences of a possible convergence of Ukraine's economy with the economies of the European Union and Russia leads to the following conclusions. Ukraine's rapprochement with Europe requires from Ukrainian enterprises to improve all aspects of economic activity in order to take a place in the market of EU countries, which is politically accessible. This is a prerequisite for changing the principles of economic governance. In the rapprochement with the European Union, it is necessary to introduce "social standards" by taking special measures to preserve enterprises with traditional forms of economic activity, despite their temporary low financial capacity.

That is, the rapprochement with the EU economy leads to the transformation of the modern closed economy of Ukraine into an open economy with its possible transition to a high-performance state, called the "economic miracle." The rapprochement with the Russian economy preserves for a long time the modern type of economic relations, with their inherent sharp social contradictions, political and economic

dominance of the owners of large enterprises, the loss of citizens of economic and political rights, the weakening of the sovereignty of the country.

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**INSTRUMENTATION
FOR THE
IMPLEMENTATION
OF THE REGIONAL
POLICY OF
STRUCTURAL
MODERNIZATION
IN UKRAINE**

The need to improve the social-economic development of Ukraine is due to the changing global trends of economic development and the need for the potential of traditional factors of increasing the competitiveness of the regions, both nationally and globally. Under such conditions, the existing mechanisms of regulation of development are not capable of solving the problems of social-economic development of certain territories, as well as overcoming the structural imbalances of the regional economy.

To solve the above, there is a need to create a new model of regional development, aimed at improving the structure of the regional economy.

In highly developed countries of Europe, one of the main factors in overcoming structural asymmetry is a well-founded regional structural modernization policy. The world experience in implementing such policy proves the formation of a strategic vision of the prospects for the development of each region. The strategy of such direction of structural modernization involves the abandonment of paternalistic tools for direct support of certain types of economic activity or enterprises, the use of horizontal instruments, whose action is aimed at creating an effective environment for interaction between business, society and government to form an effective structure of the region's economy.

The problem of structural changes in the economy has always been relevant for the scientists of our country and foreign scientists. In particular, this issue was dealt with in the writings of such scholars D. Bell, K. Ehrrow, E. Domaar, F. Ken, D. Ricardo, V. Pareto, A. Smith, V. Leoniev, A. Marshall, S. Ishchuk, I. Vakhovich, and others. The

problems of the development of regional structural policy are devoted to works: A. Melnyk, Y. Bazylyuk, O. Vlasyuk, V. Geytsa, M. Kizimi, I. Storyonskaya, L. Shablystoy, V. Pappa, T. Shinkorenko and others. [7]

In this context, solutions require the development of effective mechanisms for implementing such policies at the state and regional levels, as well as substantiating the proposals regarding the neo-industrial modernization of the economy of the regions of Ukraine, which will increase their competitiveness.

In carrying out a comparative analysis of the structure of the economy of Ukraine with the countries of the European Union, in particular, Poland according to GDP shows their similarity. However, these two countries have demonstrated opposing trends in socio-economic development in recent years. Because Poland is one of the fastest growing countries, Ukraine remains in a state of economic crisis. The undisputed objective factor of such situation in Ukraine is the military aggression of the Russian Federation, which is accompanied by a distraction of considerable financial and human resources.

Also, in the course of social-economic development of Ukraine due to other factors:

- the instability of the macroeconomic environment;
- high inflation rate;
- corruption of the authorities;
- low wages;
- unfavorable investment climate;
- low productivity;
- low level of production in many sectors of the economy.

In modern conditions, the way of attracting labor and capital into sectors with limited dynamics and low share of value added per employee, especially in such sectors as agriculture, power engineering and mining industry, is unpredictable.

It should be understood that modernization of the modern economy will be accompanied by increased productivity and improved organization of work and reduction of employment. Such changes will be complicated by a lack of financial resources, low level of economic activity in the country, which prevents businesses from financing large-scale transformations.

In general, Ukraine's economic growth can be achieved providing that appropriate growth rates and productivity improvements in all significant sectors of the economy. At the same time, growth potential and competitiveness indicators differ considerably for each sector of the

economy.

For the alignment of the Ukrainian economy with the EU countries, it is advisable to apply the following factors:

- support of science-intensive and technology-intensive sectors;
- inclusiveness and interregional cooperation;
- economies of scale and productivity;
- stimulating demand for innovation; [6]

At the same time, the criteria for distinguishing groups of sectors of the economy were: on the one hand – the dynamics of their competitiveness and on the other hand – factors of growth of innovation development. Based on these criteria four sectors of sectors are distinguished: high-tech industry, services, mass production, processing industry. Also, a separate place in the modernization of the economy belongs to the choice of goods and services that do not participate in global trade, but are important for the formation of regional and local markets.

European experience, in particular Polish, makes it possible to distinguish five factors of growth of high-tech industry:

- clustering and consolidation;
- the inversion of international cooperation;
- support of research activities;
- acquisition of foreign technology;
- promotion of high-tech domestic products on the foreign

market. [3]

Modern manufacturers often lack the scale required to gain status and gain a certain position in the market for high-tech products. Clusters that create healthy competition and increase productivity and innovation will be a tool for consolidating their efforts, thus stimulating the creation of new enterprises. At the same time, the development of clusters allows for such advantages as the territorial localization of significant financial resources, skilled personnel, and the growth of the efficiency of information flows.

Taking into account the potential of Ukraine in aviation construction, this particular sphere can become strategically important for the economy of the country. Therefore, one of the main tasks of the creation of the aircraft building cluster in Ukraine is the further promotion of this brand and the establishment of cooperation with similar clusters in the European Union.

The importance of European integration lies in the ability to share knowledge, gain new knowledge about the latest approaches to the

organization of production processes and production technologies.

A striking example of the effective use of the potential of international cooperation is the mechanical engineering of China. Thus, by concluding its first contracts for the supply of high-speed trains, the Chinese side simultaneously demanded information on the technology of their construction and the involvement of its specialists in the production of processes. [8]

As for the research and development of new technologies, as the basis for the growth of the high-tech industry for modernizing the economy, there are two ways:

- development and introduction of technologies from the beginning;
- purchase of ready-made technologies and their integration into production processes and products.

It is also necessary to understand that the development of modern technology or product from scratch is an extremely costly and lengthy process. The methods of a fast exit to foreign markets and the coverage of a market niche should include the acquisition of foreign companies.

Promotion of Ukrainian exports of high-tech products plays an important role in the development of this sector of Ukraine due to the relatively small size of the market and low solvent demand in Ukraine. For the support of exporters of industrial products and the establishment of external contacts of Swedish industrial companies, the Swedish government, within the framework of the Swedish Chamber of Commerce and Industry, created the BusinessSweden, funded by public and private sources, on January 1, 2013. [4]

The Chamber of Commerce and Industry of Ukraine, which has more than 400 years of experience, operates in Ukraine. However, this structure is not specialized and 85% of its members are representatives of small and medium businesses. [7]

Considering the strategic processes facing the industrial sector of Ukraine and the field of high-tech production, it is necessary to take advantage of the experience of Sweden, and to identify a structure that would deal exclusively with the type of product and establish contacts with companies that are engaged in research and development of new technologies.

A significant place in the system of industries of high-tech industry of our country should be discounted to the production of pharmaceutical products, since this sector is the most dynamic in recent years. Thus, the share of pharmaceutical production in Ukraine during 2012-2017 has grown from 0.7% to 1% in the structure of industry. For comparison, in

Poland, the share of this sector is also 1% in the structure of industry, with Poland today being the largest in central Europe and the sixth largest pharmaceutical manufacturer in the EU. [3]

Global trends indicate that business services will continue to develop. Firstly, the global off-shoring market for business processes that are expected to continue to grow at around 10% annually. Secondly, the gain in the competition will be able to get those countries that offer more technologically complex services. The services with the lowest added value will migrate to India and the Philippines. At the same time, Ukraine can win over-the-top offshore services.

Also, an IT service can bring a favorable contribution to Ukraine. Promotion of companies of our country in foreign markets predicts that the main areas of development of outsourcing IT services will be the following:

- Ensuring the functioning of the middle-office for banks and insurance companies;
- IT programming: software development, system administration and integration of IT infrastructure services, hosting and maintenance;
- Business analytics;
- Creation and support of logistics centers work;
- Research contracts in various industries and technological developments;
- Remote diagnostics of health and data storage;
- Administrative support for business. [5]

In our opinion, Ukraine has a great deal of competitive advantage in these markets: highly educated population, a large number of graduates with appropriate education, the existence of developed IT service centers and the experience of providing IT services on the basis of outsourcing and offshore.

The group of mass-oriented sectors includes automotive, assembly, furniture, textile and chemical industries, computer and electrical engineering, and metal products. This sector is the backbone for most European countries. In Poland it concedes on the contribution to GDP only in the sphere of services and provides strong competitive position of the country in the foreign market. In Ukraine, the development of this sector can take place on the basis of its own experience and taking into account successful European examples. In the coming years, mass production can become the main engine of the growth of the Ukrainian economy.

The main factors of the development of mass production in Ukraine

are: firstly, the attraction of large foreign companies to market leaders, who have access to new production technologies and productivity growth; and secondly, the optimization of production chains in terms of procurement, production, stock formation and product development; thirdly, achievement of the scale effect through consolidation; fourth, the production of Ukrainian brands and expansion to foreign markets. [9]

Types of activities such as textiles, furniture, and the manufacture of finished furniture products are one of the most fragmented industries in Ukraine. In such conditions, the consolidation of manufacturers and subcontractors on the initiative of large companies may be a very positive moment. This will allow us to achieve the scale, technology cost and modern production lines needed for further development.

Ukrainian producers can also create strong brands. Creating a brand and its promotion to the external market depends largely on the producer, but also on the support of the government.

One of the important components of GDP of our state in the current conditions is the extraction and processing of raw materials. However, this sphere is now essentially transformed under the influence of forced circumstances connected with the loss of Ukraine's control over the gas deposits of the Black Sea shelf and tourist segment of Crimea and a significant part of the mining, metallurgical and chemical industries of Donbas in 2014-2017. Lost businesses formed the basis of the entire branches of the economy. [1]

In general, Ukraine has a strong mining potential and is one of the leading places in the European countries for the extraction of iron and manganese ores, stone and brown coal, ores of non-ferrous and rare metals, native sulfur, stone and potassium salts, production of ferromanganese and alumina. They also extract oil and gas, industrial minerals – dolomite, kaolin, graphite, quartz, and the like. [2]

The improvement of the extractive industry activity should take place in all these areas, and the most important point is the change of approaches to the development of this sector.

It is extremely important in the development of mining industry development to conduct a deep audit to identify mines, which, even under modernization, remain unprofitable due to the peculiarities of extraction processes and the geological occurrence of raw materials. Such mines are subject to conservation, which will increase the profitability of the sector as a whole.

The sector of production of goods and services for local markets

today is the most important sector of the GDP of Ukraine, which includes agriculture, energy, transport, retail and wholesale trade. These industries are less prone to global trends and are much more focused on the regional market.

Growing urbanization across the entire territory of Europe creates new opportunities for Ukraine in the field of food supply. It is also necessary to emphasize the significant growth of agricultural productivity of our country over the last decade, which makes its exports more competitive.

It must be understood that the competitiveness of Ukrainian products in European markets is significantly undermined by the implementation of support programs for agricultural producers in the EU.

If we talk about stimulating the development of industry in individual EU countries, today in most countries there is something of a mean: a horizontal sectoral policy is considered a good tone, and it is precisely for it that it served as the basis for the principles of the European Union's economic policy, but in practice there is still no single government not ready to completely abandon all the levers of economic management. The result is the so-called soft vertical industrial policy: the government is working with industry to improve their productivity and listen to their needs.

The industrial policy pursued in Ukraine can not be attributed to the horizontal or vertical type. The government's action to support the industrial sector is of a pivotal nature and is not based on a clear strategy for industrial development. Several dozen state programs have been allocated and allocated to support the industry, but as a rule all of them are the fruit of lobbying efforts by representatives of certain industries or enterprises, or dictated by political considerations. [4]

That is why the development strategy of Ukraine should be based on the modernization of the industrial structure. Such policy should be based on the creation of optimal conditions for enterprises to enhance their competitiveness through a variety of timely instruments of economic policy. This will facilitate the transition of Ukraine to a new level of the industrial structure of the state.

Consequently, the strategic structure of industry can not be achieved without the development and implementation of a comprehensive structural policy at both the state and regional levels, the implementation of an effective financial policy that will ensure enterprises' access to credit resources, a stable tax policy and the improvement of the judicial system in the state.

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FEATURES OF VISION OF THE CHRISTIAN FAMILY: EUROPEAN MODERNIZATION VS TRADITIONALIZATION

Family and family relationships was in the focus of the Christian Churches during a long time. The family is seen there as a sacred teaching. The church acquired the right to authorize the formation of family through the sacrament of marriage, in which the marriage is blessed “in the form of spiritual union of Christ with the Church.” Christian exegetics according to Scripture defines the family as “the foundation of the Church with Christ”, and married life – as “a source of personal and social good” [8, pp. 507-508]. In the theological and church-practical contexts, the family is considered to be a carrier and transformer of religious values, religious orientations to the other generations.

For a variety of objective and subjective reasons, the modern institution of the family is in crisis. Despite considerable efforts made by the Christian churches, theologians and clergy directed to maintain a traditional attitude to the institution of family and marriage, the real processes in this area are destructive: according to Ukrainian and foreign statistics, almost half of marriages (the majority is sanctified with a religious ritual) divorces; the level of single-parent families, homeless children, orphans with living parents remains high; premarital sex has become a norm; gay marriages, homosexuality, pedophilia are becoming valid etc. Assessing the condition of the modern family and relationships, the All-Ukrainian Council of Churches and Religious Organizations, which represents more than 90% of Ukrainian religious organizations, stated that there is "the decline of family values" [1].

In most religious environment, particularly among Western theologians, clergy, faithful philosophers, sociologists, psychologists the number of people, who try to theoretically justify these processes and phenomena increases. They usually try to narrow them down to some theological and philosophical bases, and they tend to base on the

modernist reconsideration of the traditional vision of these problems, to normalize these trends. At first, it seems that they reject “old”, but actually they try to impose the reassessment of values (moral, religious, social, psychological, behavioral, ethical), and it may somehow lead to the strengthening of negative processes in the family sphere, the increase of family divorce number, demographic crisis, social and individual irresponsibility, immorality, different perversions [2]. Considering the above, it seems urgent to examine the problem in a more detailed way, taking into account religious position’s peculiarities.

On what bases is the current religious traditionalism in family sphere based? According to the Orthodox Archimandrite Raphael (Karelin), “traditionalism is based on the unconditional faith in the reason of the Church (“the reason of Christ”) and subordination of smaller, limited, misled by misconceptions and sin human reason to the reason of Church. To live by the Church’s rules means to be incorporated into the Church, live in it as in a living organism, to see in the Church the eternal guidance of the truth. In the New Testament church is called “the Body of Christ”, “the pillar and ground of the truth”, so the teaching of the Church is inviolable” [7].

Thus, it was said about the unconditional human thoughts and actions (including its limitations and the “minority” of the mind) subordination to settings of the Christian Church. Thinking in this way, the Christian norms dealing with family, marriage, family relations are dominant, in a priority, where the subject’s own opinion about family relationships has secondary importance.

Modernists’ desires to revise and update the existing installation of Christian theological concepts in the family and marriage sphere are objective due to several external and internal reasons, relating to religious and church complex. If the processes of globalization, the information revolution, the political and social instability, demographic fluctuations, which ultimately affect the institution of the family, are mainly objective, there is a number of other reasons connected with the processes in the Church and religious environment.

On the one hand, the actual religious life of the Church Christian is full of dogmas, rules, regulations. On the other hand, the real thoughts and actions of the modern believer are sinful, so these two realities operate without interfering with each other. Often there is an optional obey or even there is ignoring of the part of the faithful religious and church regulations relating to family, marriage and family relations.

The idea that there is a relatively high (according to sociological

research) level of public trust to the institution of the Church and the clergy, but the level of actual compliance of its instructions in practical life is much lower.

Today the existence of many inefficient, in certain aspects, religious rules and regulations, relating to marriage and family norms, which in practice can be ignored, led to the emergence of concepts, which try to change the current state, to modificate religious provisions to be more flexible, to make them match with modern demands. The features of the transformation of the family become common with the important reasons of the revision of the existing regulatory provisions on family and family relations. The transformation of the family is observed in most of the countries and clearly began to be noticeable at the end of the 1980s, it is confirmed by decreasing number of marriages, their “aging”, the increase in the number of unregistered marriages, falling of birth rates, increasing number of small families, the increase in the number of unwed parent’s children. The positions of scientists, who can see in these processes and phenomena the degradation of traditional forms of social life and family, are raising [6, pp. 65-72]. There are various measures taken to improve the situation in the society, but the Church has not achieved obvious results yet.

A Christian Family in a traditional understanding – is a community of individuals who believe in God, the center of thier lives is God, they are connected with love, able to build a harmonious relationship with each other, a society and state. The understanding of the family’s role comes from the Holy Scriptures as the highest authority of morality, and based on the centuries-old experience of family’s care of Church.

The family begins with the marriage. Marriage is the legal union of a man and a woman, and by Holy Scripture there is no possibility of other forms of cohabitation. The union of people with the same sex is sinful and can not be considered a marriage (Rom 1: 18-32; 1 Corinthians 6: 9-11.).

Divorce in Christianity is considered to be a family tragedy, but assuming that the church is aimed at maintaining or restoring family values, the religious communities have to remind people about the responsibility that they bear in marriage. The responsibility of the Christian community is to promote the preservation of marriages and to prevent divorces.

The holiness and purity of premarital relations have traditionally played an important role for creating a happy and harmonious life. Birth and upbringing of children is an important part of the life of the spouses.

In almost all religious systems, the family is seen as a source of human existence. However, family concept model has specific features in various religions and confessions. Faith-based (religious) rules determine the features of marital relations in the family.

All Christian confessions are based on the understanding and interpretation of the Bible. However, its understanding has certain distinctions among the different branches. The criterion for a proper understanding of Scripture is the word for the Catholic Pope to Protestants, the thoughts of the founder or theologian to some confession and even the personal opinion of the believer, for the Orthodox the only reliable criterion is the so-called Holy Scriptures.

In addition to the common characteristics that determine the development and functioning of the family system, there are specific differences in the confessional marital relationship.

In Orthodoxy and Catholicism with dogmatic creed the system of religious action is closely linked. The seven major bases of this sacrament: christening, communion, penance, anointing, marriage, priesthood.

The sacrament of marriage was established for the sanctification of family life and the Church's blessing of the conjugal union. It happens during the wedding ceremony.

If there are seven sacraments in Catholicism and Orthodoxy, the Protestant faith left only two sacraments of christening and communion. However, the effect of these rites was deprived of special magical powers. The Lutheran faith generally considers marriage to be the usual ritual action.

Marriage is one of the Christian sacraments. According to (Gen. 2:18), the purpose of marriage is not only childbirth, but the spiritual and corporal unity, mutual complement and mutual assistance. The commandment "Be fruitful and multiply" refers to man and other living creatures (Gen. 1: 22.28), but only a human commanded to make "one flesh" in love (Genesis 2:24.). Childbearing and upbringing are the main purposes of marriage.

Orthodox Church in its history has never tied itself to certain statements on this issue. But this does not mean that the problem of control over the childbirth is absolutely indifferent to the Orthodox Church. Christian attitude to marriage implies that childbirth is natural and sacred, and is a part of Christian marriage.

A fundamental thing to this issue in all times of Christianity was a denial of birth control. Christianity has always been critical to the

usement of contraceptives, and any methods of protection. Abortion of pregnancy on any terms without a serious medical reason is viewed as a mortal sin, so the Church strictly forbids abortion.

In today's world the problem of birth control has entered into a new phase of the invention and spread of contraception. Another factor is the creation in the postwar world new free attitude to sex, called the sexual revolution that destroyed the family. This situation has led to the emergence of differences in opinions within Christianity. For example, the Protestant churches (except for Mormons) consider the conscious family planning within the Christian social ethics to be a vital necessity.

On the contrary, the Roman Catholic Church in special encyclicals of Pius XI (1930) and Paul VI (1968) completely bans all means of contraception. However, the Catholic Church followers almost ignore the ban of the useage of the abortion (at least in most industrialized countries).

Modern economic and demographic challenges, new opportunities provided by social and technological progress require a deeper understanding in the context of the Christian culture of family planning.

As for the question about the possibility of mixed marriages, it was already mentioned in the Old Testament, the question of unity of faith is considered to be the one of prime importance to the spouses. "Do not make marriages with them; thy daughter thou shalt not give his son, his daughter, do not take for his son, for they will turn your sons from following me to serve other gods, and then kindled against you the wrath of the Lord, and he will soon destroy you" (2 Kings 7: 3-4). The impossibility of a "mixed" marriage was the obvious truth for each old member of the Church for the simple reason that marriage is always a sacramental communion, when it is impossible to take communion, it is not possible to make a marriage.

In our time, Protestant churches allow and even encourage taking a mutual communion. The Orthodox Church does not deny the fact of the internal unity of all those who believe in Christ and does not exclude co-operation and the Christian brotherhood. However, there are the differences laid down in the fundamentals of Churches. For example, the Catholic Church focuses on inner feelings. The Protestant Church is inclined to the assertion of pragmatism and study the gospel. In the Orthodox Church a central place is given to theology and worship. Orthodox consciousness can not go the other way.

But studies conducted at different times show us the contradictions among traditional attitudes and trends of our time.

By the early 60-ies of the XX century, Catholics, comparing to Protestants, rarely got intermarried, rarely did abortions, they had fewer divorces, families were much larger. There were different ways of interpretation of these data. Somebody thought that it is the result of the socialization of the church. Others believed that different value orientations of Protestants and Catholics were the most crucial reason. For example, a high mobility of the Protestants leads to greater family mobility, since divorce is simply interpreted as the termination of relations, and marriage does not do not provide the desired goal – finding happiness – to partners.

Recent studies have showed that, since the late 50s of the 20th century, all the changes in Western countries have been developing in the same direction: the Catholic population has been increasingly borrowing Protestant value orientation and behavior patterns.

There are certain trends of the modern church life of the Orthodox laity in Ukraine, among them: the privatization of religion life spread of external religiosity, a small religious activity, which leads to a little laity's knowledge of the church doctrine.

Recently, for Christian families characteristic feature when in the church – is one family, and the threshold – I quite different.

The modern Christian family is becoming more closed. And, as it is stated above, the fundamentals of the Christian life is laid in the family. However, the creation of a “family atmosphere as a small church” faced with certain problems. First of all, it is a strong influence of the Church of the Soviet living standards. Nevertheless, it is dangerous for a truly Christian family to detach from reality and the close within the church environment.

The continuing debates about the relation of the church to gay marriage have become extremely wide resonance among the representatives of different faiths. Civil marriages, sooner or later, will get an agreement. As to the church's blessing of gays and lesbians, there are disputes, as religious marriages between people of the same sex are registered in different countries.

In the first book of the Bible it is said: “a man leaves his father and his mother and cleaves to his wife, and they two shall be one flesh” (Genesis 2:24.). The word “wife” in Hebrew, according to the “Vine's Dictionary of Biblical Words”, means “a female person.” Jesus confirmed that marriage is designed to be between “men and women” (Matthew 19: 4.).

For several millennia, the Old Testament and the New Testament

churches have formed some idea of the impossibility of carnal relations between members of the same sex. Same-sex marriages are considered to be invalid. There are not a lot of points about it, but it shows that the Old Testament prophets, Jesus Christ and the apostles thought it was needless to say that such relationships are sinful. The church can not equalize the status of full traditional marriage between a man and women and same-sex marriages due to the fact that it contradicts all the previous thousands of years of church tradition. In addition, as it was stated in the Bible, the original creation of man is not provided for the establishment of two men and two women, just for men and women for their marriage. Probably, it happened because of the opinion of the Holy Fathers about marriage: the same-sex marriage can not give a birth, but at the same time it said that man and woman should complement each other, so humanity has been created in the form of two people of opposite sexes. A try to cross the original plan of God, which implies a marriage between a man and a woman as the only possible form of marriage between people, in fact constitutes a denial of fundamental concepts.

The representatives of various branches of Christianity express different positions and have the ambiguous and sometimes conflicting views on the issue of same-sex marriages.

The Orthodox has never considered and taken this issue seriously. However, the Orthodox Church absolutely negatively estimates this phenomenon, considering it “a direct distortion of nature”, “sinful distortion of human nature.” It contradicts the Christian moral teachings and threatens the family and marriage. The sharp criticism of the Orthodox Church is aimed at the representatives of the modernist vision of the issue, which, under the banner of protection of rights of national minorities are trying to approve homosexuality not as a sexual perversion, but as “one of sexual orientation” as a “normal way of sexual life” [2].

The Pope has approved the official view of the Catholic Church not to recognize same-sex marriage, which, in his view is unnatural. Vatican condemned the steps taken to legalize such marriages in Europe. Homosexuality is not condemned by the Catholic Church, but homosexual acts are considered to be a sin. (This view is not surprising, since the Catholic Church condemns abortion and extramarital sex).

Same-sex marriage is one of the threats of the traditional family, “the future of humanity,” says Benedict XVI, he further noted that: “It is not a simple social contract, but the basis cell of any society.” [4] Therefore,

those who undermine the integrity of the family threaten human dignity and the future of humanity.

According to the authoritative representatives of the Catholic Church, a strong union between a man and a woman, which creates a family caused by the nature of human being, and “if the state has the right to enact laws on marriage in which children are born ... it can not give an equivalent legal status to the union, which by its very nature it is barren and is within the scope of private choice.” [3]

As for Protestantism that is represented by the hundreds of religious beliefs on the world map today there are confessions that have categorically denied this kind of marriage, along with the confessions that recognise the same-sex marriage. This is referred in the Declaration “On the protection of the moral and family values” of the Council of Evangelical Protestant Churches of Ukraine, which unites nine Christian confessions (about 8,000 religious societies). It says that the Protestant Church categorically do not accept and do not support fake “values”, which are imposed on the media: the legalization of debauchery, sexual perversion, “free love” and others. The destruction of the family institution leads to spiritual impoverishment of the nation. Therefore, one of the main tasks of these churches is to bring Biblical principles into all spheres of public and private life of people. [2]

However, many of the Protestant Churches of the West bless same-sex couples and do not have any problems just because they do not see any reasons that could condemn homosexual unions, homosexual relations. The same process can be observed in the Catholic Church, despite the fact that Vatican’s official position quite tough. Despite the actual practice of the Catholic communities in the West, you can see that there are many communities that support gays and lesbians. Such a “modernist” vision of the unnatural phenomenon spreads, including the representatives of the churches, which conflicts not only with Christian principles, but is also opposite to common sense and nature.

To sum up, it can be stated that one of the important social functions of the Church lies in the preservation of the social traditionalism, morality, marriage and family relations. The church stands for morality, remaining socially significant institution of moral and ethical systems. But there is a question if these system’s norms and rules may remain the same. There would be an automatical support of evolutionism and recognition that humanity is consistently evolving, if the approach of modernists was considered.

This means that the traditional interpretation of Scripture might be

reconsidered and, as the possible consequence, there might be the neglect of the Church's dogmas. The Christian Church can not allow this to happen, since the traditionalism has been positioning itself to keep the truth, which has been found in Revelation.

In today's confrontation between traditionalism and modernism in the family sphere, one side can hardly win. It is more likely that the dispute will become protracted, and will end with a compromise, which will largely depend on the actual course of events and processes in the area of family relations.

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**GOVERNMENT
REGULATION OF
CONSUMER GOODS
MARKET IN THE EU
MEMBER COUNTRIES:
LESSONS FOR
UKRAINE**

Forming of the socially oriented market economy in Ukraine constitutes a complicated and large-scale problem. The use of EU Member States' experience can save a significant amount of time, endeavors and means. It also concerns the practice of government regulation of consumer goods market to the fullest extent.

It is impossible nowadays to develop a European country without a conscious citizenship and an exercise of human rights, in particular consumer rights and conducting of relevant consumer policy. EU Member States efficiently introduce the standards of safety and goods' and services' quality, which are the parameters of residents' well-being. Therefore, the experience of government regulation of EU consumer goods market is of special value for Ukraine.

Consumer goods market in EU Member States has been functioning within the regulative and legislative limits and governmental and public control for the decades. This maintains the regulated price level, extremely broad choice of goods and services, high level of their quality and efficient protection of consumers' rights.

In our opinion, price regulation is one of the basic forms of consumer goods market's government regulation. Examining of the experience of EU Member States shows that their authorities have developed concrete principles, methods and regulations on price setting. In addition to making strategic decisions, state authorities undertake the function of setting prices for certain types of goods and services, which are of strategic importance for the national economy.

Along with direct setting and regulation of prices, state authorities also conduct routine control over price situation on the consumer goods market. Overall, the sphere of governmentally controlled price setting in the EU amounts to 10-30% of total volume of production [1, p. 67]. Moreover, it concerns not only the prices for the raw materials, materials and energy products, but also essential commodities, which

are sold on consumer market.

Thus, in particular, strict regimen of government prices regulation existed in France during 1947-1986. In certain years the government blocked the growth of almost all prices. Gradual liberalization of prices started in 70th years of XX century at first for industrial production and later for consumer goods. However, the prices were reduced cautiously; primarily in the most competitive branches, later in the branches, where there were no abrupt leaps in prices due to the specifics of production, and finally in the branches, which have sustainable market due to the system of social maintenance. Nowadays, more than 80% of prices in France are removed from state control [2, p. 322].

In Spain the state also actively regulates prices. However, the list of goods and services, which fall under the governmental prices regulation, constantly reduces as well. Currently, specific weight of prices directly set by the state in the overall prices structure amounts to approximately 10%.

Reduction of governmental price setting is observed in the EU countries. This can be explained by the fact that the experts in these countries have come to indisputable conclusion that a large-scale control over prices makes the market less flexible, prevents the production growth, reduces competition and limits the inter-branch flow of capital. Large-scale government intervention in price setting is deemed to be acceptable only under the conditions of strong crises and inflation splashes. However, limited government regulation of prices takes place in almost all EU Member States.

Thus, Sweden and Finland keep state monopoly on alcohol beverages and medicine trade. [1, p. 68]. The countries promote the import of fortified goods – vegetables, fruit and citrus fruit. Trade enterprises, which organize sales at a social low price, obtain preferential long-term loans from state.

Selective loan policy is also an equally important direction in the sphere of government regulation of consumer goods market. It is directed at reactivation and promotion of consumer demand and support of trade enterprises that sell their goods at a social low price. In such a way, both consumer goods' buyers and sellers receive a loan support. Consumers' loan support takes place in case of buying expensive, but necessary in everyday life durable goods.

Commercial banks credit the residents with low income to a limited extent. Therefore, a state establishes the reduced interest rates for residents to purchase expensive consumer goods [3, p. 52].

Government regulation of consumer goods market in EU Member Countries is directed at promotion of demand. When credit facilities are not enough, even such measures as direct subsidies to consumers in the demand increase chains can be applied.

Tax methods are widely used in EU Member States in the process of consumer goods market government regulation. In such a way they regulate the volumes of various goods' consumption (through establishment of differentiated tax rates on sales, excise tax) and the volumes of various goods' supply on consumer market through import (change of customs tariffs and duty rates).

Tax regulation mechanisms are characterized by considerable flexibility and variability. Sales tax, excise tax and import duties are constantly regulated depending on actual situation on consumer goods market. Usually, essential commodities have the lowest tax rates in the majority of European countries, and the luxury items, alcohol beverages and tobacco bear the major tax burden. Therefore, the importance and the necessity of a certain good for population are taken into account to a full extent.

Different NGOs have a great influence on consumers on the market in the EU Member States along with state authorities. Moreover, their influence grows constantly. In particular, large national consumer organizations have been created during recent years, e.g. British Consumers' Association combines hundreds of thousands of residents. NGOs in the sphere of consumer rights protection exist also in Austria, Finland and Hungary.

The governments of EU Member States have created specific government structures to cooperate with such a representative NGOs. For example, National Consumer Institute in France.

NGOs in the EU promote the improvement of legislation on trade and services as well as rights and responsibilities of entrepreneurs that develop strict standards of security, environmental friendliness and quality of goods and services. Consumers' unions conduct independent expertise of goods and services and awareness-building work, cooperate with lawmakers and producers, conduct public opinion polls, define consumer advantages, publish reference books and special literature and provide a necessary legal maintenance to residents [4, p. 35].

The basis for this activity includes expert and research institutes, laboratories and training centers created and functioning at consumers' unions' costs.

Professional organizations of entrepreneurs also play important role

in regulation of consumer goods market. Different entrepreneurs' organizations act in the EU Member States, i.e. unions of producers, importers, exporters, retailers and wholesalers, craftsmen, etc. They actively protect the rights of entrepreneurs, which belong to them, and defend their corporate interests. The only thing forbidden for corporate unions of entrepreneurs by legislation is restriction of competition, concluding agreements on division of markets and adjustment of prices and tariffs.

Countering the non-price competition is important here. Having obtained a monopoly power, a seller can increase a price of a product within certain limits without the risk of reduction of its sales.

While solving the other issues, the entrepreneurship unions most often contact the governmental structures and lawmakers. In many countries the entrepreneurship unions have undertaken the function of control for the quality of goods and services and for the compliance with technical terms of production, professional ethics and the rules of fair competition. They also issue the licenses for different types of activity.

Technical regulation means the system of legal regulation of relations in the sphere of establishment, application and compliance with necessary requirements concerning the production and related processes, systems and services [5].

Regulative basis of each EU Member Country includes all European standards (almost 18 thousands nowadays) adopted by European Standardization Organizations CEN i CENELEC. Each country adopts them at national level. There are only a limited number of purely domestic standards, which represent the specifics of economy in certain country (from 2% to 30% of the overall number) [5]. The standards are for voluntary use and are developed by CEN and CENELEC according to specific European Commission mandate.

The policy of technical regulation also has been changing during 2000-2015. Legislative basis and infrastructure were formed according to the decentralization approach. Harmonization of domestic standards with the European ones is maintained on the constant basis in Ukraine, in particular those, the voluntary use of which is the proof of production correspondence to EU technical regulations [6, p. 53]. Notably, nowadays the fund of national standards amounts to 15 133 domestic standards and 11 300 of them are harmonized with the European ones.

The functions of standardization, certification, metrology, market surveillance, accreditation and consumers' rights protection are detached in the majority of EU Member States (Table 7.4).

Table 7.4

Institutes of standardization, certification, metrology, market surveillance, accreditation and consumers' rights protection in some EU Member States

Country	Institutes
Austria	Ministry of Economy, Standards Institute, non-governmental certification authorities, State Bureau of Metrology.
Germany	Standards Institute, German Physics and Technology Institute, German Accreditation Council, Federal Ministry of Food and Agriculture.
France	Ministry of Economy, Standardization Association, National Metrology Laboratory, Directorate General on Combating the Smuggling and Counterfeit, the network of NGOs and arbitral courts on consumers' rights protection.
Czech Republic	Ministry of Industry and Trade, Economic Chamber, Standards Institute, State Administration on Standardization and Metrology.
Latvia	Ministry of Economy, Standardization Association, Consumers' Rights Protection Center.
Poland	Ministry of Economy, Standardization Center, Regional Inspectorates under the Competition Committees.
Hungary	Ministry of National Economy, Standards Institute, the network of NGOs on consumers' rights protection.
Ukraine	<i>Ministry of Economy and Trade, SE "Ukrmetrteststandard", Ukrainian Scientific-Research and Educational Center on the Issues of Standardization, Certification and Quality.</i>

Source: calculated by authors

The experience of EU Member Countries shows that a state can and should regulate the rates of supply and demand at national and regional markets of consumer goods through the control of prices, income levels, supply volumes, compliance with free competition and goods' quality and safety using the tax and credit leverages and simultaneously changing the volumes of state purchases of goods and services.

Consumers' NGOs actively influence the market of consumer goods through initiating of relevant legislation improvement, surveillance of goods' and services' quality, fighting for the rights of consumers and building the awareness among the residents.

The results of European practice of consumer goods market government regulation emphasize the practical operability of this

experience in the domestic conditions. However, the EU Member States' measures on government regulation of consumer goods market should not be just blindly copied. It is important to adopt their basic principles: the duty of a state to take care of its population, residents' activity and self-organization, flexibility and de-ideologization of all regulation forms and types [1, p. 70].

Conclusions. The following are the priority directions of government regulation of consumer goods market at the current stage of integration processes in Ukrainian economy:

- expansion of product proposals on the basis of governmental stimulation of domestic production as well as improvement of its structure and efficiency;

- achievement of rational balance of domestic production and imports of consumer goods;

- further growth of residents' consumer ability through adjustment of its income forming, including the increase of labour remuneration in public sector, growth of pensions, etc;

- creation of conditions for normal competition at the consumer goods market, government assistance to small business;

- stimulation of consumer market's infrastructure development;

- accomplishment of necessary activities on protection of consumers' rights, adherence to government standards in terms of food safety;

- reduction of differentiation of regional markets' development levels, creation of conditions for functioning of full-scale pan-Ukrainian market of consumer goods;

- attraction of various NGOs and professional enterprises, which are the independent bodies supervising the quality of goods and services on the market and fighting for consumers' rights;

Application of European legislation in the sphere of technical regulation is the second direction of consumer goods market development, designated to create the domestic system of market surveillance over the quality and safety of production introduced to the market. In particular, the Law of Ukraine "On internal trade" should be adopted in order to create the basis for forming of domestic trade laws and to promote efficient regulation of consumer goods market.

Therefore, the state has to promote business activity in this sphere and to contribute to saturation of internal consumer market with domestic competitive goods. It is important not only in order to maintain economic security of a state, but also to reduce unemployment, promote

increase of income of both consumers and producers and attraction of investment into Ukraine's economy.

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**DECENTRALIZATION AS A
MEANS OF
INSTITUTIONAL SUPPORT
FORMATION OF A NEW
REGIONALISM IN
UKRAINE**

In today's conditions, the emergence of a new regionalism in Ukraine is due to the intensification of the dynamics of European integration processes. It is necessary to highlight the process of decentralization of power among the institutional determinants of the emergence of a new regionalism in Ukraine.

The process of overcoming the institutional, socio-economic and moral and psychological obstacles to the development of regions today

is an urgent requirement of time that will contribute to the formation of a new regionalism.

Decentralization of power should be an impetus for the development and implementation of new strategies for the development of regions, provided that decentralization mechanisms are taken into account.

Decentralization of authorities will contribute to: the establishment of interconnections and the coherence of the interests of regions with the nationwide, increasing the level of public confidence in the government, will enable each region, taking into account existing socio-economic problems and regional needs, to determine direct participation in addressing interregional issues with a view to more effective interregional exchange national resources.

Under the influence of globalization processes in European countries, a new institutional practice is being formed within apart states, a new regionalism with certain common tendencies, namely:

- reducing the influence of states and administrative resources on the regulation of economic processes in the regions and the creation of new zones of regional influence;
- formation of new information connections and interaction of regions' subjects through interaction not at the state but at the regional horizontal level, which in the conditions of globalization processes promotes the entry of regions into world structural processes;
- regional interaction both within and outside the individual countries, which is conditioned by economic feasibility rather than administrative resources;
- creation of an international communication environment with creative social and managerial practices, etc.

The European Parliament in accordance with the political and legal status of the regions, the level of their self-governing rights and the corresponding state policy proposed the following typology of regionalization processes [Ошибка! Источник ссылки не найден., c. 57]:

- firstly, regionalization through federal education – involves the transition to a federal territorial entity from a complete state unitary and / or complete state independence;
- secondly, regional autonomy – where autonomy acts as a form of decentralization of state power and institutionalization of regional power at the same time;
- thirdly, regional decentralization involves granting the right to self-government to territorial units of the upper level; at the same time,

national interests at the regional level are realized through the delegation of respective powers to the self-government authorities and / or the system of state authorities separate from the self-government;

- fourthly, regionalization through existing local authorities – creation of local government on a contractual basis of target regional institutions, generating the effect of "managerial synergy"; while the territorial basis of the mentioned formations, as a rule, does not coincide with the administrative-territorial units;

- fifth, administrative regionalization – separation in the territorial structure of a large country for the performance of the state power functions; self-governing rights to such territory are not granted or imitated because of the possibility of establishing within the administrative regions representative bodies without their own administration.

The typology of regionalization processes in European countries on the basis of self-government, set out institutional rights, trends in political and legal development, and other factors proves the lack of unified and multi-faceted process of regionalization in general.

At the same time, the unifying is that, the new regionalism paradigm, which is confirmed by the experience of European countries, is aimed at leveling out disproportions in the socio-economic development of the regions, overcoming the institutional obstacles to development and based on the fact that the main bases of the region's development are:

- use of its endogenous potential, focusing not on the material but on the innovation and information component;

- the process of regionalization, which is aimed at expanding powers and functions at the regional level of government with simultaneous strengthening of responsibility both to the population and to the state at the same time.

New regionalism, as well as any complex, multifaceted phenomenon, has certain threats, which is confirmed by the experience of European countries. Such an example might be the situation in Spain, generated by processes of decentralization, difficulties in establishing an optimal balance of interests in the redistribution of resources and powers between the state and regions, the desire of certain regions to interact with supranational structures of direct management bypassing the state, which threatened to preserve the integrity of the state.

In our opinion, one of the existing Unitarianism reforming directions is decentralization and empowerment at the regional level, which will promote more rational use of resources and potential opportunities of

regional economic systems. The process of decentralization of government powers will foster the efforts of the regions as a solution to interregional problems in order to effectively exchange national resources and take into account regional socioeconomic needs and opportunities.

In our view, decentralization should be understood as the process of transferring a certain part of state power powers, functions of central government to executive authorities of administrative-territorial units, territorial communities through a system of organizational and managerial measures in order to optimize and increase the efficiency of management, use of limited regional and local budget resources, etc.

The institutional determinants of its formation, including the decentralization of power, have theoretical-methodological significance for the emergence of a new regionalism in Ukraine. As for the definition of the concept of “decentralization”, there are different points of view. So decentralization is seen as:

- “a method of territorial organization of power, in which the state transfers the right to make decisions on certain issues or in a specific area of the structures of the local or regional level, which are not part of the system of executive power and are relatively independent of it” [3, p. 88];

- “a way of defining and demarcating tasks and functions, in which most of them are transferred from the level of central bodies to a lower level and becomes their own task and powers of bodies of the lower level” [4, p. 22];

- “the process of transferring part of functions and powers to higher levels of management lower (from central executive authorities to local bodies of executive power and local self-government)” [6, p. 97];

- “the process of transfer or delegation of state power from the central government to non-state organizations, local government and self-government” [10, p. 87];

- “the transfer of a certain part of the authority to bodies that are not subordinate to the central government, but are elected or created by the community” [2, p. 2];

- “the process of expanding and strengthening the rights and powers of administrative-territorial units or lower bodies while simultaneously reducing the rights and powers of the appropriate center in order to optimize and increase the effectiveness of management of socially important affairs, the most complete realization of regional and local interests” [5];

- “management system, in which part of the functions of central government goes to local self-government bodies; extension of the rights of grassroots governments” [11];

- “a complex system of measures, which involves the use of various institutions and strategies in order to effectively use limited budget resources and attract additional sources of funding based on the definition of responsibilities and responsibilities of public relations” [7, p. 150].

Consequently, in view of the above, in our view, decentralization should be understood as the process of transferring a certain part of the state power authority, the functions of the central government to the executive authorities of the administrative territorial units, territorial communities through the system of organizational and managerial measures for the purpose of optimization and increase of efficiency management, use of limited regional and local budget resources, etc.

We agree with the opinion of scholars who believe that it is impossible to consider decentralization as a single act of transferring power from state authorities to local self-government bodies [8]. Decentralization should be considered “as a complex process, including such elements as:

firstly, the issue of the state authorities’ ability to transfer, and local self-government bodies – to receive and efficiently dispose of the authorities;

secondly, the powers scope definition that must be transferred to the mechanism of authority transfer;

thirdly, the mechanism of interaction between public authorities and local self-government bodies;

fourth, the issue of administrative-territorial reform, etc.” [8, p. 3; 14, p. 28];

With the formation of a new regionalism in the process of power decentralization, it is necessary not only to transfer power from central to regional authorities, but also to strengthen the responsibility of the latter both to the people and to the state and to find the optimal balance between decentralization and the so-called “unanimous rule” in management.

As already noted, decentralization leads to an aggravation of the relationship between the center and the regional authorities, and given that the regions put forward demands that are considered by the central government as excessive and impossible, which, in their turn, may lead to the beginning of a separatist movement, then the relationship between

state authorities and regions should be considered only in the context of the model of socio-economic integrity of the state.

This, in turn, requires the development of mechanisms that would support the optimal balance of functioning between different levels of government, aimed at preserving the integrity of the country and balancing the relations between the center and regions, ensuring the desire of regions to more effectively use the resource potential and satisfy the needs of the population, etc.

Decentralization aims to improve quality of life by improving the efficiency of the public sector and the performance of its functions. It focuses on the development of democratic governance, the involvement of a wide range of the population in the process of governance in conditions of the transfer of powers to territorial authorities.

The process of decentralization in Ukraine has begun. Appropriate changes have been made to the legislation of the country, but the level of freedom of activity of local governments has not yet been finally determined, the ways and mechanisms of implementation of measures on the transfer of powers from the central authorities to territorial communities, the creation and functioning of a mechanism for direct participation of the population in management, independence in the financial sphere, etc.

It should be emphasized that it is the local self-government autonomy that has the financial resources to play a leading role in ensuring the capacity of local self-government.

Also, it should be emphasized that the disadvantages of institutional provision of regional social systems and the emergence of new regionalism in Ukraine can be attributed to:

- ineffective current legislation and instability of the institutional structure concerning the regulation of regional development;
- undeveloped network of non-state institutions of regional and local development, lack of multilevel governance coordination with participation of local self-government bodies, business, non-governmental organizations and the population;
- absence of a clear state long-term regional development policy with the definition of strategic priorities, planning and forecasting of regional development;
- slowness and uncertainty of the local self-government and territorial-administrative reform structure regarding the policy of deconcentration and decentralization of state authority;
- undeveloped public-private partnership and lack of coherence of

their activities interests;

- inconsistency and undeveloped multilevel vertical management of the regional and local development sphere between central and local executive authorities, local self-government bodies, undeveloped horizontal links between regions;

- a system of interconnected forecast and program documents the regional development of different levels, coordination of measures for their implementation;

- lack of a mechanism for monitoring and evaluating the effectiveness of measures aimed at a unified strategic planning and programming system for socio-economic development of regions;

- lack of a transparent mechanism for financial support in the development of regions, coordination and sequencing of state resources allocation, including financial, medium and/or long-term, aimed at addressing specific regional and local development issues identified in relevant strategies;

- the practical absence of influence levers the regional, district and city authorities on the allocation of funds for solving specific problems of local and regional development and the formation of priorities for the development of regions, etc.

The formation of a new regionalism in Ukraine requires improving institutional support, which should be directed to:

- creation of the regulatory and legislative framework for the formation of a new regionalism, which envisages the process of regionalization, the normalization of the basis of economic self-sufficiency of the regions, the use of the existing regional potential, mechanisms of their economic integration and cooperation, including on the world market, which will promote the development of regional social systems;

- implementation of the strategic planning and programming of regional and local development system, as well as monitoring of results in terms of participation, coordination and central and local executive bodies, local governments and existing resource potential of the territories;

- direction of measures development for the development of interrelations between the different levels of government, legal development of local and regional government institutions capable of bearing responsibility and achieving national and regional objectives, taking into account the needs of the region's population;

In the conditions of a new regionalism formation of Ukraine,

decentralization is a natural process driven by the need to increase the efficiency of public administration.

The relationship and division of management functions between the center and the regions directly affects the socio-economic standard of living of the population. The imperfection of the management system and the lack of well-balanced regionalism in Ukraine have led to significant imbalances in the territorial structure of the national economy as a whole, ineffective use of the advantages of territorial division of labor and existing natural, educational, scientific, innovation, and other potential opportunities and regional resources.

The process of decentralization, started in Ukraine by consolidating the autonomy of local self-government bodies, clear legislative separation of powers and functions between different levels of government, regulating the relations between them, reducing the bureaucracy of state regulation, contributes to the strengthening and development of a democratic Ukrainian society.

Consequently, the determinant of a new regionalism formation should be decentralization as the basis for the transfer of a large part of the authority's powers to regional authorities, taking into account the potential of the regions, the benefits of cross-sectorial production. Moreover, the formation of a new regionalism in Ukraine is particularly important in preventing the violation of territory integrity.

- activation of the network of non-state institutions of regional and local development, promotion of public-private partnership development and coordination of interests of regional government, local self-government, business, non-governmental organizations and population.

In turn, the introduction of the determinants of institutional support formation of a new regionalism will promote the development of local social systems and the well-being of their populations.

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**DEVELOPMENT OF
CIVIL SOCIETY IN
THE CONTEXT OF
TERRITORIAL
COMMUNITIES'
DEVELOPMENT**

Civil society organizations are vital partners for decision makers as far as they know the residents' needs regarding the development of territorial communities the best. European Union applies innovative approaches to improve the dialogue with these organizations. Civil society organizations' / non-governmental participants' role strengthens due to the fact that they share the responsibility with state on poverty reduction, because the developing countries claim their property rights to their development.

For example, Putnam R. showed that nowadays democratic institutes are the most efficient where the civil society has been formed long ago [1]. Currently in Ukraine almost 90% of population doesn't see civic engagement as necessary or is not aware of the matter, and only 3.8% of population is the participants of Ukrainian non-governmental organizations [2]. Instead, in Finland 15 mln of NGO participants account for 5 mln of population, 8% of population are permanent members of more than 5 associations, 75% of population are members of at least one association [3].

The urgency of civil society development in the context of territorial communities' development is stipulated by elimination of direct self-governance performed by territorial community, in particular local referendum as the way for Ukrainian residents to make decisions on important local issues is not legally ensured.

European Commission issues new suggestions on the better ways to interrelate with public society. It has adopted new Communication on more efficient ways of cooperation with civil society organizations in developing, Neighbourhood and partner countries. These suggestions encompass the managerial principles of work with governments and public establishments in order to provide more favourable, equitable and democratic environment for civic society groups' activity; as the result they can assist poor and vulnerable segments of population.

European Commission has defined their vision of NGOs'

participation in development cooperation and major steps to be taken. These steps are not limited to providing of services, but directed at strengthening of nongovernmental participants' ability to become the key participants of democratic governments.

In particular, NGOs, both local and international, can potentially contribute to the development of local communities and respond to the increasing challenge of poverty by several directions. Their responses can be divided into the following: to improve local business investment climate; to encourage new enterprises and livelihood; to provide social services, to carry out the programs of trainings and vocational trainings; to facilitate rehabilitation.

In 2004 one hundred and twenty public workers, researchers, donors and politicians as well as representatives of government, civil society organizations and public associations from 33 countries of European Union and beyond met to develop civil society in Europe through community development [4]. Community development is the way to strengthen civil society through defining of community priority actions and their perspectives in the development of social, economic and ecological policy [4]. Community development is directed at expansion of local communities' authorities for both geographical communities, communities representing interest or identity and communities on certain subjects or political initiatives. It strengthens human capacity as active citizens through their civil groups, organizations and networks; as well as ability of institutions and establishments (public, private and nongovernmental) to operate in dialogue with citizens to form and define changes in their communities. Civil society plays decisive role in promotion of active democratic life through promotion of autonomous voice of unprotected and vulnerable communities. It has the complex of main values / social principles that encompass human rights, social integration, equality and respect to diversity; as well as specific skills and knowledge:

Policy and legislation on community development at European, national and local authority levels.

Trainings on community development.

Research on community development.

Community development and rural problems.

Community development and urban regeneration.

Community development, sustainable development and environment.

Community development, life-long learning and culture development.

Community development, local economic development and social

economy.

Community development, minorities, migration, racism and discrimination.

Community foundation is the global phenomenon. There are 1864 community foundations in the world [5]. Community foundation is the civil society instrument directed at combining of donations in coordinated investment and grants center dedicated in the first place at improvement of the place as well as permanent source of funding of best ideas and projects. Community foundation becomes “personal” donor for local civil and charity organizations and action teams; driving force of community development with their own funds; promoter of dialogue between “community-authorities-business”. It enables establishment of efficient cooperation between private and public sectors; “social outsourcing” for companies interested in obtaining of sustainable social dividends from their charity activity; additional investment for solution of territory problems. It contributes to open dialogue with representatives of business and community and their engagement in solution of social issues in the community.

Community foundation is directed at solution of community problems. The more obvious, painful and urgent is the problem to be solved by the foundation, the easier is the search for and attraction of local donors and their funding. Even such powerful organizations as Great Britain community foundations have faced certain obstacles in introduction of new work methods on the basis of strategic philanthropy methods. In the first place the community foundations work with donors, who have to be persuaded to not only donate some part of funds for solution of community problems, but also to become genuine philanthropists interested in long-term solution of community problems.

Great Britain has the national network for all accredited community foundations [6], which combines 46 foundations. Each foundation has the deep understanding of their terrain, priority needs and best ways to solve the problems. The network of accredited foundations provides grants of the total amount of more than 77 mln pounds annually.

Social investment is one of strategic philanthropy approaches, the advanced tool even for Great Britain and USA. Social investors can put their money in activity of organizations. Social investment objective is to assist companies or organizations in their development. There are large foundations in *Great Britain and USA*, which invest in a certain organization for accomplishment of its mission. Community foundations have been the part of philanthropy in USA and Canada for the last

century and were introduced to the United Kingdom in 1980s.

However, the major part of this recent development takes place at the global south. This new set of organizations – civil foundations, female foundations, environment protection foundations and other grantmakers emerged in such different countries as Romania and Zimbabwe, Vietnam and Mexico. They were formed in correspondence with local context and culture, and some people are often disappointed with traditional development assistance failures and concerned about the feeling of exclusion and frustration with their communities.

Lack of access to water in Kenya initiated the attraction of Kenya Community Development Foundation (KCDF). The model replicated by KCDF across the whole country is directed at solution of problems related to dependence, which deeply impacts the internal nature of “horizontal philanthropy”, which is the deeply integrated systems of providing and reciprocation as the basis of local communities. This model encourages communities to first evaluate their own assets, combine them together, and then address other – local governance, rich and middle class Kenyans as the “co-investors” in the processes of local development.

In Slovak Republic the Foundation of Banská Bystrica City is the first community foundation in the Eastern Europe. Despite the fact that it was founded as the project of World Health Organization “Healthy cities”, currently it combines local donors and directs its strategy at civil initiatives. The foundation supports organizations that help the children of city streets; promotes creation of organizations that support local Roman communities. The Foundation has the Youth Bank, which attracts young population to philanthropy.

In Brazil Instituto Comunitario Grande Florianopolis (ICom) was created by local activists in order to strengthen unstable organizations founded by local community. It encourages local donor to invest in community development, supervises the state of community resources and covers the issues of local importance as well as promotes innovative use of technologies for obtaining of social goods.

The means of local philanthropy practice are constantly changing [7]. Organizations of local philanthropy multiply, in particular the number of community foundations had increased by 86% in 2000-2010 [8]. The growth is explained by the range of factors, including existence of organizations supporting this practice, flexible organization model, long-term funding and expansion of endeavors to create civil society worldwide.

Application of strategic philanthropy approaches is the global trend on the basis of which an organization plans its activity with the purpose to achieve systemic changes. Traditional charity most often reacts to a certain problem suddenly emerging in society and requiring quick and urgent solution. Strategic philanthropy seeks to transfer from this mechanism of “hot spots extinction” to systemic changes in society, which will prevent emergence of “fires” in the future (with money, time and other resources), which stipulates solution of a specific social problem or perspective of its solution in the future due to complex actions [9]. It is directed at elimination of problem causes rather than current liquidation of rare consequences; it is not the emotional rapid charity act here and now.

The theory of social changes close to “social progress” and “socio-cultural revolution” is related to strategic. The changes can be unpredictable – spontaneous, adaptive changes undergone in everyday life; transformation changes in crises periods, radical and systemic; project changes – activity projected at achievement of specific result on the basis of selected instruments. Project changes are applied in strategic philanthropy. The approach makes specific thoroughly planned impact for systemic changes in society.

By its nature local philanthropy creates conditions for mutual assistance. This impulse to help each other is the natural impulse of all societies and cultures. Indeed, many experts equate local philanthropy with collective urge as well as organizational form.

Taking into account the fact that local philanthropy is clearly able to transfer this impulse to the established local organizations and is flexible, i.e. can adapt to local conditions and local donors, it is no wonder that communities show their interest.

Communities address local philanthropy because the practice brings good development results. There is strong logic hidden behind the local philanthropy, a set of “if / then” hypothesis on the way to achieve the results important for residents, donors and experts [10]:

If residents see themselves as co-investors in their own development, they take care about the results more.

If residents make contributions from their own resources, the driving forces become more equal and relations become to be more like partnership rather than traditional donor-beneficiary.

If local population manages and makes contributions to local philanthropy, local beneficiaries have to bear responsibility and report to community, therefore creating the social capital.

If local philanthropy institutions are able to act as repositories of various types of trust and resources, they can direct development into productive directions.

Main components of local philanthropy:

1. *Resources.* Local philanthropy creates and expands local resources – financial and other. That is why individual donors and donors that represent charity establishments see it as an efficient way to achieve stability, increasing the resource base for battling the community problems. Use of local resources, attraction of local donors and frequent use of endowments – all this helps local philanthropy to strengthen civil society in the long-term perspective.

2. *Capability.* Organizations of local philanthropy develop long-term capability in the form of connections, knowledge, infrastructure and leaders necessary for civil society – capabilities, which can not be maintained with short-term approaches. In particular, local philanthropy is an efficient instrument of strengthening the residents' impact and participation. It is in the ideal condition to help organizations adapt to changing environment, alterations in donors' interests and management opportunities.

3. *Trust.* Due to local management and transparent funding decisions the local philanthropy forms local residents' trust in their local institutions and in each other. This social capital changes civil society. It generates interest. It forms the sense of owning the development process at local level. And it allows organizations of local philanthropy to efficiently gather inform and mobilize residents with the means that often cannot be applied by other organizations.

Civil Council under the ministry, other central executive authority, Council of Ministers of Crimean Autonomous Republic, oblast, Kyiv and Sevastopol city, district, Kyiv and Sevastopol district councils is the temporary consulting and advisory body created in order to promote civil participation in forming and implementation of state policy [11]. According to the Decree of the Cabinet of Ministers of Ukraine, local governance bodies are recommended to rely on the Procedure and Typical provisions approved by the Decree when conducting consultations with society and creating civil councils under local authorities. Major tasks of Civil Councils are the following: assistance in realization of constitutional rights to participation in state affairs management; performing of civil control over the authority's activity; assistance in public opinion consideration while forming and implementation of state policy.

Consultations with society are conducted in the form of public civil discussion, electronic consultations with society (direct forms) and survey of public opinion (indirect form). The following is the list of legislative acts, which are mandatory for consulting with society in the form of public civil discussion and/or electronic consultations with society: related to constitutional rights, freedoms and liabilities of citizens; related to residents' vital interests, including environmental impacts; stipulating conducting of regulating activity in a certain sphere; defining strategic objectives, priorities and tasks in the relevant sphere of public management (including draft state and regional programs of economic, social and cultural development, decisions on their accomplishment); related to interests of territorial communities, performing of local governance liabilities delegated to executive authorities by relevant councils; defining the procedure of providing administrative services; related to legal status of civil associations, their funding and activity; stipulating granting privileges or imposing restrictions for economic entities and civil society institutes; related to providing the individual names (pseudonyms), anniversaries and commemorative dates and names and dates of historical events to legal entities and objects covered by the right of ownership and to covered by the right of ownership belonging to individuals; related to spending the budget funds (reports of chief administrators of budget funds in the pervious year).

Global experience testifies to the fact that policy, which is based on broad civil support on the stage of development, has more chances for successful implementation than the policy that evokes considerable public opposition or is unknown to community. Majority of authorities' decisions are related to population. If people are aware about these decisions and think that they have participated in their development, they will probably adhere to the law or policy.

If the residents participate in problem solution and decision-making process, they become the co-participants of their communities' problems. In this case there is less possibility that the citizens will oppose the adopted decision. And the decisions made by local authorities will likely be more efficient. This is extremely important for successful development and implementation of strategic plan of territorial community development.

Taking into account all the abovementioned it is worth mentioning the necessity of partnership between existing and perspective economic entities within the territorial communities. Indeed, economic entities

cooperate with entities in cross-border space in order to meet individual interests, providing additional effect for community stipulated by synergy effect.

Therefore, the important thing is reciprocity based on solidarity principle, providing broader social advantages rather than those containing or restricted by certain privileged community groups – both inside and outside the community. These advantages exceed traditional tangible results; they also provide trust, leadership in community, social capital, stability and decrease of dependence factors' impact, which is often seen as important but difficult to be measured.

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CONCLUSION

The decisive feature of modernity is complexity of the structure economic systems, acceleration of scientific and technological changes and perturbation of globalization the economic life of society. These processes mark the formation of the so-called “epoch of bifurcation”, in which high-quality in-depth transformations cover the economy of virtually all countries of the world, opening up new opportunities and generating unprecedented threats and risks for their further development. As instability and unpredictability of development becomes the most stable feature of the present time, the need for a deep economic and philosophical understanding of the essence, structural dynamics and mechanisms of the transformation of economic systems in the conditions of globalization is exacerbated. Of particular importance is the analysis of economic development as a nonlinear, multivariate and intrinsically contradictory process.

New urgent aspects of the study are due to the global financial-economic crisis, which has shown inconsistency of endogenous and exogenous factors of post communist transformations, exacerbation of contradictions between the global nature of modern world economic processes and the existing institutional-organizational mechanisms for their settlement. For transitional economies of a new type, functioning in the unfavorable conditions of deepening the instability of the world economic system and accelerating entry into the structures of already established economic ties, the issue of self-determination in the global environment and the creation of mechanisms for effective international integration are priority areas for scientific research and practical activities.

The problems of transformation economic systems in the conditions of globalization acquire a special scientific-theoretical and practical significance, taking into account the current realities of the development of national economies of the world.

The main feature of modern world economic development is the global interdependence, which covers and modifies its political, economic, social and environmental conditions. Globalization contributes to overall economic progress through the spread of innovations in technology and management, active exchange of goods, services and investments. At the same time, the unevenness, asynchrony and disproportional of the development of scientific-technological,

production, trade, financial-investment relations in the functional as well as in the inter-national aspects are intensified. At the same level of today's world economy, countries are concentrated – global leaders, whose key determinants of success in the third millennium are intellectualization, socialization, ecologization of production and the environment of life. At the other level of the world economy, most of the countries for which economic globalization is manifested, first of all, as qualitatively new developmental conditions that are virtually impossible to influence, but must always be taken into account. Countries that do not have time for the dynamics of a new era will not only not receive preferences from globalization, but can also become its hostages, to be on the verge of global, general civilization processes. The internationalization of economic life, interpenetration of various types of activities – scientific and technical, investment, financial and commercial, etc. – is becoming apparent, which leads to institutional changes.

The manifestations of this kind of globalization develop the traditional boundaries of economic analysis, inducing nontrivial generalizations. It is important to understand that even the inherited global problems of the development of human civilization (environmental pollution, the depletion of vital natural resources, poverty and the growing gap between countries as a life, etc.), new actors can not resolve, as could not be done by multinational corporations.

Global processes exacerbate competition, lead to changes in the redistribution of financial and investment resources, which often goes hand in hand with low and middle-income countries, causing their marginalization in the global economy. Under these conditions, an important means of competitive struggle in the modern world, as well as a form of protecting its own economies from adverse changes in the world economic situation, is the fragmentation of the world economy by forming groups and blocs of states conducting a coordinated economic policy. This is a compulsory step and a response to increasing global competition. At the same time as globalization processes, each state implements its own policies to protect national interests.

The main tendency of modern global development is the transition of the majority of countries from the raw material industry to the postindustrial information economy, which is based on the development of the intellectual resource, technology-intensive technologies and involves the achievement of a qualitatively new innovation and

technological level in all spheres and branches of the economy, the material basis of society, including productive forces of society. In a context of globalization, national economies are becoming increasingly interdependent, and the processes of integration and internationalization are intensifying.

**Transformational processes the development of
economic systems in conditions of globalization:
scientific bases, mechanisms, prospects**

Collective monograph
edited by M. Bezpartochnyi

**Ekonomisko sistēmu attīstības transformācijas
procesi globalizācijas apstākļos: zinātniskie
pamati, mehānismi, perspektīvas**

Kolektīva monogrāfija
M. Bezpartochnyi zinātniskajā redakcijā