

***SYSTEM TRANSFORMATIONS  
OF THE NATIONAL ECONOMY:  
CHALLENGES AND EXPECTATIONS***



# **SYSTEM TRANSFORMATIONS OF THE NATIONAL ECONOMY: CHALLENGES AND EXPECTATIONS**

Collective monograph

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## Introduction

The presented monograph covers issues related to global challenges and transformational changes in the national economy of Ukraine, which require the revision of the traditional model of economic and social development. Transformational changes in the national economy are system-wide in nature and make a direct impact on the economy, society and regional development because Ukrainian regions are on the verge of adopting conceptually new directions of socio-economic development on the way of forming their own system of economic security.

This monograph is an objective necessity, because dramatic changes that have occurred in Ukraine in recent years require new approaches to determining the bases to research the internal potential of development and economic security both at the state and regional levels. Moreover, at the present stage of dynamic development of Ukraine, the contradictions and disparities in reforming the national economy and social sphere of society are gradually sharpening. In the context of structural changes, the threats to foreign and economic security of the state constantly emerge, which eventually leads to the formation of the complex of corresponding challenges to national security and creates an urgent need for the formation of an effective innovation and institutional mechanism to ensure security. The need is caused by the objectives of transformation processes towards sustainable socio-economic development of Ukraine and its regions.

The scientific paper consists of four parts. The first one is devoted to social challenges and mechanisms of the national economy management in the context of initiated changes. In addition, authors pay special attention to the establishment of new social stereotypes, patterns and forms of relations and connections in society, manifestations of the impact of an information society on the transformation of labor potential usage and globalization of socio-labor relations at various levels of management hierarchy and identification of trends and obstacles to the intellectual and personnel support for the economic security of enterprises in terms of economic recovery, which qualitatively alter the nature of functioning of the national economy of Ukraine, giving it new opportunities and generating new risks.

The second part of the research includes authors' best practices towards evaluating the investment and innovative transformation of the national economy in the context of unlocking the inner potential of development and economic security. The research papers are related to the issues of justification of innovation and investment dominants of the national economic system recovery under unsteady economy conditions, development of an innovation activity as a factor, which provides innovative security for Ukraine and identification of economic changes in the system of economic and financial security of the Internet communication activity in the field of commerce.

In the next part of the monograph, authors focus on challenges and threats to the external economic security of the state. This part fully reflects the current problems and threats to the financial security of the state under conditions of a hybrid warfare against Ukraine (2014 - early 2016), the consequences of economic changes in the development of the steel industry of Ukraine and its export potential through the occupation of industrial areas and directions of strengthening the foreign trade security at the regional level in the context of promoting interregional cooperation. Therefore, in editors' opinion, a thorough analysis of the external-economic security of the state in terms of structural changes in the national economy is crucial.

In the fourth and final part of the research, the scientific works, devoted to new realities and opportunities to reform the regional policy under the influence of the internal proportions change in the national economic system, are systematized. The presented achievements of scientists, in terms of characterization of the current phase of the regional policy in the EU (2014), the analysis of results and changes in the regional priorities regulation and the internal market development, the research into the causes of ineffective property right protection in Ukraine and the threats to the economy of Ukraine due to the inefficiency of property right institution, show the systemic nature of deep structural changes and challenges to the national economy and highlight the uneven course of events, confirming the complexity of the transformation process.

The heterogeneity and complexity of profound transformation processes and their massive impact on society, the regional economy and national security are essential for the academic world in order to constantly improve the knowledge of these phenomena, forecast their far-reaching consequences and provide the territorial focus of scientific researches.

The editors of the monograph believe that this scientific publication is the voice in the debate among economists, scientists and representatives of business and political elite, because a priority task, the solution of which requires the involvement of a considerable number of scholars and specialists, is to reduce the level of social tension in the country and raise living standards of the population. Identification of successes, failures and expectations in the process of changes is crucial for the development of future improvements in the national economy, which increasingly have to solve problems of the viability of social and economic structures in the process of global and local transformations.

## **Part 1**

# **Social challenges and mechanisms to manage the national economy in the context of initiated changes**

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## **THE SCIENTIFIC BACKGROUND OF IMPLEMENTATION OF THE SOCIAL DIALOGUE IN TRADE IN UKRAINE**

**Abstract.** *In the article, the scientific and theoretical background of implementation of the social dialogue in trade in Ukraine is determined, a set of elements of the social dialogue is shown. Barriers, factors and problematic aspects of the state regulation and the social dialogue in the retail of the country are considered. In addition, it is empirically proved that in the retail, intellectual and human resources are not fully used; there exists discontinuity of trade and technological processes and the work rhythm; there is no coordination of the interests of all participants of the social dialogue; there exists a high level of informal employment, a great number of unemployed citizens, who were registered by the state employment service and low average monthly wage of one employee engaged in the trade of Ukraine. The solution of these problems is possible within the framework of the implementation of the social dialogue in the domestic retail trade. The basic strategic objectives and priorities of the state policy for removing barriers, which have a destructive effect on the social dialogue, were proposed.*

**Introduction.** There is no doubt that the difficult negative effects of the implementation and state regulation of the social dialogue leading to a decrease of the level and quality of labor life of working population are reflected in the letdown of organization and work productivity and its results, the reduction of the efficiency of wage system reformation, the reduction in tax payments to the budget, the decrease of purchasing power and deterioration of the consumption structure of the population, the low culture of social responsibility of business, widespread unemployment and problems of youth employment, social stratification and so on.

Moreover, barriers to the effective development of the retail and not objective negotiations within the social dialogue lead to further strengthening of such problematic aspects of the state policy for the social dialogue realization in this scope, as reducing real wages of employees and irregular distribution of collective earnings, limited availability of the industry of intellectual and human resources, an

inefficient use of forms of work organization, reduction of social control and social protection of trade workers, deterioration of social and psychological climate and motivation of sales employees to vocational qualification development, failure of labor law and of collective labor contracts and so on. Therefore, the main purpose of removing barriers and improving the state regulation of the social dialogue in the retail is to promote an effective state policy in this scope and to promote efficient social support of the economically active population.

A significant contribution to the theory of social dialogue made J.J. Rousseau, who believed that society could not exist without the laws, the main task of which was to protect freedom of each person and be equal for all [1]. At the same time, John Mill considered that the social dialogue is the way of liquidation of the institution of wage labour and the formation of economic systems, the operation of which were on the basis of social partnership [2]. A great contribution in building fundamental scientific principles of the system of the social dialogue, in our opinion, was made by C. Webb and B. Webb, who considered it as the only way to satisfy the needs and protect the labour rights of employees [3]. In addition, A. Mueller-Armak regarded the social dialogue as an important condition for the formation of a market economy, in which the "functional division" property turned into a socially desirable "personal" income distribution, and the participants would strengthen the dialogue and cooperation with initiatives to promote decent working conditions and gender policy [4].

However, we must admit that Ukrainian society today, as a part of the Association Agreement needs a clear, objective and comprehensive information about the major economic, institutional and social effects in all spheres of life. This need is caused by the fact that the main part of the economic provisions of the Agreement actually determines the content of the reforms that Ukraine has to implement in order to modernize and become successful country in the broadest sense of this word. In particular, these changes mostly should be done in employment, health and safety at work, social dialogue, social protection, social inclusion, gender equality and struggle with discrimination. Ukraine committed itself

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<sup>1</sup> Rousseau J.- J. (2001), *On the social contract , or principles of political rights*, Cambridge

<sup>2</sup> Müller-Armack A. (1996), *About freedom and social justice. Proposals for the implementation of the social market economy*. Social Market Economy, Koln

<sup>3</sup> Mill J. (1821), "Elements of Political Economy", Retrieved from: <http://www.econlib.org/library/MillJames/mljElm3.html> (Accessed 20 March 2016).

<sup>4</sup> Webb B., Webb S. (1936), *Soviet Communism: A New Civilization*, Great Britain

to ensure the gradual approximation of the national legislation in this scope to the laws and practices of the EU. This requires particularly scrupulous attitude of scientists to implementation mechanisms of the social dialogue in the retail and this is due to the relevance of the research theme.

Despite some quality shifts to socialization of the retail in Ukraine and its positive impact on the financial and economic efficiency of the brunch, the gradual convergence (especially on wages growing and improving its structure, improvement of staff motivation and social protection and social guarantees) with developed countries, the mechanisms of the implementation of the social dialogue in this scope are not perfect, they remain an important priority of the state regulation of the social dialogue in Ukraine. In particular, after the results of preconditions evaluation of implementing the principles of the social dialogue in the domestic retail, it is important to separate favorable macroeconomic factors and identify obstacles to the state regulation that will justify the weaknesses and disadvantages of the state policy in the investigated scope, and, therefore, to identify the main objectives and priorities of its state regulation.

It is well known that the social dialogue is a scope of mutual agreements and arrangements between employees, employers and the state, associated with the functioning of the socio-economic sphere, hiring and firing of labor, remuneration and reproduction of labor potential and directed at social harmony providing, a high level and quality of working life and good financial-economic efficiency of retail enterprises. Obviously, the positive results of the social dialogue implementation are an important dominant of balanced development of the analyzed sector and the state economy as a whole.

It should be noted that as the object of the state regulation, the social dialogue could be seen as a snapshot of economic relations in socio-labor sphere, which is objectively independent from understanding of these relationships by subjects of social dialogue, their social significance, and practice linked with work activity [5]. Accordingly, the state policy of formation and development of the social dialogue in the retail requires socio-economic and socio-labor processes to determine the total volume of labor functions and their differentiation in individual groups of performers. Thus, the totality of functional responsibilities of staff depends on the planned volume and structure of the turnover, on the nomenclature

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<sup>5</sup> Dovbnya V.V. (2000) "Problems and contradictions of social and labor relations in the transitional economy of Ukraine", Herald of V.N. Karazin Kharkiv National University; Economic series, vol.468, pp.152-157.



and quantity of additional commercial services. As the basis for separation of such processes in individual groups of workers should be considered a labor division that happens regarding separate categories and depends on the complexity and requirements of quality of labor activity [6].

Obviously, the market requires some forms of the social dialogue: the motives of personal advantage, readiness to take risks with a sense of personal social responsibility. Therefore, the state regulation of the social dialogue is perceived as an equal distribution of responsibility for the labor effectiveness in the branch, freedom limitations of which are necessary for the development of socio-economic and socio-labor relations [7].

As you know, the elements of social dialogue are: the subjects and aspects, objects and principles, types and levels, types and methods, which, in fact, should be under the state regulation. Each of these elements is important, because it creates or influences the systemic relationships formation, rational relationships in social and labor standards, and therefore - failure to achieve the main goal - a high level of labor life quality and because of this improvement of the economic results in the branch. We think that after the results of our investigation there are grounds to determine the barriers, factors and problematic aspects of the functioning and state regulation of the social dialogue in the Ukrainian retail in the form as shown in the Picture1.

However, we note that the obstacles do not allow achieving the objectives of development of the social dialogue. As a result, problematic aspects of the collective-contractual regulation of the socio-labor sphere appear. At the same time, under conditions of the state regulation these problematic aspects raise low values for the social dialogue implementation, create new obstacles and increase the impact of negative factors. This is especially important to understand in the context of further improving of the system of the social dialogue state regulation in the domestic retail.

However, in today's conditions of functioning retailers in Ukraine, most negotiations within the social dialogue rarely end successfully. Thus, the low level of wages and their material stimulation on the trade enterprises are conditioned by the small volume of activity, low financial and economic efficiency, a high level of distribution costs, limited purchasing power and a high tax overweight on wages.

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<sup>6</sup> Blank I. A. (2004) Trade management, Elga, Kyiv, Ukraine

<sup>7</sup> Marcin V.S. (2006) Economy of Trade, Knowledge, Kyiv, Ukraine

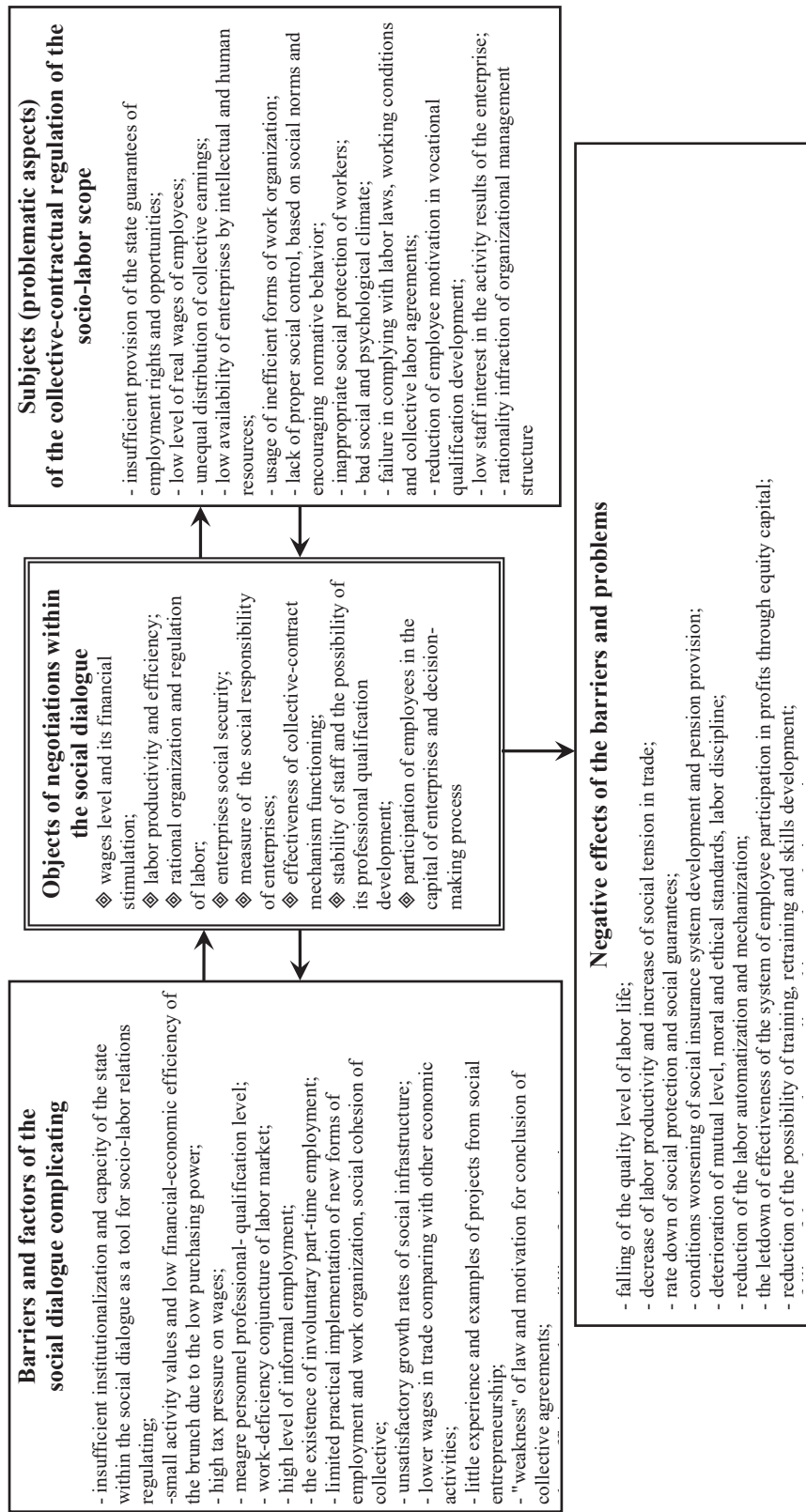
That is why, we think that the disadvantage of the state regulation is a disagreement policy in the socio-labor sphere with stimulation of volume increasing and raising the effectiveness of the economic agents functioning in the branch.

Barriers to the functioning and state regulation of social dialogue in the domestic retail are, in particular, a high level of informal employment, the existence of involuntary part-time employment, limited practice of implementation of new forms of employment and work organization and social cohesion labor power in the sector. All that confirms the importance to deepen the undertaken by the social and economic organs practices of the legalization of employment and wages. One of the strategic objectives of the state policy of the social dialogue implementation in the Ukrainian retail should be the development and implementation of the special programs to stimulate self-employment and private business, including, for example, the categories of people, who return after the employment abroad. In 2014, the level of the population informal employment was in average 24.8% and in retail - 14.1%. Moreover, in 2014, as a part of the trade enterprise personnel 42.9% comprised the employees with vocational-technical education, 18.2% - with secondary education. Therefore, as of 1th of January 2015, every second employee of the domestic trading companies did not have a higher education.

The increase of the number of employees with only vocational-technical or secondary education shows the limited financial possibilities of the economic activity subjects to provide training, retraining and advanced training of its own staff. Removing this obstacle needs the state searching for the mechanisms and means for the retail enterprises stimulation to join enterprises of other economic branches and create centers of studying and skills development.

At the same time, the labor market of Ukraine is still labor overweight. Moreover, the supply of labor in the retail is far from the demand for it. In 2014, the number of unemployed citizens who were registered at the State Employment Service totaled 512.2 thousand people when needed only 35.3 thousand people. Among the total number of registered citizens 15.5% were service and trade workers. We want to note, that in 2015, 1.4% of the average number of the staff of the trade enterprises, which we have investigated, were on leave without pay. Also in 2015, due to the economic reasons 7.0% of the average number of full-time employees was transferred to part-time.

Figure 1. Barriers, factors and problematic aspects of functioning and the state regulation of the social dialogue in retail in Ukraine.



Source: Proposed by the authors.

The result of these trends was the increase of the loss of working time at trade enterprises - in 2015, their level was 1.7%, which is 0.3% more than in the previous year. In particular, in 2015, each trade employee, who was on leave without pay, did not work on average 220 hours, and because of the transfer due to economic reasons to part-time - in average 255 hours. It indicates that at the retail enterprises, the volume of intellectual and human potential is not used in full, there are infractions of the trade-technological processes continuity, the rhythm of work, and there is no consistency of interests of all social dialogue participants. The state authorities should also make appropriate efforts to remove this barrier.

However, there are other problematic issues, the solution of which is possible within the framework of the social dialogue implementation at the national retail (e.g. low wages) (Table. 1).

Hence, in 2014 the average monthly salary of one staff member in trade totaled 3439 UAH, which is by 429 UAH (14.3%) more than in 2013<sup>8</sup>. Therefore, during the 2007-2014 the size of an average monthly wage of trade workers was lower than the average value in Ukraine, confirming lower wages and consequently the low social responsibility on the part of employers in this issue within the social dialogue. This does not encourage employees to do effective work, improve its quality, labor activity and self-development.

However, there are other barriers to the state regulation of the social dialogue in the retail in Ukraine. The failure of labor laws norms, conditions of collective and labor agreements are also the problematic aspects of the social dialogue that prevent the functioning of the collective-contractual regulation mechanism in the domestic retail. Using imperfection of low enforcement mechanisms in the system of labor relations, the leaders of trade enterprises found many informal means to minimize the labor costs. In particular, the practice of fixed-term contracts, which is often implemented, allows minimizing the cost of a trade enterprise on reducing headcount and if it is necessary on reducing workplaces quantity.

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<sup>8</sup> The official site of government service of statistics (2016), retrieved from: <http://www.ukrstat.gov.ua> (Accessed 20 March 2016)

Table 1. The average monthly wage of employees in trade\* and in economy of Ukraine in 2007-2014, (UAH).

Indicators	Years								Growth rates	
	2007	2008	2009	2010	2011	2012	2013	2014	2014 / 2007	2014 / 2010
The average wage of one staff member										
- for month	1024	1514	1565	1874	2339	2696	3010	3439	3,4	1,8
- for one paid hour	6,75	9,53	10,70	12,48	14,11	17,29	19,23	22,56	3,3	1,8
Average monthly wage per employee in full-time equivalent	1055	1582	1770	2006	2500	2851	3175	3699	3,5	1,8
The average monthly wage in Ukraine										
- for staff member	1351	1806	1906	2239	2633	3026	3265	3480	2,6	1,6
- for employee in full-time equivalent	1446	1885	2064	2389	2765	3171	3423	3696	2,6	1,5

\*including car repairs, household goods and personal consumption

Source: Compiled by the authors based on the source: [9].

Together barriers and problematic aspects lead to difficult negative effects of the functioning and state regulation of the social dialogue in the retail. The harmful influence of barriers and functioning problems in the social dialogue state regulation in the retail is also the deterioration of conditions of the social insurance and pension provision development. For example, in the retail, such problems, as the functioning of the insurance funded pension system, correlation of the social guarantee level with the size of paid contributions, the inclusion to the general social insurance system of new types of insurance (unemployment, accidents, occupational diseases), personification of paying an employee pension contributions for the whole working period, the implementation of the new valorizing principle

<sup>9</sup> Rousseau J.- J. (2001), On the social contract, or principles of political rights, Cambridge

in the correlation of the average pension to the average wage and the final abolishment of the current system of the social insurance are still unresolved.

**Conclusions.** After the research, the obtained results prove that the current main barriers, implementation factors and problematic aspects of the complication of the state policy on the social dialogue implementation in the Ukrainian retail are systematic and they include: an insufficient institutionalization and possibilities of the state within the social dialogue, small business volumes and low financial and economic efficiency of the branch because of the small purchasing power of the population, the high tax pressure on wages, an insufficient professional and qualification level of staff, work-shortage conjuncture of labor market, a high level of informal employment and the existence of involuntary part-time employment, the limited practice of introduction of the new employment forms and work organization, social staff consolidation, unsatisfying development rates of social infrastructure, little experience and examples of social entrepreneurship projects, "weakness" of law and motivation to conclude collective agreements etc.

At the same time, their removal needs the development and implementation of an effective system of the state regulation with activities directed at improving the socio-labor scope regulation mechanisms and providing accordingly higher economic efficiency of labor and financial-economic results of the retail as an important sector of the national economy.

Further improvement of the state policy on the social dialogue development in the retail in Ukraine is a difficult process that depends on many factors and complex support from the employees, trade unions, employers and their associations, public authorities.

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**FUNCTIONAL AND SUBJECTIVE INTEGRATION  
IN THE SYSTEM OF THE IMPLEMENTATION  
OF THE MECHANISMS  
AND INSTRUMENTS OF THE STATE POLICY  
ON SOCIAL DIALOGUE DEVELOPMENT: FIELD ASPECT**

**Abstract.** *The analysis of the preconditions for the implementation of social dialogue in the retail trade of Ukraine revealed such weaknesses, which stay the key targets for government to eliminate. These are endorsing and supporting social initiatives of employees, increasing the level of their social protection, preserving and accumulating human and social capital, launching advanced staff incentive programs, developing social security floor due to the economic growth of the enterprises, enhancing corporate social responsibility, providing intellectualization and quality of labor potential and sustaining labor rights, generating employment opportunities along with improving the system of qualification training in accordance with market requirements. Using methods of Data envelopment analysis (DEA) and regression analysis (information base were indicators of labor economics and implementation of social dialogue in the retail, chosen separately in the context of social and economic role of the sector, the effective functioning of retail businesses and job satisfaction) formed model regression equations, regression coefficients independent variables, which characterize the level of influence of individual factors on the main priorities of the state policy dissemination of social dialogue in the retail trade in Ukraine. This allowed a more reasonable and rational approach to the mechanisms and instruments of the state policy in the analyzed field and prove that to improve employment there are such tools as institutional and legal, organizational, economic, financial and investment mechanisms; improve efficiency and productivity - social, motivational and organizational and institutional mechanisms; improve the quality and motivation - social, psychological, economic and resource and information-analytical mechanisms.*

**Introduction.** The social dialogue, in the course of the formation of different models of the country, its economy sectors and society development is always important. This is because it concerns the processes, where mainly the problems of labor quality improvement, labor activity, social security and intellectual creative work determine the results of the functioning of all the subjects of social and economic relations. It is reasonable to consider the social dialogue as a phenomenon, which reflects the level of providing system and structural and balanced formation of favorable social and labor environment. Present day dynamism of economic relations only underlines the significance of the social

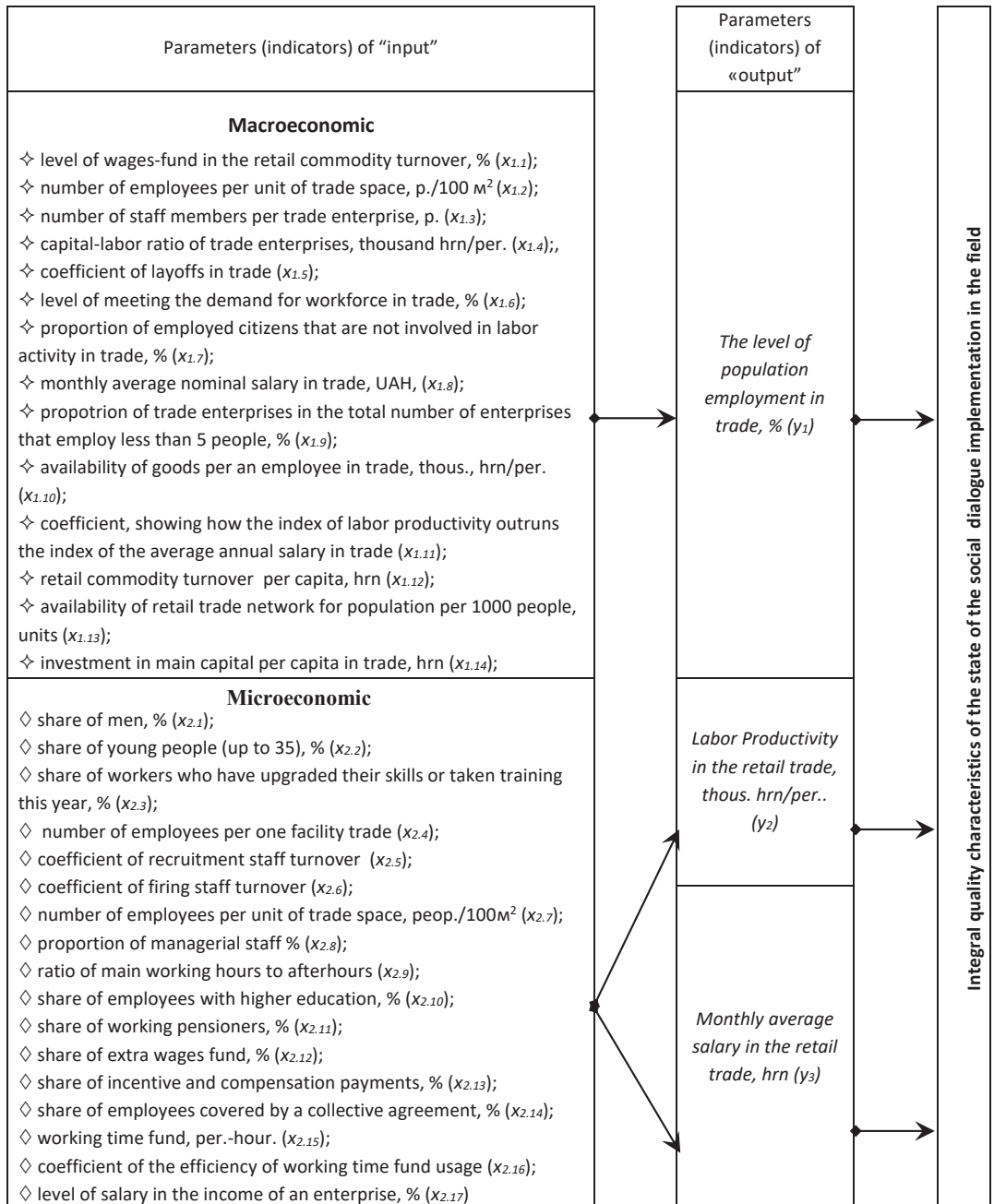
dialogue and its development, testifies the importance of the utilization of the mechanisms and instruments of government regulation.

Modern theories of government regulation on the social and labor sphere are based on and are oriented towards integrity and dependence of all the levels of society. Social and economic spheres are interconnected. For ensuring rapid progress of economy, it is necessary to work out and implement the mechanisms to establish strong and efficient interconnections between them. Consequently, the usage of the social dialogue in this way becomes one of the prerequisites for ensuring an efficient state policy on economic development. All that support the tendencies of the establishment of modern government regulation, where an important object is the social dialogue, within the framework of which, it is possible to solve a great amount of economic and social problems on the national or other level of importance. It is particularly important to employ a rational approach to the formation of the mechanisms and instruments of the social dialogue realization in the retail trade. The retail trade as an economic sector is the most numerous in terms of quantity of economic entities and has significant influence on the internal market development, meeting consumer needs of population and the level of the social life quality.

It should be noted that the achievement of desired results through the social dialogue is a long process and therefore it should be strategic and take into account a large quantity of peculiarities at different levels of implementation. In addition, the realization of strategic priorities presupposes the justification of the implementation of specific measures, which should not be separate but complex and for this purpose, "the tree of objectives" is justified according to the particular mechanisms and tools. It is important to carry out government regulations on the sufficient information and analytical base. That is why DEA and regression analysis were conducted at the state level as well as at the levels of employer and employee. The information base of the analysis in the temporal dimension were the data of how the social dialogue was realized in the retail trade in terms of enterprises and regions of Ukraine (Table 1.).



Table 1. The multitude of indicators of inputs and outputs for estimating the state of the social dialogue realization in the retail trade in Ukraine



Source: Proposed by the authors.

According to the methodology of DEA, the social dialogue is a system with the parameters of 'input' (resources) and 'output' (efficiency of their usage). Thus, the function of the analysis is aimed at raising the integral level of the quality of an 'output' characteristic of the state of the social dialogue realization. Besides, the DEA predicts on the basis of formalized presentation of the social dialogue implementation on the assumption of substantial selection of input and output parameters of the structure of an integral efficiency indicator in the form of the ratio of a particularly weighted additive set of output system characteristics ( $y_i, i = \overline{1, n}$ ) (as 'output' indicators were selected: (1) the level of employment in trade; (2) productivity of labor in retail trade; (3) average monthly salary of an employee in retail trade) to the set of 'input' parameters ( $x_k, k = \overline{1, m}$ ) – 14 indicators of labor economics and the social dialogue implementation in the sphere of the retail trade in terms of regions of Ukraine and 17 indicators – according to retail trade enterprises.

The employed method of DEA allowed us to form the model of regression equations, created by main factors that influence the condition of the social dialogue implementation in the retail trade of Ukraine and also to assess the level of dependency on them (Figure 1). Obviously, it will allow approaching to the determination of directions, mechanisms and instruments of the state policy in the analyzed sphere more rationally.

Figure 1. The model of regression equations to assess the state of the social dialogue implementation in the retail trade in Ukraine

$$\begin{aligned}
 y_1 &= 0,30x_{1.1} + 0,66x_{1.2} + 0,63x_{1.3} - 0,18x_{1.5} + \\
 &\quad 0,38x_{1.13} - 0,34x_{1.14} \\
 y_2 &= 1,30x_{2.2} + 1,67x_{2.3} + 0,83x_{2.4} + 1,75x_{2.5} + 1,01x_{2.7} \\
 &+ 0,63x_{2.8} + 0,42x_{2.9} + 0,55x_{2.10} - 2,99x_{2.13} - 2,28x_{2.14} \\
 &\quad - 0,25x_{2.16} + 0,42x_{2.17} \\
 y_3 &= 0,44x_{2.2} + 0,70x_{2.4} + 0,43x_{2.5} - 2,10x_{2.7} + \\
 &\quad 0,40x_{2.10} + 1,50x_{2.15} + 0,37x_{2.17}
 \end{aligned}
 \left. \vphantom{\begin{aligned} y_1 \\ y_2 \\ y_3 \end{aligned}} \right\} y = K_1y_1 + K_2y_2 + K_3y_3$$

where,  $y$  – is an integral coefficient of the social dialogue implementation in the field;  $y_i$  - indicators of labor economics and the social dialogue implementation (parameters of "output");  $x_k$  - indicators of labor economics and the social dialogue implementation (parameters of "input");  $k$  – coefficient of the weight of the parameters of the social dialogue implementation in the field.

Source: Compiled by the authors.

It should be noted that this three-vector model reflects as well as proves the assumption as to practicability and promising outlooks of the selection of main strategic priorities of the country in ensuring efficiency of the policy on the social dialogue implementation in the retail trade.

We want to mention that there is a significant positive influence on the social dialogue implementation in the retail trade in terms of Ukrainian regions of such factors as the number of employees per unit of trade space (regression coefficient was 0.66), the number of permanent employees per one trade enterprise (0.63), availability for the population of the network of the retail trade per 1000 people (0.38), the level of payroll fund in the retail turnover (0.30).

Such factors as investment in the fixed capital per capita in trade ("minus" 0.34), coefficient of layoffs in the trade enterprises ("minus" 0.18) have negative influence on the efficiency of the state policy on the social dialogue implementation in the retail trade. We want to state that obtained results suggest low efficiency and volume of investments and legal assistance of labor employment in the sphere of the retail; otherwise, one can observe a direct connection between investment and the increase of financial and economic as well as social efficiency of business. However, this cannot be observed, and reciprocal dependency is explained by the heavy load and low demand for workforce, low level of labor motivation in the retail trade. State administrative bodies and other subjects of the social dialogue should pay more attention to it.

Obviously, the efficiency of the state policy on the social dialogue implementation in the retail trade is influenced by a complex of other factors, especially quality ones, which cannot be considered econometrically due to the objective reasons. They are the conditions of material and technical ensuring of labor, its motivation and efficiency, meeting the demand for workforce, the level of employment and business self-activity of population etc. Therefore, we can conclude that at present, state administrative bodies pay insufficient attention to the implementation or are not able to use effectively the instruments of the social dialogue in solving problems of the improvement in working conditions, the increase of the wages-fund and the level of labor remuneration, social security improvement, promotion of enterprise initiatives of population in the retail trade and related economic activities.

With the help of the obtained results, one can single out the regions of Ukraine where the efficiency of the state policy on the social dialogue implementation in the retail trade is high (efficiency coefficient  $f = 1$ ) and the regions with low level of the efficiency of regulation (efficiency coefficient  $f > 1$ ). To

such regions belong (picture 3): Khmelnytskyi ( $f = 6.92$ ), Luhansk (5.41), Cherkasy (1.24), Lviv (1.22), Donetsk (1.21), Sumy (1.20), and also Mykolaiv, Kharkiv, Dnipropetrovks, Poltava, Kirovohrad, Kyiv, Zhutomyr regions and the city of Kyiv. At the same time, the state policy on the social dialogue implementation in the retail trade is effective in such regions of Ukraine as Vinnytsia, Volyn, Zakarpattia, Zaporizhia, Ivano-Frankivsk, Odessa, Rivne, Ternopil, Kherson and Chernivtsi.

It is evident that macroeconomic aspect reflects general state of the social dialogue implementation, but the retail trade as a type of economic activity has significant peculiarities and consequently, state administrative bodies must consider them.

Thus, it was proven, that the most significant microeconomic factors, which have positive effects on the improvement of the efficiency of the state policy on the social dialogue realization in the retail trade are turnover of recruitment staff (regression coefficient amounted to 1.75), the level of staff training (1.67), the proportion of young people (up to 35 years) (1.30), the number of employed per unit of trade space (1.01) and per trade facility (0.83), the proportion of managerial staff (0.63), employees with higher education (0.55), working pensioners (0.53), ratio between main working hours and afterhours(0.42), the level of salary in the income of an enterprise (0.42) (table J.2 Appendix J). Therefore, thanks to the improvement of these parameters because of the social dialogue implementation, one can ensure the increase of the labor productivity in the field, which, we consider an important criterion of the socio-economic efficiency in the social and labor sphere.

At the same time, efficiency of the state policy on the social dialogue realization in the retail trade enterprises is undermined by shares of incentive and compensation payments ("minus" 2,99), employees covered by a collective agreement ("minus" 2,28) and men ("minus" 0,31), efficiency of the usage of working time fund ("minus" 0,25). We want to mention that such results indicate low efficiency of the state policy on the social dialogue implementation, because, otherwise the increase in the shares of incentive and compensation payments, employees, covered by the collective agreement and effective usage of working time fund should ensure the improvement in the quality of labor in the analyzed field.

According to the results of the DEA we can single out positive factors that influence the state policy on the social dialogue implementation in the retail trade (working time fund (regression coefficient was 1.50), the number of employed workers per trade facility (0.70), the proportion of youth (up to 35 years) (0.44), the

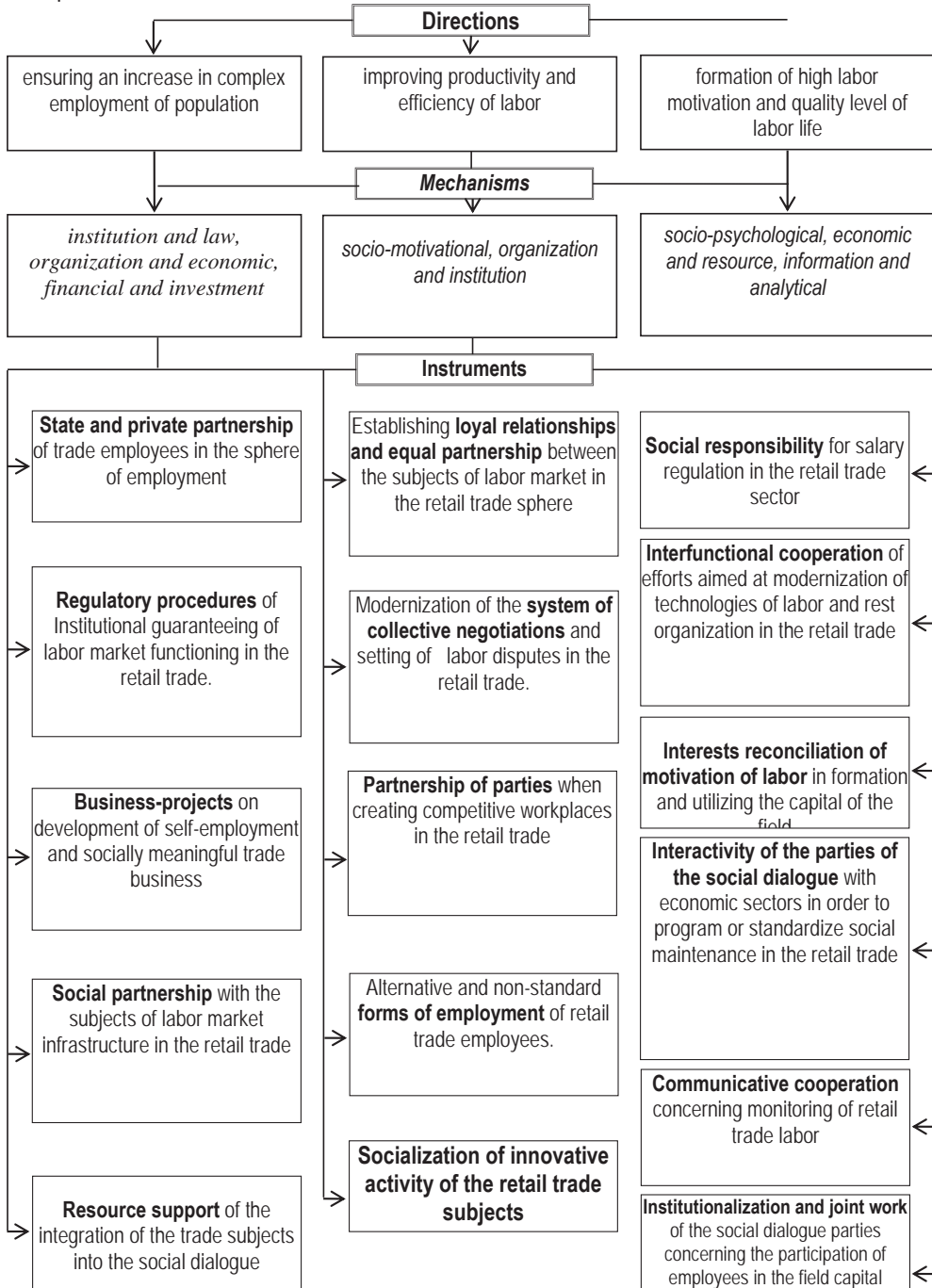
turnover of recruitment staff (0.43), the share of employers with higher education (0,40), the level of the salary in the income (0.37) and negative (the number of employees per unit of trade space ("minus" 2.10)) (table J.3. Appendix J). However, this list of factors does not suggest sufficient effectiveness of the state policy, which in the course of implementation would focus more on important needs of employees in the trade sector. Here the improvement of motivation, efficiency and qualification of labor, ensuring labor security and rejuvenation of the staff are meant.

From the methodical point of view there is a possibility to single out retail trade enterprises, where the social dialogue implementation is high (efficiency coefficient  $f = 1$ ) and consequently, their activity can be presented as a guide for enterprises (efficiency coefficient  $f > 1$ ), where the social dialogue is less effective. (Table 2.)

It should be noted that in the sphere of the retail trade an effective utilization of the mechanisms and instruments of the social dialogue implementation is conditioned by a range of peculiarities (in comparison with other kinds of economic activity). We think that with the help of the results of the analysis one can determine such important directions of realization and development of the social dialogue in the national retail trade. The directions are an increase of the complex employment of population in the field, improvement in productivity and efficiency of labor, formation of a higher level of motivation and quality of labor life (table 3). The study of these issues requires an implementation of appropriate mechanisms by the state bodies. Thus, for employment in the retail trade, the mechanisms are as follows: institutional and legal, organizational and economic, financial and investment.

Nowadays the social dialogue is an important institution of socio-economic and labor relations in the retail trade, which can reconcile the interests between its individual participants and ensure mutual communication in the process of achievement of common aims. Besides, such functions of the social dialogue should be fulfilled by an institutional and legal mechanism, which combines a large set of regulated procedures and rules. Within the framework of these rules and procedures, it is possible to adopt legally correct, partner and socio-oriented management resolutions and thus effectively coordinate the efforts of the social dialogue subjects. It is important that the country with the help of this mechanism can ensure a high level of the control over all the commitments concerning labor employment made by the parts of the social dialogue and directly coordinate their actions.

Table 2. Directions, mechanisms and instruments to implement the state policy on social dialogue development in the retail trade.



Source: Compiled by the authors.

To cover a wider range of problems of social and labor relations, it is necessary for state administrative bodies to apply an organization and economic mechanism. Thus, an organization component will ensure an active part of the country, employers, employees and their trade unions in the social negotiations and an economic component will coordinate the principles of economic efficiency and social responsibility among them in order to realize socio-economic individual and social needs. An appropriate combination of organization and economic approaches to the implementation of the policy on social dialogue development in the retail trade will provide, in our point of view, a balanced method of solving employment problems of the population, constructive combining of economic resources of the agents of the dialogue and rational distribution of their responsibility for breaking agreements.

We want to note that the study of the mechanisms of an institutional stimulation of the social dialogue in the retail trade, particularly in the formation of the national regulatory framework of the social dialogue from field perspective, comes to the following conclusions. Generally, in Ukraine since its independence, the legal basis for the organization of the social dialogue has been formed. The legal provision and regulation of the social dialogue in Ukraine are carried out in accordance with the statutes of the Civil Code of Ukraine and the Labor Code of Ukraine, Laws of Ukraine "On Trade Unions, their rights and guarantees", "On the employers' organizations", "On labor remuneration", "On state social standards and state social guarantees", "On collective deals and agreements", "On the procedure for settling collective labor disputes", "On social dialogue in Ukraine", the General agreement on regulating the basic principles and norms of social and economic policy and labor relations in Ukraine during 2010-2012, other law and statutory instruments with corresponding meaning.

Short-term prospects may be determined by the incorporation of the positive experience of the following countries into the system of the social dialogue in the retail trade in Ukraine:

- Belgium, in the context of organization of more effective work of the National tripartite social and economic council (according to this model, the members of the Council should deal only with making decisions, main work should be performed by highly qualified specialists of Council Secretariat);
- France, in the context of expanding the circle of participants in the social dialogue by involving in it civil organizations and various groups of citizens

(implementation of this approach increases the representation of the third sector in the development of the social dialogue system in trade, expands the social base and increases the legitimacy of decisions );

- Germany, (experience of formation and functioning of councils of retail trade enterprises, which in some cases carry out autonomous fee policy);
- Eastern and Central Europe countries (experience of creating additional tripartite bodies that substantively deal with individual issues at the sectoral level: social policy, employment policy, economic policy, wages, labor laws, labor safety, social protection, education and vocational training in the retail trade and other issues.

It is well-known, that the realization of the state policy requires sufficient financial and investment provision. In the retail trade, the formation of financial and investment contacts should be linked with the guarantee of the development and expansion of the spheres of labor employment of population. What we mean is that using this mechanism, on the one hand will ensure effective solving by the country of a range of socio-economic problems connected with the increase of population employment, because nowadays the bodies of the country are not able to do this without assistance. On the other hand, it will improve the structure of employment and labor remuneration in the retail trade. However, such a collaboration between the country and other parties of the social dialogue should not be limited to carrying out a particular range of tasks, on the contrary, it has to improve constantly and extend boundaries.

The realization of the defined mechanisms in the state policy on the social dialogue implementation for ensuring an increase of the complex employment of population in the retail trade needs careful selection and combination of its tools. To the tools of this direction primarily belong: state and private partnership, regulatory procedures, business projects, social partnership, and diversification of the resource availability.

The selection of these tools is explained by the fact that the obligation to create conditions for conducting efficient dialogue in the sphere of labor, to reach a consensus, to maintain social cohesion in the process of elaboration and implementation of the employment policy in the field is imposed on the country. The solution to this situation can be connected with using the possibilities of state and private partnership. However, legal regulation to increase the number of



participants of the social dialogue within the framework of state and private partnership in the retail trade is necessary. Particularly, it is necessary to open up new possibilities for private employment agencies, labor migrants, tripartite commissions and bodies of social partnership.

We think that it is important to activate the work of state administrative bodies concerning legalization of private employment agencies in the socio-labor relations, giving them legal status of employers. This will help to make more quality selection and provide retail trade enterprises with skilled staff.

It is vital to improve regulatory procedures of institutional ensuring the functioning of labor market in the retail trade. Hence, the country has to have an obligation to stimulate the creation and development of representative structures for the participation in the social dialogue. We think that in the retail trade, the primary purpose for state administrative bodies is to initiate an establishing of tripartite socio-labor commission and tripartite socio-economic consultation forum in order to prepare recommendations according to the state programs on population employment reform and to build closer labor relationships among bodies of executive authority, employers and employees.

We find it reasonable for higher bodies of executive authority to support the functioning of Consultation council of the trade sphere entrepreneurs and Consultation council of trade employees, which can participate in the preparation of law and stationary resolutions. Taking into account a considerable share of informal and non-standard forms of employment of the population in the retail trade, it becomes possible for national federations, which will represent people's interests to establish and develop (e.g. the federation of street vendors, domestic workers). In addition to that, every year at the national and local levels, it is reasonable to organize social dialogue forums in order to determine and form close partner positions including in the retail trade and coordinate modern peculiarities of labor relations in the state legislation.

Productivity and efficiency of labor at the retail trade enterprises are strongly dependent on social factors of inner and outer character. Together with dynamism of economic operations, the social integration of an enterprise only strengthens. Under such circumstances, the state system should be oriented at the formation of an optimal model of rapprochement of positions of the subjects of the labor sphere. In our opinion, the efficiency of this state policy on the social dialogue development in the retail trade will be confirmed by adopting new approaches to the formation of

socio-economic relations, the combination of social interests, the solution to social problems. Thus, the country's innovations in the social sphere can have a positive effect on the social capitalization of the subjects of trade business, improving motivation for elaboration and putting into practice new knowledge, development of the forms of collaboration with innovative active enterprises.

We want to mention that social innovations will contribute to the growth of the retail trade and allow the retail trade enterprises to fulfil their social function, enable them to develop new products and directions, establish loyal links between a seller and a customer. An important thing is that social innovations are aimed at activating intellectual, creative skills and promote opportunities of all the members of civil society, which allow improving the quality of labor life, social responsibility, partnership, and information links.

Nowadays one of the most crucial factors of successful social negotiations and consultations is the motivation of their participants, especially it concerns the staff, that have limited access to the distribution of labor results, legal ability to raise questions of major changes in socio-labor and economic spheres. Therefore, we think that an important direction of the state policy on the social dialogue development in the retail trade is the formation of high motivation of labor and the level of labor life quality. Consequently, it is urgent to employ social and psychological, economic and resources, information and analytical mechanisms and thanks to them the process of determination and rapprochement of the positions contributes to the formation of mutually beneficial relationship, activates the adoption of resolutions, ensures all the prerequisites to improve social and economic activity.

Hence, a social and psychological mechanism takes into account factors of responsibility, objectivity, decency, adherence to principles, which are common for the parties of the social dialogue and reflect their attitude to the labor motivation and the labor life quality. In the retail trade, where interpersonal connections are clearly expressed, making decisions to the extent of emotional and psychological stability has special meaning and they often become crucial for enterprises in ensuring and supporting higher level of consumers' loyalty.

Today the country possesses all means of psychological control over social behavior of population and in the period of modern technologies, it should only improve them. Through the retail trade sphere, it is possible to practice the implementation of programs on limitation of import goods purchase, reduction of

the volume of alcohol and tobacco goods consumption. Besides, only within the boundaries of the social dialogue, it is possible to successfully implement measures of an effective monitoring of psychological perception of the social innovations in the sphere of labor economics.

As an addition to the realization of these tasks, there are appropriate tools of an economic and resource mechanism, which is aimed at activating the social dialogue development, improvement of its resources support. In other words, in the retail trade there has to be programs to improve labor and rest organization, to encourage creative and intellectual labor activity, to introduce information technologies in the social life of staff. Along with that, the actions of the country must contribute to their realization and when achieving a huge success – popularize them in other sectors of economy.

The social dialogue is a means of information exchange and utilizing of an information and analytical mechanism, which guarantees its reliability, usefulness, target orientation and so on. When dealing with improving in labor motivation, the country must stimulate the establishment of steady partner connections of the retail trade enterprises with economic entities of other sectors of economy in order to increase opportunities and implement the programs of such a mechanism.

We regard establishing of social communication with the employees of the retail trade enterprises as a way of achieving joint responsibility for increasing the level of labor remuneration, improvement of its structure through the introduction and implementation of the regulations of the field fee agreement. It is important to put into operation in the state management system a single fee network of the labor remuneration, provide gradual establishment of its interqualified differentiation, taking into consideration distinctions in the complexity and responsibility for carrying out work. What is good, that it will help to increase the level of labor legalization in the retail trade, intellectualize and fairly remunerate the work, and therefore motivate.

Considering global tendencies of labor market development within the boundaries of the social dialogue implementation in the retail trade, an interfunctional cooperation of efforts to realize innovative technologies in the employment and labor and rest organization becomes more and more important. Thus, a high level of functionality of information and analytical employment system lets the retail trade enterprises adjust better to the market conditions, constantly follow the level of staff's qualification, standardize labor processes, predict the

consumers' needs for social security, and all of that comprises important features of labor motivation and the labor life quality.

Besides, this system allows effective defining the optimal conditions of work and rest, rational approach to an active adoption of tools for improving labor efficiency, efficacious distribution of obligatory expenses on personnel and work. Hence, the role of the social dialogue and the state policy on its implementation will be proven by the rate of adopting of coordinating resolutions concerning the usage of technological operations of labor activity accounting.

In addition, in the context of technological development, it is essential to reconcile the interests of the labor motivation of enterprises as to quality workplaces and of the country as to employment, formation and using intellectual capital of the field. It is important for state administrative bodies in the retail trade sphere to succeed in guaranteeing the growth of the demand for the results of intellectual activity, in capitalizing the intellectual property market and overcoming problems with preparations and developing professional and qualification skills of personnel.

Interactivity of the parties of the social dialogue with sectors of financing, insurance and banking business is important for the implementation of programs and standards of social maintenance and guarantees in the retail trade. From an objective point of view, social security must be based on broad consensus, ensured by reaching a compromise and be acknowledged, fair and without prejudice. We believe that the system of social maintenance in the retail trade can be efficient if there is full or partial financing through the contributions of employers and employees, creation of field institute of social security, regulation of social services of state institutions and usage of progressive forms of social insurance. Besides, the change of an approach to the formation of the social package of employees of the retail trade enterprises remains urgent; the contents of the package must be adjusted to the modern needs of social life.

Joint work of the parties of the social dialogue has to concern increasing of opportunities of participation for the retail trade employees in the field capital at different levels. Thus, at the level of an enterprise it is important to improve internal statutory and legal relations, particularly by giving employees shares in the statute capital, profit distribution in accordance with the contribution to the increase of financial and economic outcomes, formation of development funds and eliminating socio-economic risks. Today at the field level, there exists a necessity to create the

funds that guarantee social security of labor interests, which requires coordination between social partners of general legal framework, financing, organization and management, determining the procedures of compensation, regular assessment of funds' functioning.

We believe that only a comprehensive implementation of the above-defined mechanisms and instruments will ensure adequate effectiveness of state regulation in the analyzed sphere.

Despite the social nature and referring the category of the social dialogue to the socially oriented ones, we believe that the primary aim and purpose of the state policy in the analyzed sphere is the formation and effective usage of intellectual capital of domestic enterprises of the field. The aims can be achieved by tripartite regulation of social and labor relations at the field, regional (oblast) and territorial (municipal) levels through socialization of labor, increasing the level of its quality and remuneration, promoting job satisfaction, formation of motivation for professional and qualification development, creation and introduction of innovations, constant activity of workers concerning promotion of labor efficiency and modernization and upgrading of a trade and technological process. Such connection and consistency reflect an influence of an active state policy on promoting good practice of the social dialogue and increasing efficiency in the retail trade of Ukraine.

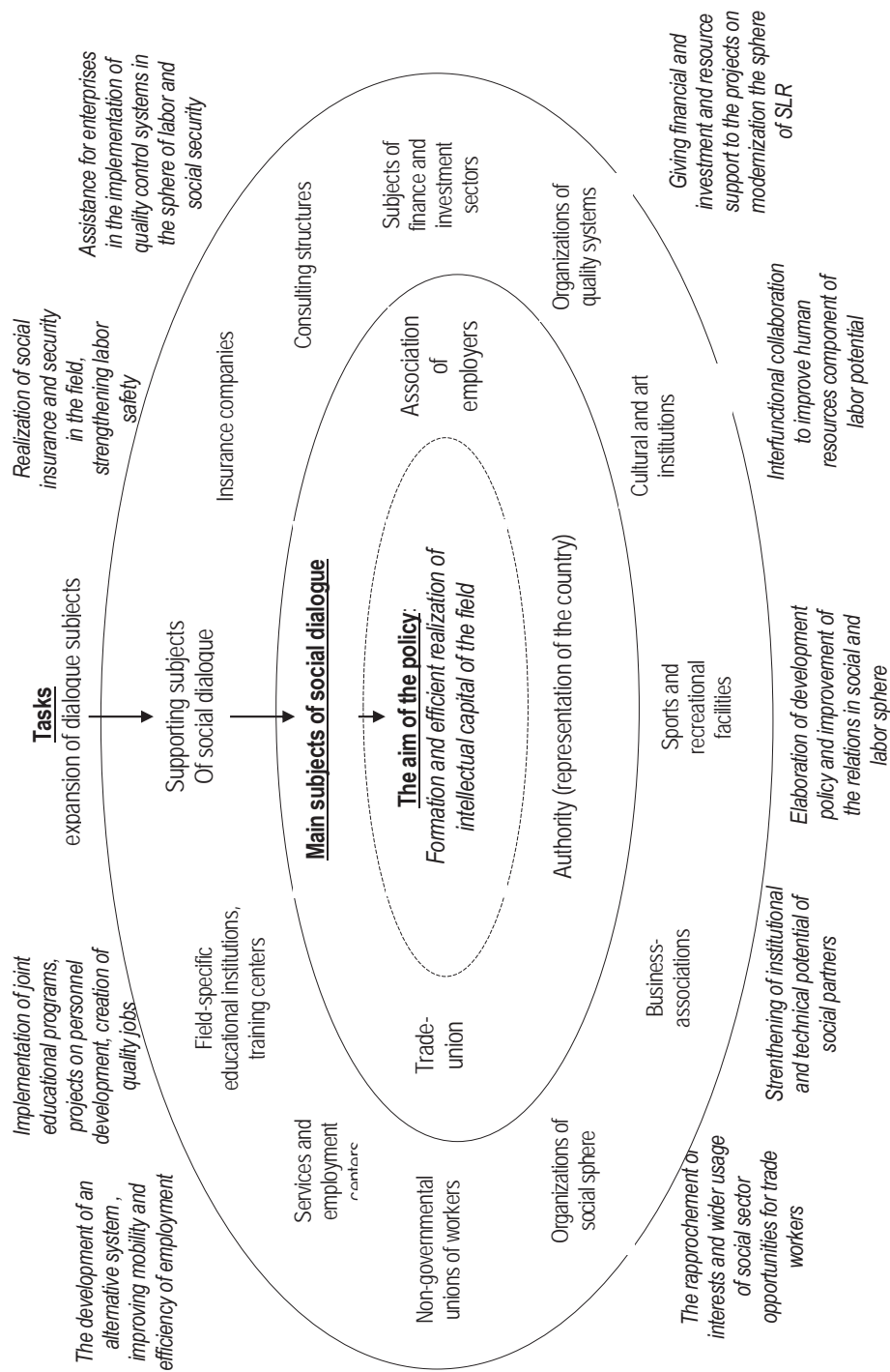
Achieving this objective, first, is connected with the realization of smaller (at first sight) aims and goals, which generally lead to the primary purpose of the policy. Secondly, despite plenty of opportunities of the social dialogue subjects (especially the country), their potential is still limited and can be considerably developed if broader list of subjects, linked to carrying out multidirectional tasks are involved in the "dialogue". Thirdly, various functional spheres and directions (for example financial, human resources, technical and technological, investment, innovation, social spheres and so on) need considering and strengthening as they promote resource support, provide all around development and improve the state policy result obtained at the output, including through its expanding into related economic activities, sectors, and spheres of economy and social life. Hence, we can first speak about formation and then about the growth of functional and subjective integration in the analyzed sphere.

Figure 2 schematically presents a list of main and additional (which in our opinion, have to be included into extended and more effective system of the social

dialogue in the domestic retail trade) subjects of “the dialogue”.

In addition, one can see an objective of the state policy in the sphere of social dialogue realization in the retail trade and additional tasks, which can be performed by new participants of mutually beneficial cooperation and ensure synchronous influence on achieving the primary purpose of the policy.

Figure 2. Participants and tasks of functional and subjective integration to implement the state policy on the social dialogue development in the retail trade of Ukraine.



Source: Proposed by the authors

We are convinced that the intellectual capital is the main resource of development in all kinds of economic activity including the retail trade, and qualified workforce is the basis for intensive, stable and balanced economic growth. Intellectual capital is formed in the process of an individual establishment and education. However, further development and effective usage of the intellectual capital largely depends on the system and structure of socio-labor relations in an enterprise, especially on concentration of efforts on such spheres as expanding of employment, social security, remuneration and safety of labor, sticking to the norms and fundamental principles in the sphere of labor and social dialogue.

**Conclusions.** It is well known that the social dialogue is designed to ensure rapprochement and reconciliation of interests of personnel, an employer and the country, one of the most important is high quality of labor, which needs training of high skilled employees. A significant role in this plays solving of problems with bringing contents and structure of professional education and training into accord with the needs of labor marker for trade. Taking into account the above mentioned, we believe that there is a necessity to involve to the structure of the subjects of an active social dialogue in the retail trade vocational institutions, centers of training and retraining of personnel and employment agencies and centers (of non-governmental property form).

We think that today it is necessary to modernize professional curricula taking into consideration needs of labor market, namely in the retail trade. This type of cooperation will bring positive effect both to the trade enterprises, which will get potential workers, who possess necessary for this economic activity qualities and competencies and to training and educational institutions, which will receive more professionally oriented and interested students.

It is possible to ensure the development of such cooperation by setting the certain quota of state demand for training professionals in vocational education and higher education establishments. As a rule, these educational institutions do not belong to the system of the MES of Ukraine, and respectively, have no state-funded places. In our opinion, this situation should be changed and the state has to ensure its active participation in the preparation of highly skilled workers for the retail trade.

We believe also that the most efficient way to implement good (including leading ones) practices of quality functioning and development of social and labor sphere in domestic retail enterprises is standardization of these processes. Here we can speak about assisting enterprises in going through the procedures and in further



receiving certificates of quality in this area recognized by international organizations (for example, ISO). This will not only organize appropriate work, but also put it at the decent level of quality, consistency and sustainability.

We think that bodies of state government both of central and local level need to elaborate programs of budget and financial support of enterprises, which strive to get appropriate certificates. It does not concern allocation of additional money but rather giving so-called “vacation” or delays of certain payment to the local budgets for expenses on preparing and going through certification procedures. According to the international practice, the support of consulting structures, which assist in going through the certification procedure, can be promising.

To conclude, we would like to mention that creation of law, economic and institutional conditions, which facilitate the formation of efficiently working labor market in the sphere of the retail trade, especially in order to ensure social stability in the society is now main priority. Its number one priorities are creation of comfortable and safe working places, which correspond to modern standards of labor safety and security, providing social assistance and so on.

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## **WAYS OF FORMATION AN EFFECTIVE INTELLECTUAL AND PERSONNEL SUPPORT FOR THE ECONOMIC SECURITY OF ENTERPRISES AMID THE RECOVERY OF THE ECONOMY OF UKRAINE**

***Abstract.** The authors justify the importance of intellectual and personnel support and its use as a practical tool to ensure the economic security of the companies. The paper generalizes conceptual characteristics of intellectual and personnel support for the enterprises, improves scientific and methodical aspects of structural and functional structure of the intellectual and personnel support in the enterprise economic security management system. The authors identify the areas, features and obstacles to management of the intellectual and personnel support for enterprise economic security, their features and obstacles to their formation in the conditions of the recovery of the economy. The paper characterizes the internal and external risks and threats to the intellectual and personnel support for the enterprise economic security. The authors justify the role and direction of the improvement of the efficient use of intellectual and personnel support to strengthen the economic security of enterprises. The paper identifies the direction, tools and sequence of the formation and use of intellectual and human resources to the provision of the enterprise economic security.*

**Introduction.** A certain lack of comprehensive public policy to counter internal and external challenges and threats, which is aggravated by internal political, economic, legal and social contradictions, requires a revision of the national development strategy, taking into account the importance of ensuring sustainable economic development of the primary agents of the national economy. It is clear that the effect of endogenous and exogenous risks manifests primarily at the level of economic entities. Therefore, the problem of the provision of enterprise economic security should be considered as an important element and factor that largely determines the economic security climate of the sector, region and country.

We should note that the lack of attention to the problem of ensuring an adequate level of economic security of national enterprises is one of the reasons, which prevents from creating proper conditions for improving the economic efficiency of their operations. At the same time, an appropriate level of development and the viability of enterprises still depends on the capital factor;

however, in accordance with modern trends in the active use of the Internet, IT technologies, e-commerce, etc., it is determined more and more by a labour factor, in particular, highly intellectual one. Under such conditions, intellectual and personnel support (especially as a combination of highly skilled experts, their knowledge and skills, operations aimed at the creation and commercialization of reserves of intellectual, creative and research activities in order to increase competitiveness of the enterprise) becomes a practical tool to solve the problem of ensuring enterprise economic security, that allows strengthening the systemacity within justification of the reasonable management decisions based on the level of security and opportunities to strengthen it.

The establishment of the economic and organizational and institutional conditions of the market economy in Ukraine has significantly changed the operational environment of the enterprises and the influence of factors that determine the parameters of economic security and prerequisites for development. The establishment of the competitive environment and strengthening the principles of the competitiveness in the conditions of recovery of the national economy put forward the requirements for high-quality resource support, in particular intellectual and personnel one, as an important component of the economic security management system.

We should note that the system of intellectual and personnel support is unique for each individual enterprise, since it depends on the staffing level, its qualitative and quantitative characteristics, professional and qualification level, the development and features of business activities, its performance etc. We believe that the system of intellectual and personnel support can be interpreted as a set of interconnected elements of the economic, organizational and legal nature, as well as the activities carried out by top management team, that are aimed at achieving the objectives, establishing and the effective use of the personnel and intellectual abilities of the employees.

Thus, the advantages and features of intellectual and personnel support for the enterprises are the establishment of synergies, which results in a greater effect both from the human and intellectual potential, combining intellectual and human resources requirements for personnel, the development of internal initiatives for innovation and development, commercialization and an effective use of intellectual property assets for company's development purpose, intensification of worker's intellectual and creative activity, and formation of intellectual capital and

intellectual assets in such a manner that promotes capitalization and increase in the market value of the enterprise. Therefore, the intellectual and personnel support is one of the most important components in the enterprise economic security management system as it is a factor of provision with personnel, in particular, management one.

It is reasonable to assert that the intellectual and personnel support for the enterprises is a condition that characterizes it by its resistance to risks and threats originating from the activities of the staff due to the level of achieving intellectual potential, the nature of the employment relationship and the level of performance standard.

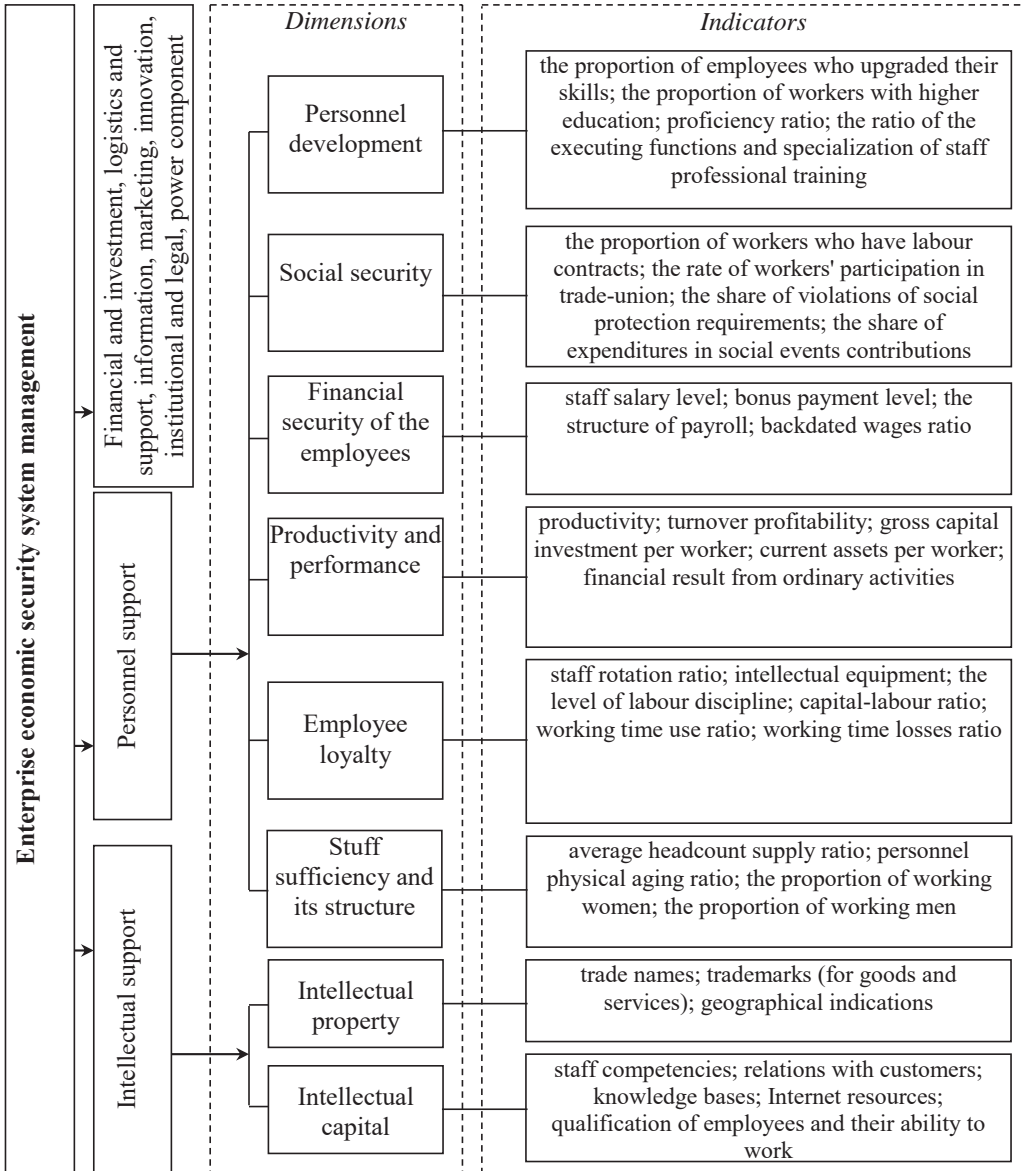
Thus, we come to the conclusion that it is necessary to expand the list of tasks of the intellectual and personnel support for the enterprises, in particular, the personnel management to provide the enterprise with the staff of required professional qualification level, employee loyalty, create conditions for achieving the labour potential and effective usage of intellectual capital in order to ensure economic enterprise security.

Improving the essential characteristics of the establishment and effective use of the intellectual and personnel support in the enterprise economic security management system concerns the clarification and extension of the list of its dimensions and indicators. An integrated approach to their identification is shown in Figure 1, which shows the following areas: personnel development, social security, financial security of employees, productivity and performance, employee loyalty, staff sufficiency and its structure, intellectual property, intellectual capital.

Thus, the applied role of the classification of the intellectual and personnel support in the enterprise economic security management system according to dimensions and indicators is to formulate a methodical base of its assessment, because it allows realization of a complete set of indicators that can also be used in resource and functional approach to the assessment of the enterprise economic security.

In the context of a significant strengthening of the nonmaterial component and innovative factor of competitiveness of goods and services, the role of intellectual and personnel support in the enterprise economic security management system has increased significantly. This is due to the role that intellectual property assets play now in the scientific, commercial, industrial and foreign trade activities of the enterprises.

Figure. 1. Decomposition of the intellectual and personnel support in the enterprise economic security management system



Source: Proposed by the authors.

It is a positive fact that the role of intellectual property in the organization of the enterprise economic security is growing, outpacing the importance of the instruments of labour and resources through the introduction of new technologies, the use of intelligent creative knowledge, broader involvement of intellectual

property items, the increase in the share of intangible assets in the market value of enterprises.

Thus, the intellectual and personnel support becomes an essential precondition for the enterprise economic security, because it characterizes the development of its intellectual and human capital, as well as the efficiency of its use for the creation and commercialization of the results of the research and innovation activities to enhance the competitiveness and efficiency of business processes.

When using a differentiated approach to assessment and ensuring personnel and intellectual subsystems, their role significantly enhances in the enterprise economic security management system. It is important because the increased use of intellectual property items and innovations has a positive effect on such aspects of an enterprise's financial and economic activity, as: (1) obtaining additional income from better marketing support for the goods offered on the market, transfer or sale of the intellectual property rights to others, leasing or franchising of the intellectual property items; (2) increasing the share of equity capital, increasing income per share, additional advantages in a merger or sale of the enterprise; (3) increasing the operating efficiency by improving investment performance in R & D and ensuring the continuity of the innovation process.

However, the use of intellectual property items may lead to an increase in costs connected with patenting, registration of commercial designations and other costs. This should be considered to maximize the positive and level negative effects [10, 11, 12]. Theoretical generalization of the key features of the intellectual and personnel support suggests that its objectives and functions are much beyond the formation and use (both in quantitative and qualitative aspects) of the staff. The complexity and dynamism of this category brings us to the conclusion that it is not less important to study the features and the obstacles to management of the intellectual and personnel support for the enterprise economic security (Table. 1).

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<sup>10</sup> Ilyash, O. I. (2012). The transformation of the system of social security of Ukraine: regional dimension. Lviv: PAIS.

<sup>11</sup> Lohinova, N. I. (2009). The place of personnel security in the enterprise economic security. *Utilities cities: scientific-technical collection*, 87, 371-376.

<sup>12</sup> Poskrypko, Yu. A. (2012). Mechanisms to improve the intellectual and human resources component of economic security of enterprises]. *Scientific notes of Ukrainian research Institute of communications*, 2(22), 118-120.

Table. 1. Directions, features, and obstacles to management of the intellectual and personnel support for enterprise economic security, their features and constraints to the formation in the conditions economic recovery

Directions of the formation of intellectual and personnel support for the economic security	Features of management of intellectual and personnel support for the economic security	Obstacles to the formation of intellectual and personnel support for the economic security
Personnel development	<ul style="list-style-type: none"> <li>- ensuring the growth of professional qualification of personnel;</li> <li>- promoting improvement of the performance quality;</li> <li>- introducing innovative development programs of the company development</li> </ul>	<ul style="list-style-type: none"> <li>- lack of attention to the creative possibilities of employees;</li> <li>- absence or poor quality of the development programs of enterprise intellectual potential;</li> <li>- poor organization of training;</li> <li>- insufficient qualification of workers</li> </ul>
Social security	<ul style="list-style-type: none"> <li>- ensuring high quality level of personnel working life</li> </ul>	<ul style="list-style-type: none"> <li>- absence of social packages;</li> <li>- low level of health care;</li> <li>- cases of violations of social protection and labour safety;</li> <li>- insufficient social benefits</li> </ul>
Financial security of the employees	<ul style="list-style-type: none"> <li>- ensuring the efficiency of the labour costs;</li> <li>- increasing efficiency and productivity</li> </ul>	<ul style="list-style-type: none"> <li>- inefficient spending on wages;</li> <li>- weak material and moral motivation;</li> <li>- imperfect system of motivation</li> </ul>
Productivity and performance	<ul style="list-style-type: none"> <li>- increase in economic activity;</li> <li>- establishing the optimal work and rest schedule;</li> <li>- ensuring efficient personnel management</li> </ul>	<ul style="list-style-type: none"> <li>- irrational working schedule;</li> <li>- poor organization of personnel management;</li> <li>- errors in planning labour indicators;</li> <li>- absence of corporate policy or its low level;</li> <li>- inadequate assessment of the importance of different lines of company's activities and adequate qualification of workers</li> </ul>
Employee loyalty	<ul style="list-style-type: none"> <li>- optimization of the labour expenditures;</li> <li>- reduction of loss of working hours</li> </ul>	<ul style="list-style-type: none"> <li>- the loss of skilled workers;</li> <li>- decrease in number of improvement suggestions and initiatives;</li> <li>- expenditures on ineffective training programs and retraining of personnel;</li> <li>- low quality on personnel selection and hiring;</li> <li>- errors in the staff activity management</li> </ul>

<p>Stuff sufficiency and its structure</p>	<ul style="list-style-type: none"> <li>- providing enterprises with the necessary number of employees;</li> <li>- compliance with the correspondence of the personnel by education, qualification, sex, age and professional characteristics;</li> <li>- establishment of a rational correlation between the categories of workers</li> </ul>	<ul style="list-style-type: none"> <li>- lack of money to hire highly skilled workers;</li> <li>- poor tests of candidates when hiring;</li> <li>- mismatch of skills requirements of the workers;</li> <li>- Irrational correlations between categories of workers</li> </ul>
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Source: Proposed by the authors.

Thus, the directions of management of the intellectual and personnel support for economic security point at the parameters that are subject to the impact of the enterprise, but also define the obstacles. In particular, the provision of the enterprise with human resources, their rational use, high productivity level are essential to increase sales volumes, efficiency of economic activities, and therefore strengthen economic security.

It is important to take preventive measures, first of all, to prevent from the declining of the efficiency of the intellectual and personnel support management (due to the sudden change of an executive management or owners, increased employee turnover, reduced productivity, decline in the efficiency of the personnel motivation system, forecasting errors and getting incorrect results), intentional misconduct or inaction of employees, increased working time losses in the context of economic recovery in providing the intellectual and personnel support for the enterprise economic security. In addition, arrangements for ensuring the intellectual and human resources components for the support of the enterprise economic security should take into account the impact of external factors, such as deficiencies in the training system both in the field of operation and security; unpredictable changes in market conditions; headhunting; changes in the volume and structure of the labour force in the area of enterprise activities. Therefore, it is necessary to create and implement a plan of actions to create safe conditions for operation of enterprises, providing the safety of personnel actions (applies to entering information in the position descriptions about the actions connected with the creation of the prerequisites and performance of functions that guarantee the safety of property, resources and staff, as well as the introduction liability for damages for certain categories of staff who have access to reserves and funds).



After creating the necessary preconditions for security and preservation of the property, companies have to develop a set of instructions for staff to exercise permanently the functions aimed at ensuring security. The instructions provide actions in following directions: guarantee security of each phase of expansion and modernization of the manufacturing process; ensure the safety of each object; guarantee security for functional areas (finance and investment, logistics and support, information, marketing, innovation, institutional and legal, power).

We should note that a major drawback of national enterprises is the fact that their activities are clearly insufficient in the context of the economic security management. However, despite the minor amount of such work (and hence the lack of appropriate department), most enterprises consider it necessary to establish a security status and management monitoring service. In this case, the main reasons of insufficient institutionalization of this process are the lack of financial resources needed for the creation and operation of the department and carrying out necessary measures, as well as the lack of proper intellectual and personnel support. Among other reasons one should mention an inflexible organizational structure, the lack of adequate information support for the analyzed issue, low knowledge of administrative personnel about assessing and ensuring enterprise economic security [<sup>13</sup>, <sup>14</sup>, <sup>15</sup>, <sup>16</sup>, <sup>17</sup>, <sup>18</sup>].

Obviously, the use of intellectual and personnel support is important to improve economic security risk management policy. Thus, in Table 2 we present the role of the intellectual and personnel support and measures to promote its efficient use to strengthen the enterprise economic security.

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<sup>13</sup> Boikevych, O. R. (2011). Strategic priorities and means of trade enterprise economic security strengthening]. (Unpublished master's thesis). Lviv Academy of Commerce, Lviv.

<sup>14</sup> Lohinova, N. I. (2009). The place of personnel security in the enterprise economic security. *Utilities cities: scientific-technical collection*, 87, 371-376.

<sup>15</sup> Mandryk, O.Ya. (2015). Management of intellectual-personnel resources in retail trade enterprises. (Unpublished master's thesis). Lviv Academy of Commerce, Lviv.

<sup>16</sup> Moiseienko, I. P. (2007). Managing intellectual potential. Lviv: Avers.

<sup>17</sup> Vasylytsiv, T. H., Voloshyn, V. I., Boikevych, O. R. & Karkavchuk, V. V. (2012). Financial and economic security of Ukraine: strategy and mechanisms to ensure]. Lviv: Liha-Pres.

<sup>18</sup> Voinarenko, M. P., Duda, T. T., Luk'ianova, V. V. & Yaremenko, O. F. (2008). Economic security of an enterprise in a competitive environment. Khmelnytskyi: KhNU.

Table 2. The role and directions to promote the efficiency of the intellectual and personnel support to strengthen the enterprise economic security in the conditions of economic recovery

Components of enterprise economic security	Role of the intellectual and personnel support in strengthening economic security components	Measures to enhancement the role of intellectual and personnel support in economic security system
Personnel	training and staff development, transformation of knowledge into new results of intellectual creativity, generation of knowledge and its adaptation to the needs of the enterprise	rational use of human resources, training of personnel, formation of motivation and interest of workers in training and intellectual creativity
Innovative	support of innovation activities and enterprise development, development and implementation of innovative solutions regarding finance, marketing, logistics, product policy	organization and pursuance of research, execution of R&D to create innovation, fostering a culture of innovations and enterprise innovation infrastructure
Organizational	increase of turnover, increase of commercial efficiency, improving information and consulting support for the enterprise	simplification of formation and effective intellectual and human capital management, job management and infrastructure development for intellectual creativity in the enterprise
Financial	increase in tangible and intangible assets, intellectual and human capital, effective debt-equity ratio, reducing the expenses on delivery and storage of goods, increase of labour productivity	optimize of personnel costs structure, investments in innovation projects, evaluation and analysis of the components of the intellectual and human capital of the company
Social	growth of social protection of employees and the level of wages, improved employment, growth of labour discipline	social insurance granting, collective bargaining, providing favourable conditions to enhance innovative activities, increase in number of competitive vacancies
Marketing	increase in the market value of the company, the use of innovative methods of promotion, creating positive company image	opening new channels of goods movement, estimation and goods marketing development, complex analysis and monitoring the capabilities of existing markets and competitors
Technological	optimization of the process	increasing role of staff in improvement, upgrade of the processes and managing innovations, increase of the development technical level
Informational	development of modern information technologies, use of information databases	ensuring the necessary level of knowledge and information awareness, attracting new information technologies

Source: Proposed by the authors.

Therefore, the effective management of the intellectual and personnel support is vital for enhancing economic security and sustainable viability of enterprises. This includes the activities on its formation, use and direct intellectualization of business processes. The formation of the intellectual and personnel support includes the creation of knowledge, experience, competence and creativity of employees, as well as the introduction of modern achievements in information, technology and innovation.

The accumulation and efficient usage of the intellectual and personnel support are also important, the essence of which is to create such conditions in the enterprise that will contribute to the intellectual creativity and the introduction of new scientific and technical developments, their accounting and use in the economic process.

However, the systematic intellectualization of the business is still the key task. This is the result of the efficient usage of its intellectual and personnel support: measures regarding the development and effective implementation of innovation and intellectual creativity in the process, their spread and role in the functional areas, line of actions, management levels and elements of the process.

That is why the intellectualization policy priorities should include: improving the quality of professional training and personnel development system, improved expenditure planning on intellectualization and development of scientific-research domain, improvement of the resourcing of the research and innovation activities, improving efficiency of research and innovation activities, expenditure and investment growth on the intellectualization of commercial economic activities [<sup>19</sup>,<sup>20</sup>].

We should add that an effective mechanism for the intellectual property protection is an important field of the intellectual and personnel support for the enterprise economic security, aimed at the promotion and development of scientific research, innovation implementation and the acceleration of scientific and technological progress at the micro level of management. The necessity for the creation and the development of the protection of intellectual property rights is driven by the following needs: stimulation of creative intellectual work and

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<sup>19</sup> Burda, I. Ya. (2011). Economic security of an enterprise and place it in the personnel security]. Efficient economy: electronic specialized edition, 10, retrieved from: <http://www.economy.nayka.com.ua/?op=1&z=743>.

<sup>20</sup> Van den Berg, H. A. (2003). Models of Intellectual Capital Valuation: A Comparative Evaluation. Business Performance Measurement.

implementation of its results; stepping up of investment and innovation activities; introduction of scientific and technological progress achievements; creating favourable conditions for the introduction of new business technologies; establishment of a reliable protection of business entities from unfair competition associated with the misuse of intellectual property, as well as developments in innovation and research sectors [<sup>21</sup>, <sup>22</sup>].

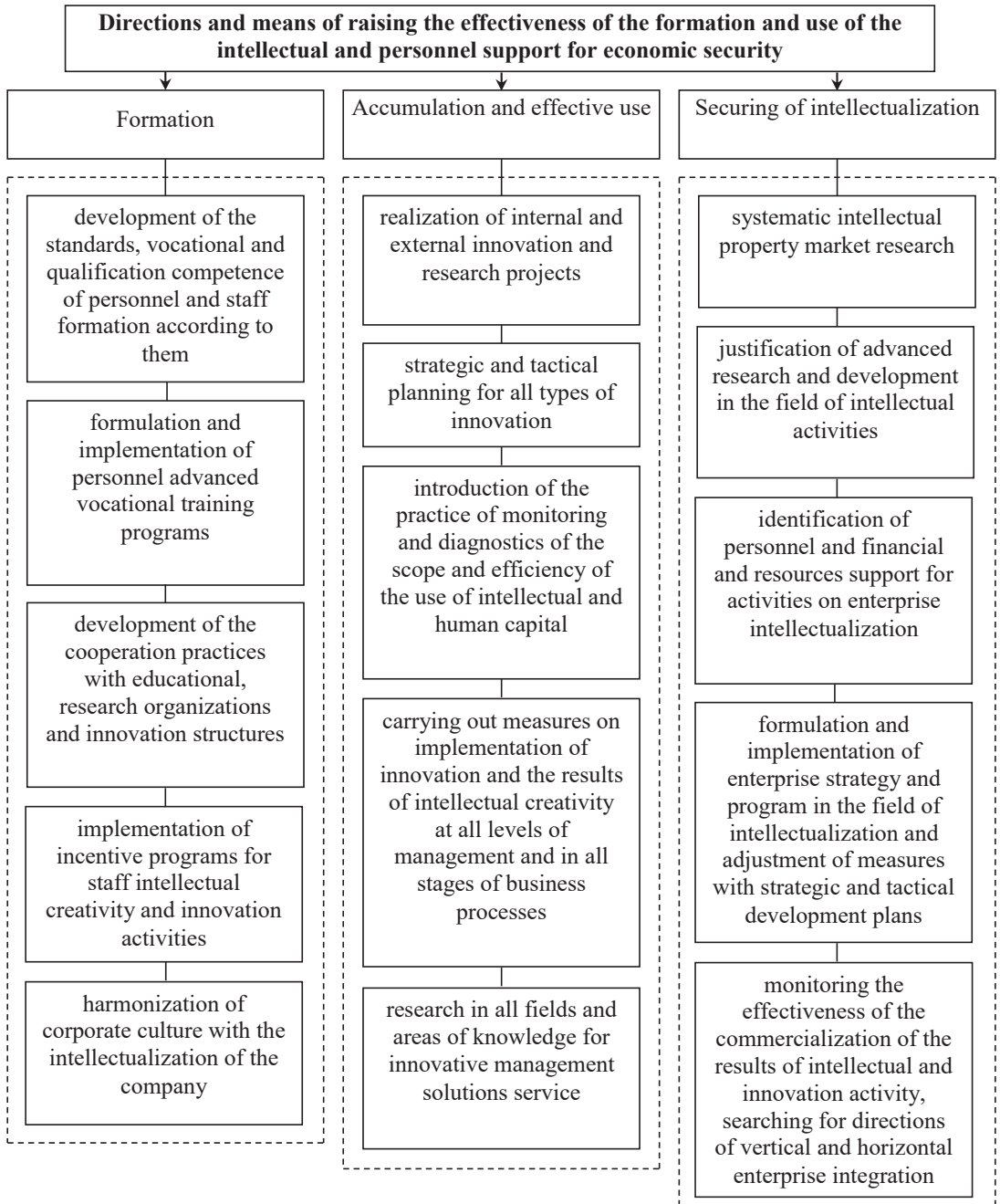
With reference to the above mentioned, we characterize and analyze the policy components of the raising effectiveness of the formation and usage of the intellectual and personnel support for the enterprise economic security in the conditions of recovery of the national economy (Figure. 2).

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<sup>21</sup> Moiseienko, I. P. (2007). Managing intellectual potential. Lviv: Avers.

<sup>22</sup> Porokhnia, V. M. & Los, V. O. (2010). Modeling of the influence of intellectual capital on innovative development of the enterprise. Zaporizhzhia: KPU.

Figure. 2. Directions and sequence of formation and use of the intellectual and personnel support for the enterprise economic security



Source: Proposed by the authors.

Therefore, the main directions and means to enhance the effectiveness of the formation and use of the intellectual and personnel support in the policy of strengthening the enterprise economic security are: formation (development of standards, personnel vocational and qualification competence and staff formation according to them, formulation and implementation of personnel advanced vocational training programs, harmonization of corporate culture with the intellectualization of the company); accumulation and effective use (realization of internal and external innovation and research projects, strategic and tactical planning for all types of innovation, introduction of the practice of monitoring and diagnostics of the scope and efficiency of the use of intellectual and human capital); securing of the intellectualization (systematic intellectual property market research; justification of advanced research and development in the field of intellectual activities).

We should mention that the formation and use of the intellectual and personnel support for the economic security can be manifested in the long-term time horizon. However, with a proper approach to the management of this process, the enterprise can count on the significant positive effects of its usage, coming from better (than in competitors) dynamical adaptability to the conditions of competition and the development of the consumer market, higher efficiency and capacity for sustainable development.

The development of the formation strategy of the intellectual and personnel support for the economic security is also connected with the decision-making on accumulation, distribution and use of knowledge, training of employees, formation of self-development skills, carrying out the programs of personnel reserve formation, rotation of employees, development of teamwork skills. With this approach, the formation and the effective management of the intellectual and personnel support contribute to permanent improvement of the innovative activity of the enterprise and the establishment of a proper intellectual and human resource base for this.

Under conditions of excessive workers income differentiation, an important component of personnel motivation to intellectual creative activity is to match the material rewards for the quantity and quality of work done, and for young professionals – the opportunity for professional growth. This factor of the intellectual and personnel support for the economic security is very important, because the formation of human capital and provision of its stability at the

enterprise is a long process (as well as high-quality selection of staff) and is directly connected with the strategic management.

As we have already mentioned, no less important aspect of the management of the intellectual and personnel support for the enterprise economic security is providing intellectual property protection. Thus, the support and protection of property rights to the results of intellectual work are carried out through obtaining a title of protection for intellectual property items and conducting specific actions relating to offenders. At the same time, as the experience of developed countries shows, risk insurance as a complex type of insurance, that covers the insurance of the property, financial and liability risks, should be the basis of the enterprise protection in this sphere.

Thus, the process of formation, use and development of the intellectual and personnel support, as well as protection of intellectual property are the important factors in strengthening the enterprise economic security. Positive developments in this area are possible only when domestic economic entities will be aware of the importance of the formation and efficient use of the intellectual and personnel support in modern conditions of economy recovery. Here the permanent training of workers should be appropriate, as well as improving their skills, an effective use of knowledge and development of human resources, targeted motivation and stimulation, the use of the world's best practices in the formation and use of intellectual capital, building an effective and progressive organizational structure, that is focused on a constant exchange of knowledge, their accumulation and use for long-term development of business processes, improvement of the internal information systems [<sup>23</sup>, <sup>24</sup>, <sup>25</sup>].

We suggest that the policy of formation of the intellectual and personnel support for the enterprise economic security should begin with its supply of labour according to number, structure, skills and cultural and educational level. To do this, you need to identify the external needs and internal resources of staff save due to

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<sup>23</sup> Andrushkiv, B. M., Maliuta, L. Ia. & Palianytsia, V. A. (2008). Economic and property security of enterprises and entrepreneurship. The anti-raiding. Ternopil: Ternohraf.

<sup>24</sup> Mandryk, O. Ya. (2015). Management of intellectual-personnel resources in retail trade enterprises. (Unpublished master's thesis). Lviv Academy of Commerce, Lviv.

<sup>25</sup> Poskrypko, Yu. A. (2012). Mechanisms to improve the intellectual and human resources component of economic security of enterprises. Scientific notes of Ukrainian research Institute of communications, 2(22), 118-120.

more rational deployment of the personnel and the use of them in accordance with the obtained profession, speciality and qualification.

It should be mentioned that it is important to assess the results of their work in the context of the individual departments, determine the extent of compliance of the educational and professional and qualification structure of personnel and their structure, including the modern scientific and technological level of the enterprise, assess staff sufficiency and the necessity in additional workers, when analysing the enterprise staff sufficiency. The analysis and periodic monitoring of the occupational pattern of employees is an important information basis to justify management decisions to improve the technical progress, identify labour shortage or redundancy of manpower and assume prompt actions to improve the occupational pattern of employees in the context of strengthening the economic security of the enterprise.

The problem of the quality intellectual and personnel support increases every year. The lack of qualified personnel hinders innovation and, in the future, intellectual activity, that cannot guarantee economic security for the domestic enterprises. The problem of quality staff sufficiency arose first due to the absence of the system of strategic management of the intellectual and personnel support and misunderstanding of the role and place of the staff in the achievement of the strategic objectives of strengthening the enterprise economic security.

In our opinion, an improvement of the intellectual and personnel support for the enterprise economic security requires the carrying out system totality of means of the policy in the following areas: improving enterprise staff sufficiency with qualified personnel and intellectual capital; strengthening the continuity of personnel and improving the utilization of intellectual capital; providing the enterprise with efficient and productive work; improvement of social protection of personnel; assuring the development and training of the staff, its innovative activity.

In our turn, we consider the following things are the policy means to strengthen the intellectual and personnel support for the enterprise economic security: development and usage of staff quality testing systems, their propensity to innovative activities, diagnosis and selection of key personnel; organization of the system of professional training and retraining; implementation of IT technologies for business process management at the enterprise; improving working conditions and work time setting; improving the material incentive system; improving leadership styles and methods; introduction of the control over intellectual creative activity of employees; increasing labour discipline; carrying out the measures to reduce the level of staff turnover; upgrading personnel skill level; providing with financial and



social incentives to work; technological process modernization; introduction of automated control systems; implementation of organizational and management innovations; developing and provision of social services package; increase of the role of social partnership and collective regulation of social and labour relations; establishing of social development funds; implementation of the staff development strategy in line with the objectives of the enterprise innovative development; securing of enterprise intellectualization; increased investment in staff development; development of effective educational programs; introduction of new methods and tools for development [26].

**Conclusion.** A program of concrete actions should become an integral part of a package of measures on enterprise economic security management, aimed at creating a reliable intellectual and personnel support in order to achieve good results of its activities in modern conditions of the economic recovery.

At the same time, we should note that the intellectual and personnel support is a quite complicated category, and its conditions and features change dynamically. Therefore, intellectual and personnel support for the enterprise economic security should be carried out in dynamics to identify negative trends and to change the conditions, which cause them timely, and, on the contrary, to create opportunities for reducing the level of staff turnover and ensure the employee loyalty, upgrading of professional skills of workers, gains in knowledge, improvement of organizational behaviour and job climate, employees comprehensive understanding of objective relevance and necessity of formation and effective use of the intellectual and personnel support in order to strengthen the enterprise economic security.

At the same time, the intellectual and personnel support for the enterprise economic security should be considered from the perspective of a systematic approach that allows having a more comprehensive approach to managing the process of its formation, development and effective use. Thus, its key features are: (1) staff sufficiency of the enterprise (and their competency characteristics) that is able to accumulate and generate intellectual creative activity, create and commercialize innovations and implement their results in economic practice, form modern logistics and support and information and technology support for business processes services; (2) provision of the enterprise with modern equipment and technology, information, infrastructure for innovation and intellectual creativity; (3) the degree and efficiency of the labour and intelligence factor combination.

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<sup>26</sup> Balabanova, L. V. & Stelmashenko, O. V. (2010). Strategic management staff of the enterprise in conditions of market economy]. Donetsk : DonNUET.

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## **LABOUR POTENTIAL IN A NON-STABLE ECONOMY: THE LATEST TRENDS OF SOCIO-ECONOMIC TRANSFORMATION**

**Abstract.** *The essence of the transformation process of labor potential usage was outlined. The impact of an information society on the transformation of the labor potential usage was analyzed. The basic problems of a rational use of labor potential were proven. The problems are related to depopulation; growing demographic pressure on working-age people; a low innovation activity of employees; an imbalance of training of specialists by a system of higher educational institutions and workers by a system of vocational education; rising unemployment and illegal employment; difficulties with the labor remuneration. The respondents' priorities concerning obstacles, measures and motivators of the labor potential usage in terms of various cities of Ukraine were defined. The effects of the gap between the population by an income level in the use of labor potential were discovered. The basic trends in the transformation of the labor potential usage were outlined.*

**Introduction.** Modern trends of economic transformation and dynamic formation of a common information space are accompanied by deepening social contradictions that have a negative impact on the use of labour potential of the country and lead to increased scientific interest to the problems of ensuring balanced usage of labour potential in the conditions of a non-stable economy in the context of compliance with social and economic interests of the person and society.

The urgency of the problem of the use of labour potential in the conditions of non-stable economy is intensified by the fact that the state's influence on these processes occurs in a fragmented and chaotic way because of the absence of the relevant theoretical and methodological support. As a result, the negative phenomena and trends are accumulated in an economical and social sphere that are manifested in the quality distortion of labour potential, deteriorating public health and information disorientation of use and development of human potential.

Therefore, the detection of the characteristics of the country's labour potential use is a very important task of research works due to the transformation process in its structure, which arise as a result of the new challenges of a modern information society. Thus, a new, extremely important process becomes urgent in the field of social

and labour relations of modern Ukrainian society – *the transformation of the use of labour potential* that means the gradual or rapid change in its component structure, resulting from the objective influence of the environmental factors and the subjective influence of the state to ensure its further development.

It is important to find out how the new conditions of the information society lead to the transformation of the labour potential use. The most striking manifestations of such an impact in the theoretical aspect are as follows:

Labour and intellectual potential become the key development resources under the rapid growth of global competition, based on the development of high-tech products, [27];

Labour potential in basic areas transforms into the intellectual capital. The efficient use of labour potential, its transformation into intellectual capital and innovative product through a specific mechanism have a positive effect on the economy, industry, or separate enterprise [28];

The features of the new conditions of economic development is an appeal to the human values, humanization of production that generates profound changes in the forms and methods of the human resources management and use [29];

The improved regulation of the labour potential transformation requires the use of the advantages of joint efforts, which are incorporated in the cluster model. The construction of this model extends the diagnostics of labour potential and is a determinant precondition for improving the management effectiveness of its transformation [30].

Summing up, it could be argued that the construction of information society in Ukraine is accompanied by a corresponding transformation processes of the labour potential use, that appear in strengthening the relevance of intellectual potency along with the humanization of social and labour relations, and the need to develop new approaches to the regulation of its component structure through active intersectoral cooperation (forms of social dialogue).

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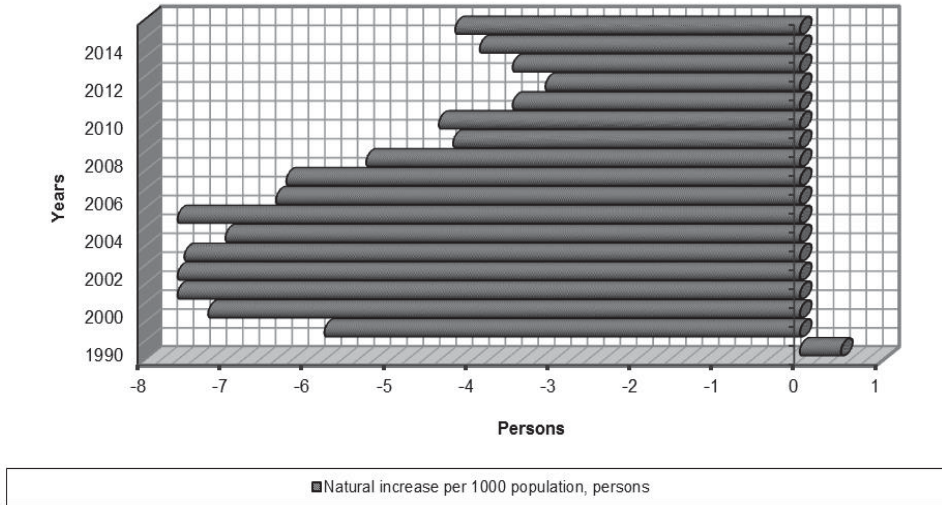
<sup>27</sup> Tszhima O. A. The transformation of the structure of the use of region labor potential (based on the example of the Ivano-Frankivsk region). [Electronic source] – Retrieved from [www.nbu.gov.ua/portal/soc\\_gum/Vpu/Ekon/2009\\_7/52.pdf](http://www.nbu.gov.ua/portal/soc_gum/Vpu/Ekon/2009_7/52.pdf).

<sup>28</sup> Tszhima O. A. The transformation of the structure of the use of region labor potential (based on the example of the Ivano-Frankivsk region). [Electronic source] – Retrieved from [www.nbu.gov.ua/portal/soc\\_gum/Vpu/Ekon/2009\\_7/52.pdf](http://www.nbu.gov.ua/portal/soc_gum/Vpu/Ekon/2009_7/52.pdf).

<sup>29</sup> Tsapok S. O. The impact of demographic development on the quality of the labour potential of the regional social systems. *Regional economy*, 2012, №1, pp. 176-183.

<sup>30</sup> Pryimak V. S. Regulating the transformation of the labour potential in the regional labour market system. Dissertation thesis for the degree of Doctor of Economic Sciences: Specialty.

Figure. 1. Dynamics of natural population growth, 1990-2015.



\* 2014 data do not include the temporarily occupied territory of the Autonomous Republic of Crimea and Sevastopol and the administrative data on the part of the antiterrorist operation zone.

\* 2015 data do not include the temporarily occupied territory of the Autonomous Republic of Crimea and Sevastopol and the data on Donetsk and Luhansk regions.

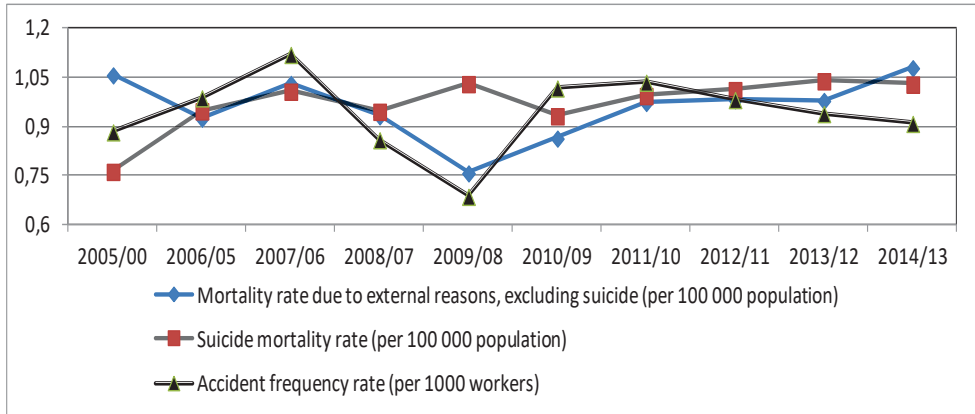
Source: Compiled by the authors based on the source: <sup>31</sup>.

In such circumstances, it is important to identify the main problems of the labour potential use in Ukraine. Our analysis allowed us to identify the key ones. Firstly, there has been a steady trend towards natural population loss (for more than twenty years), which has deteriorated dramatically over the past three years against the background of a difficult economic situation and military actions in the East of Ukraine (Figure. 1).

The key issue to reduce the depopulation is to solve quite severe medical and demographic problems. Based on the analysis of individual parameters shown in Figure. 2, we may conclude that the presence of rates dissonance in different periods (this is particularly evident in 2008-2009) and their recurrent character shows the practical unsettlement of the situation in the sphere of health care in Ukraine.

<sup>31</sup> Organization of management, planning and regulation of economy. Lviv: 2005, 36 p., p. 30

Figure. 2. Rates dissonance of some demographic indicators of labour potential use, 2005-2014



Source: Calculated by the authors based on the source: <sup>32</sup>

The specifics of the labour potential use in the conditions of the information society development create another problem cut, which requires a special look at the problem of the usage of physiological and psychoemotional forces of the human body in the environment that is significantly different from the previous social progress stages. The dynamics of social transformation, the violence of business environment with increased rapidity of information flows require special "costs" of the human body in the course of work activities.

The priority of medical and biological features that are available and are not infringed (limited to) by a loss of the human body, is formed at the junction of the possibilities to ensure further effective use of labour potential. Such a position is supported by the arguments of the representatives of the Lviv scientific school, who note that due to the worsening of the demographic component of the crisis developments in the country and its regions, first of all, the attention should be focused on the reorganization of the health system, that has become of the prime importance in terms of building of information and innovative type of society, as due to this the country can significantly mitigate the negative effects of demographic nature, prevent deep irreversible consequences in the economic,

<sup>32</sup> Regions of Ukraine in 2013. Statistical book. Part 2. State Statistics Service of Ukraine. Kyiv: 2014, 733 p 83.

social and spiritual development of the nation, which act as the destabilizing factors of the country's socio-political life and create a danger to state interests [<sup>33</sup>, <sup>34</sup>].

Analyzed information, presented in Table 1, should be understood first of all, as follows: despite the dissemination of the socio-humanistic paradigm, the philosophy of human existence on the basis of high moral values and the absolute priority of human life and health, today in Ukraine and in most countries of the world, we can often see unfounded, uncontrolled exploitation of the economically active population that certainly affects further physical and psycho-emotional state of the person. In other words, there is a kind of a paradox, when the continuous growth of material well-being of the population is accompanied by the accumulation of human needs, which force it to intensify working activity. Another problem of the labour potential use is neglecting certain physiological potential of the body (including its conscious adjustments) for the purpose of labour activities in certain areas. It is obvious that the priority of employment against own health is absolutely pointless and unjustified.

Table 1 The mutual influence of information society and labour potential

Features of information society	New challenges to labour potential	Consequences for human body**
The dynamism of social processes, including social and labour relations	Higher level of loads	Exhaustion, professional burnout, professional fatigue, chronic fatigue from excessive stress, work addiction
The increasing role of knowledge, intellectual abilities of the person	High requirements for educational and qualification level with sufficient efforts and investment in human capital	Exhaustion, professional burnout, professional fatigue, chronic fatigue from excessive stress of knowledge acquiring
Active dissemination of latest information technologies, including in the sphere of labour potential use The mutual influence of modern conditions of information society and labour potential and their	The direction of knowledge and intellectual abilities to the production of new innovative ideas, turning them into reality, including in the health care	The increased probability of treatment of human diseases by means of latest medical technologies Possibility of remote consultations using advanced means of communication both among specialists and between specialist and patient

<sup>33</sup> Tsapok S. O. The impact of demographic development on the quality of the labour potential of the regional social systems. *Regional economy*, 2012, №1, pp. 176-183.

<sup>34</sup> Pyrozhev S. I. The demographic factor in the global development strategy of Ukraine. *Demography and social policy*, 2004, №1-2, pp. 5-20.

consequences (both positive and destructive) to the human body are shown in Table 1.	The substitution (complete, partial) of needs in the human (mostly physical) labor by the automated processes	Reducing the amount of efforts of the human, especially regarding heavy physical labour
Increasing the information mobility of society	The formation of common information field of social and labour relations with the specification of job conditions	Opportunities for a quick search for a new job with better job conditions, characterized by lower probability of complete or partial performance loss, aggravation of health conditions
	Accelerating the rate of change in the ways of human activity (including labour activity)	Deconditioning risks (especially psychoemotional) of a person relative to new environmental conditions, disruption of biological rhythms
Virtualization of the workplace	The possibility of reducing the spatial mobility with lower amount of efforts	Saving the efforts of the person due to the absence of their spent on covering the distances
	The possibility to have a side job with extra load	Exhaustion, professional burnout, professional fatigue, chronic fatigue from excessive stress, work addiction
Virtualization of the communication	The transformation of the structure of leisure time use	Insufficient physical activity of man with the dominance of a sedentary lifestyle, Internet addiction
Greening of the industrial processes	The formation of environmental conditions for human activities (including labour), regulated in accordance with the standards	Prevention from exogenous effects on the physiological and psychoemotional body state
Development of service sector, including leisure and entertainment industry	Searching for the ways to restore the physical and psycho-emotional forces of the person	Possibility for a more efficient and rapid recovery of physical and psychoemotional forces of the person

\* Coloured cells pay show clear destructive effects of the impact

Source: Compiled by the authors

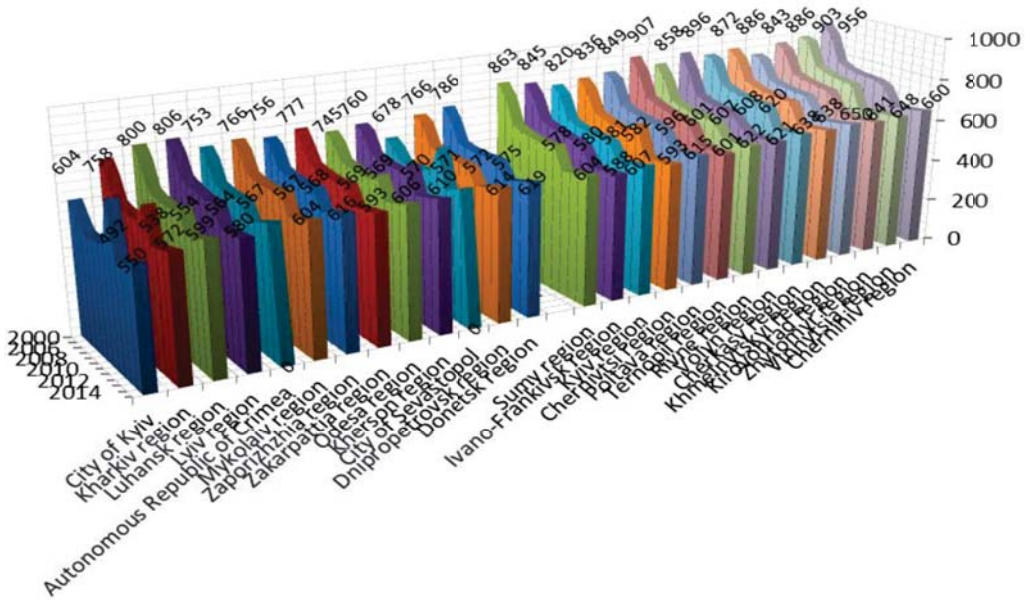
Secondly, there is a rapid growth of demographic load rate (both in Ukraine as a whole and by region (Figure. 3), which is a general quantitative characteristic of the age structure of the population and reflects, on the one hand, the ratio of economically active and inactive population and, on the other hand, the motivation of the economically active population, employed in the national economy, to active labour activities with a reduced level of tax burden (payroll taxes). For the last 15 years its lowest level in Ukraine was registered in 2008 (649 persons per 1,000



people), the highest – in 1995 (799 per 1,000 people). As of 01.01.2015, the figure is 607 people per 1,000 resident population aged 16-59 years.

Thirdly, the low level of innovation activity of labour potential, which is limited by the conditions of labour activities.

Figure. 3. The demographic burden on the working age population in the regions of Ukraine, 1995-2014



Source: Calculated by the authors based on the source: <sup>35</sup>

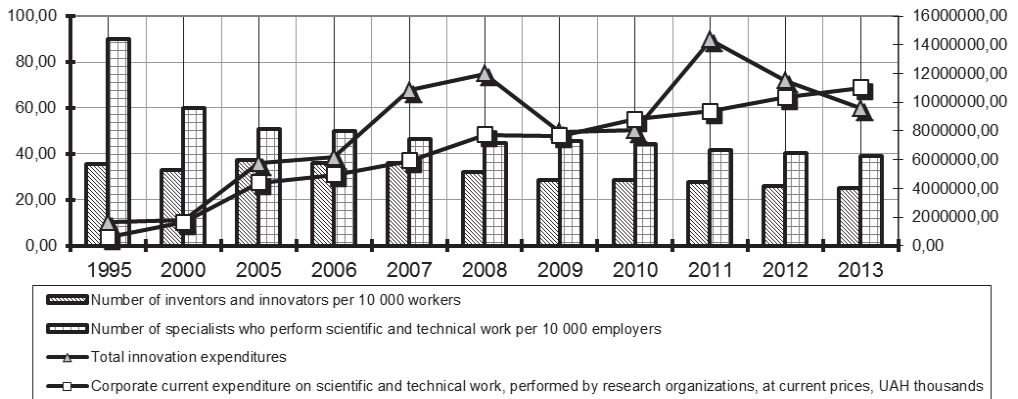
The rate proportions between figures that express the use of Ukraine's intellectual potential are somewhat different, at that in destructive terms (Figure 4). Thus, the total volume of innovation expenditures, as well as the corporate current expenses for scientific and technical works are characterized by rapid rate growth in the analyzed period, while the number of inventors and innovators and the specialists, who perform scientific and technical work, is constantly decreasing in recent times. It should be noted that the most significant reduction in total innovation expenditures was observed expectedly in 2011-2013 (from UAH 14 333

<sup>35</sup> Population of Ukraine, 2014. Demographic yearbook. State Statistics Service of Ukraine. – Kyiv: 2015, 118 p.



891.9 thousand to UAH 9 562 626.0 thousand (by 33%). Speaking about corporate current expenditures, the situation was more or less homogeneous.

Figure. 4. Figures of the use of innovative possibilities of the Ukraine's labour potential, 1995-2013

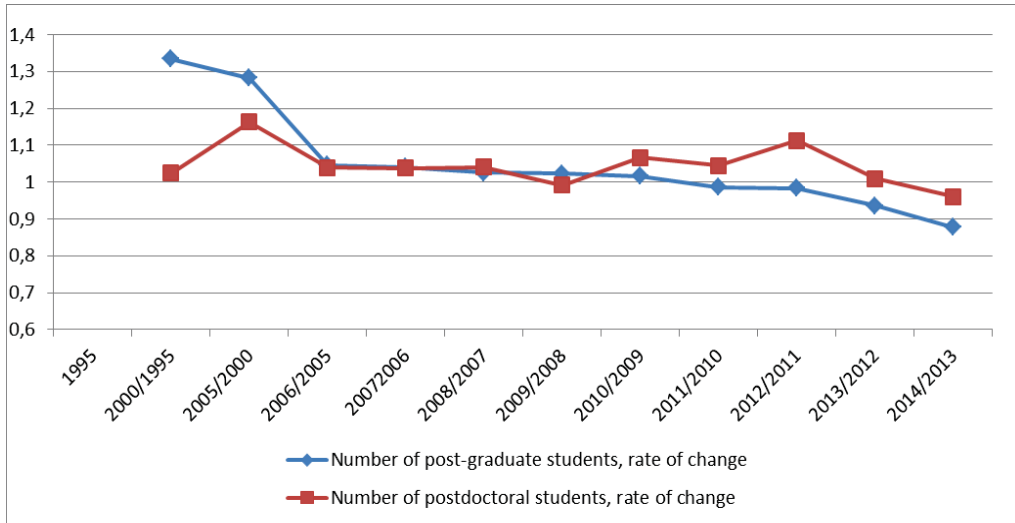


Source: Calculated by the authors based on the source: <sup>36</sup>

Terms of labour activity of people, who have relevant intellectual potential and are able to generate new advanced innovative solutions, are often characterized by significant retardation and the lack of the necessary material and technical equipment. The regional snapshot helps to find the differentiation of the specialists concentration, who are bearers of a high intellectual potential that results in the phenomenon of a so-called "intellectual collapse", when the people with sufficient intellectual capacity carry out labour activity in regions with low innovation activity and scientific and technical specialization and have significantly less possibility of using their potential to the full extent. Besides, the concentration of an economic activity around major industrial centres results in a reduction of labour potential opportunities in the "peripheral" areas. Therefore, with little geographic mobility, the processes of disintellectualization becomes inevitable, which will cause substantial losses in the use of labour potential in terms of non-stable economy and almost prevent its further development.

<sup>36</sup> Regions of Ukraine in 2013. Statistical book. Part 2. State Statistics Service of Ukraine. Kyiv: 2014, 733 p.

Figure 5. Variation rate of the key indicators of post graduate school activity in Ukraine, 1995-2014\*



Source: Calculated by the authors based on the source: <sup>37</sup>

A low level of innovation activity of people with academic degrees is another sort of a problem (Figure. 5). Over the past 19 years, the number of doctors and candidates of sciences involved in the Ukrainian economy has grown by 1.6 times. We should note that at the same time the number of specialists, who perform scientific and technical work, decreased by 0.8 times per 10,000 employees. The same applies to the number of inventors and innovators per 10,000 employees, that decreased by 0.6 times. This indicates a low innovation activity of the individuals with academic degrees. Here again a question arise about the quality of their scientific level and the ability to produce new innovative solutions and implement theoretical and methodological developments in applied aspects.

New challenges to the national education system are also put by the country's transition to an information society with a significant transformation of its priorities. Randomness in this transition has led to a number of problems, which reflect the efficiency of the labour potential use in its educational component. Here the authors support the position of O. Makarova, who identifies key challenges in education, combining them with the demographic trends. Here are some of them: [<sup>38</sup>]

<sup>37</sup> Research and innovation activities in Ukraine. Statistical book. State Statistics Service of Ukraine. Kyiv: 2014, 314 p.

<sup>38</sup> Makarova O. The aging of the population of Ukraine: Trends and consequences. News: Ptoukha Institute for Demography and Social Studies [Electronic source] – Retrieved from: [http://www.idss.org.ua/arhiv/11\\_07\\_2011\\_makarova.zip](http://www.idss.org.ua/arhiv/11_07_2011_makarova.zip)

- incredibly quick update of knowledge and technology that creates certain risks. A gap between those, who are successful in the labour market and constantly maintains and updates their knowledge and skills, and those, who fall behind hopelessly, fail to meet the rapidly growing professional requirements, grows more and more;
- economically active population will not be sufficiently replenished by young generations in the foreseeable future, who have the knowledge that meet modern requirements of an innovative economy;
- intellectual and creative potential of older people are not used to the full. There are negative stereotypes in the society about the roles and abilities of older people.

Therefore, the increase of effectiveness of the use of the labour potential innovative opportunities is connected with the improvement of its quality aspect through the creation of favourable environment of the innovation activity.

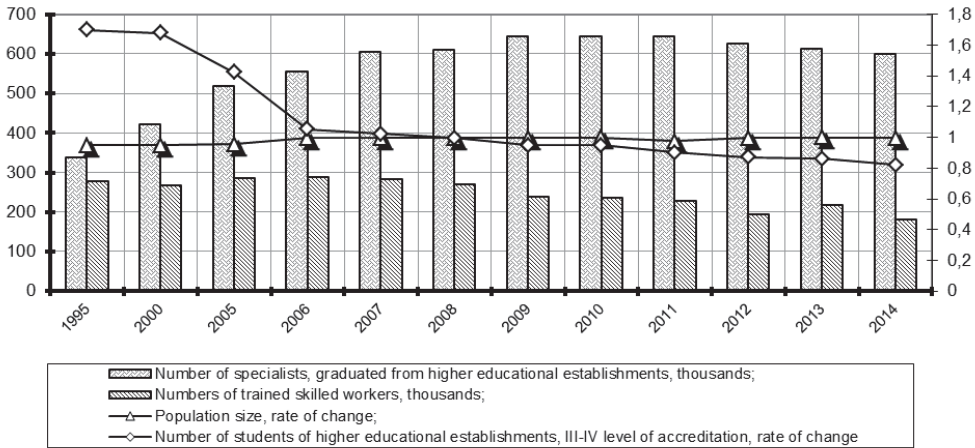
Fourthly, the high educational potential of the population, on the one hand, and the imbalanced specialists' training by the higher educational institutions and employees of by the vocational education system, on the other hand (Figure 6).

As we can see, quite significant growth in the number of specialists, who graduated from higher education institutions, began in 2005, actually when the rate of decline in the number of students of higher educational institutions of III-IV accreditation level began to come out particularly sharply. The training of skilled workers was at a much lower level, with minor fluctuations. If the number of specialists, who graduated from higher education institutions has increased by almost half in whole over the past 19 years experts, then the amount of the skilled workers had dropped to 0.65 times.

The main current problem of our education system is formed by the force of demographic reduction and the mismatch between education market infrastructure (especially in the quantitative aspect) and the real needs of the population and economy of the regions, taking into account the need to ensure the normal competitive environment. The proposal of higher education institutions allows providing most of young people with the education that is why the system of vocational education gradually deteriorates. As a result, the lack of skilled workers at regional labour market is observed today, and the immigration processes of

individuals mostly of an Asian origin gradually "compensate" these temporarily free segments.

Figure. 6. The number of specialists who graduated from the higher education institutions and the number of trained skilled workers regarding the variation rate of individual indicators of the formation of Ukraine's labour potential, 1995-2014



Source: Calculated by the authors based on the source: <sup>39,40,41</sup>

Fifthly, the unemployment and illegal employment is rising. The unemployment rate tends to increase over the past two years high enough (Figure. 7). At the same time, the increase in the above figure comes amid a general decline in production that leads to the disintegration of economic ties, the closure of enterprises, and a significant reduction of centralized investments. The specifics of unemployment are also determined by the fact that, unlike the developed economies, with their over-production of goods and limitedness of the market, in Ukraine there are no insurmountable obstacles to the creation of new jobs for the unemployed, because the capacity of the Ukrainian market for the production of goods and services is far from exhaustion <sup>[42]</sup>.

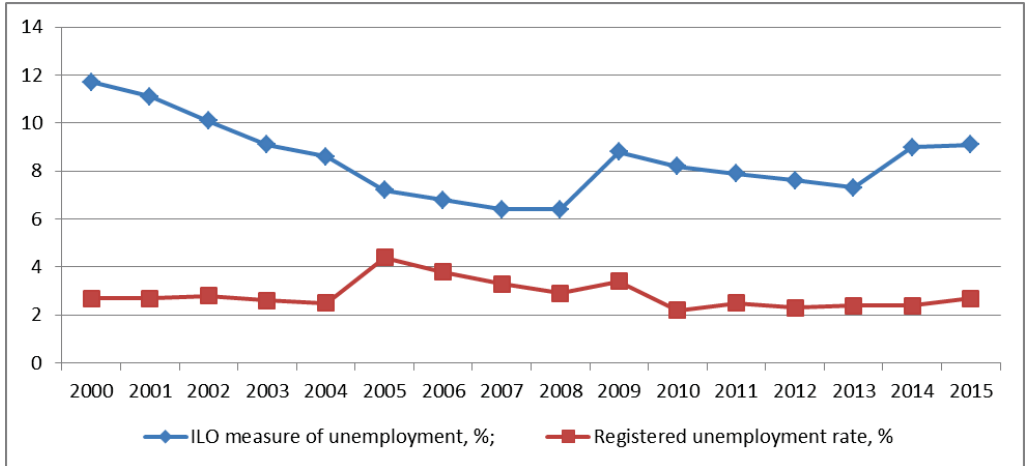
<sup>39</sup> Population of Ukraine, 2014. Demographic yearbook. State Statistics Service of Ukraine. – Kyiv: 2015 6 118 p.

<sup>40</sup> Key performance indicators of the higher educational institutions of Ukraine at the beginning of the school year 2013/14. Statistical bulletin. State Statistics Service of Ukraine. Kyiv: 2014, 188 p.

<sup>41</sup> Continued learning and getting a profession. Statistical bulletin. State Statistics Service of Ukraine. Kyiv: 2016, 27 p.

<sup>42</sup> Tranchenko L.V. Unemployment as a social problem of the market society. Economy and the state, 2012, № 4, pp. 12-15.

Figure. 7. The dynamics of unemployment rate, 2000-2015.



Source: Calculated by the author based on the source: <sup>43</sup>

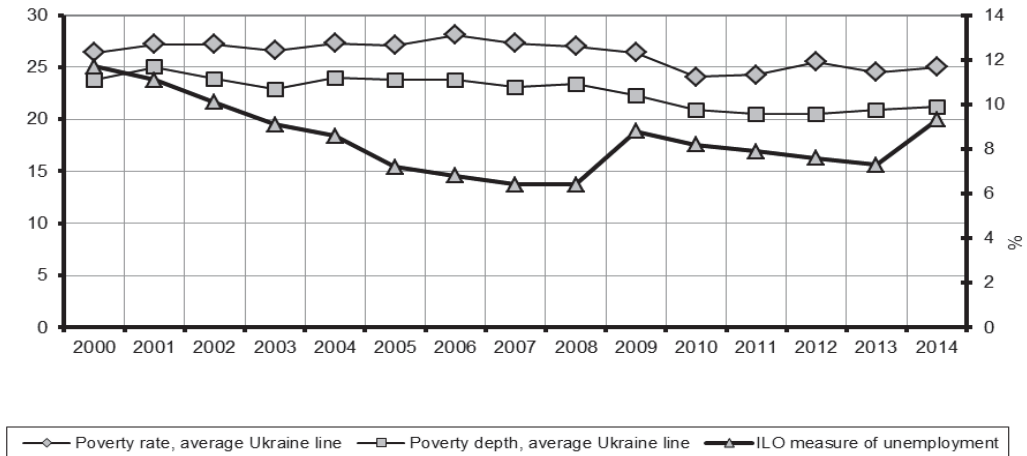
The analysis of the correlation of the level and depth of poverty and the unemployment level showed a deepening of destructive processes of wealth divide of the population (especially in 2000-2002, 2004-2005 and 2010, where the value of the rate and depth of poverty are the nearest) (Figure. 8).

Besides, such processes are poorly related to the official unemployment statistics. It would be logical to change poverty rates with a high level of correlation with regard to the number of persons, who are unemployed. However, such interdependence is poorly traced, which once again confirms the problem of illegal employment that is perceived as the norm in modern society and does not cause any condemnations.

Sixthly, there are problems with payment. The authors have carried out a sociological survey in some cities of Ukraine where the concentration of the economically active population is very large, in order to identify the specifics of the causes of the labour potential underutilization and the measures, which are necessary to overcome negative developments (which are considered by the bearers of the labour potential to be the biggest problems), It allowed tracing the average capacity of the employer to ensure the productive usage of labour potential.

<sup>43</sup> Labour in Ukraine in 2015. Statistical book. State Statistics Service of Ukraine. Kyiv: 2016, 312 p.

Figure. 8. Trends of changes in the level and depth of poverty in relation to the level of unemployment in, 2000-2014\*.



\* Compiled by the author based on the source: <sup>44</sup>.

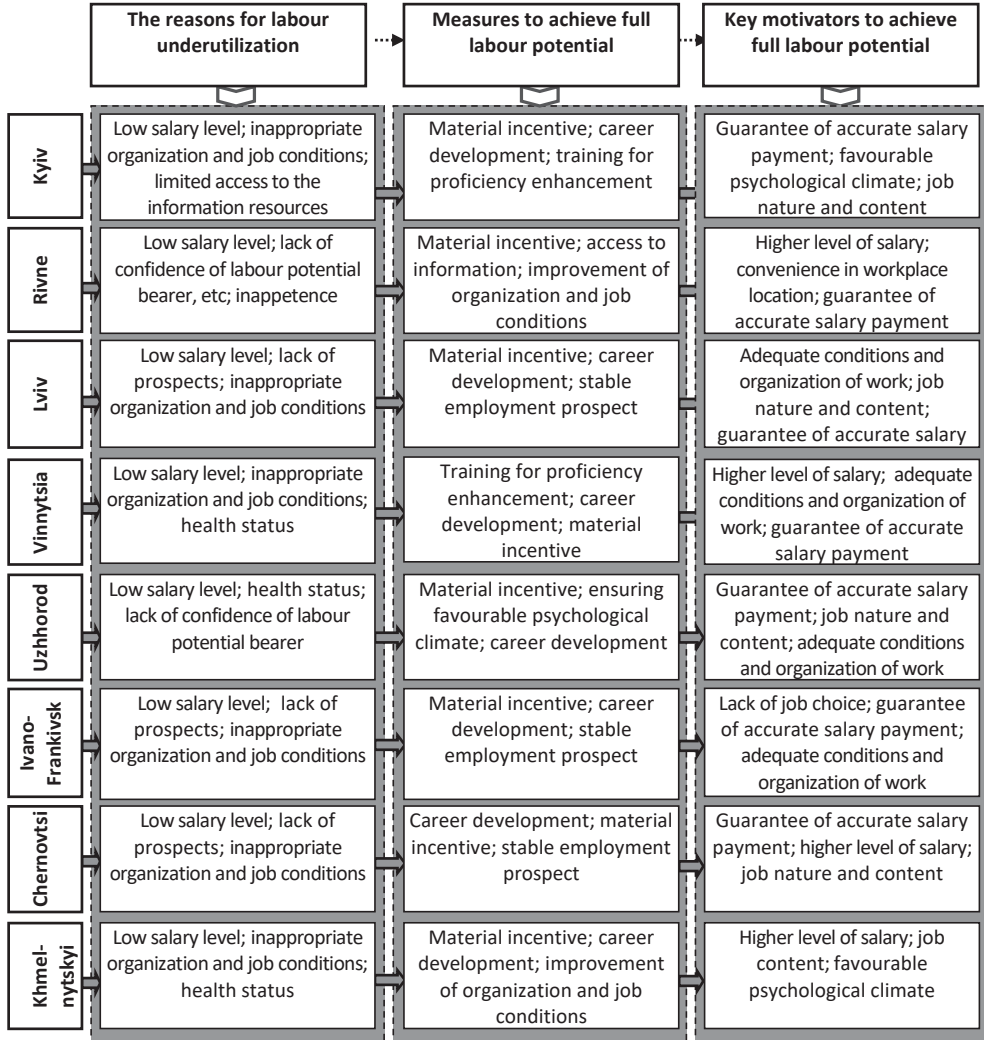
Based on the construction and analysis of ranking positions (firstly, parameters of assessment of the reasons of the labour potential underutilization; secondly, measures to increase labour potential use level; thirdly, the motivating factors for the use of labour potential), the authors have identified the *priorities of the labour potential bearers* in the context of the selected cities on a "obstacle - measure - motivator" scheme (Figure 9).

The survey showed that the main motivating factor for effective, quality work is payment for work.

The analysis of the ratio of the minimum wage and living wage gives reason to believe that the able-bodied people cannot exist on wages. According to international standards, the minimum wage should be higher than living wage, but it is not so in Ukraine (Figure. 10).

<sup>44</sup> Labour in Ukraine in 2015. Statistical book. State Statistics Service of Ukraine. Kyiv: 2016, 312 p.

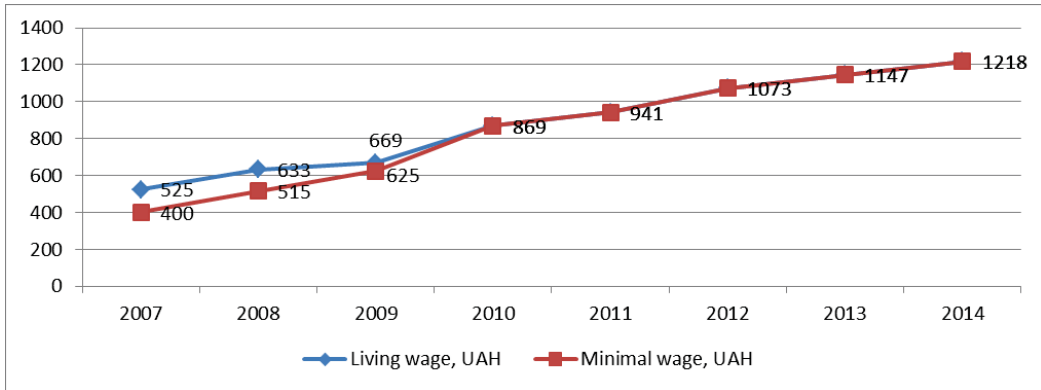
Figure. 9. Priorities of respondents regarding obstacles, measures and motivators of the labour potential use in the context of separate cities in Ukraine.



Source: The results of the sociological research of the author

As shown by the data in Figure. 10, in general, there is a joint trend of the increase of the minimum wage and living wage. However, their growth rates were not identical in all years that had been analyzed. Therefore, we see the fact that the level of a living wage does not always coincide with the level of the minimum wage, and even more, was less, which is a negative trend.

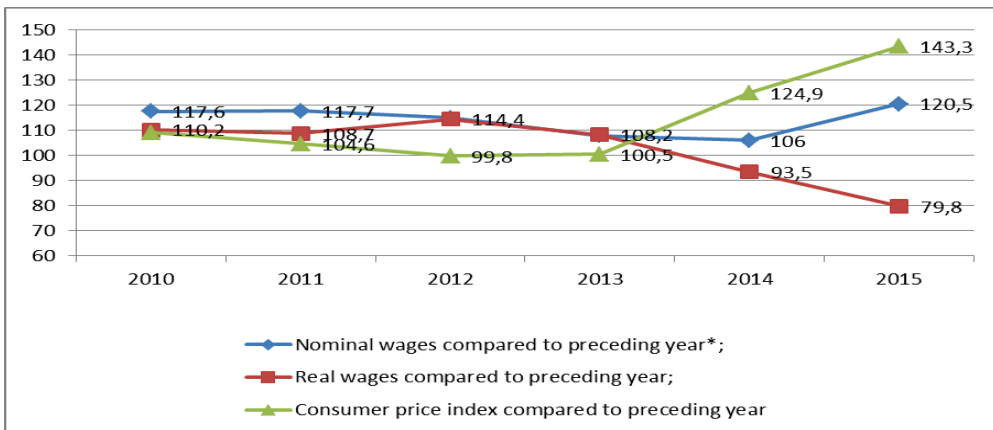
Figure. 10. Dynamics of living wage and minimal wage.



Source: Calculated by the author based on the source: <sup>45</sup>

The comparative analysis of nominal and real wages (Figure. 11) showed multidirectional trend and dissonances in the rates changes of these indicators that can be explained by the more rapid growth of prices for goods and services than nominal wages.

Figure. 11. Rates of nominal and actual wages change and their correlation with consumer price index.



\* Data exclude temporarily occupied territories of the Autonomous Republic of Crimea and Sevastopol

Source: Calculated by the author based on the source: <sup>46</sup>

A significant reduction in real wages (2014-2015) can be explained by the fact that the rate of inflation was significantly higher than the rate of nominal wage

<sup>45</sup> Labour in Ukraine in 2015. Statistical book. State Statistics Service of Ukraine. Kyiv: 2016, 312 p.

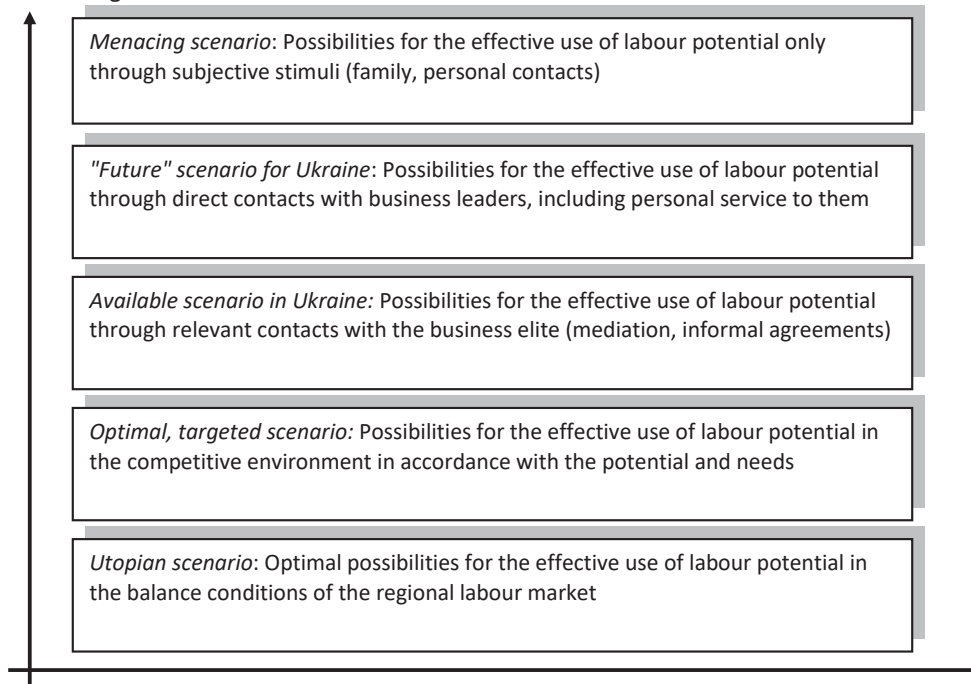
<sup>46</sup> See 45



growth. Such galloping inflation was the result of economic and political crises, as well as the aggravation of the armed conflict in Eastern Ukraine. In addition, one can see an abrupt change in real wages. Its decline (during 2010-2011 and 2012-2015) had a negative impact on living standards. Consequently, there was a mismatch between the growth of wages and prices.

The problematicity in the payment for labour is also confirmed by the fact that the unemployment rate is at the lower level than the poverty rate, despite the active use of informal arrangements in the wage system (Figure. 8). Generally, the income through the informal sector can be a significant threat to the development of labour potential in terms of legal possibilities for the activities with a penchant for innovation.

Figure. 12. Possibilities for the effective use of labour potential in terms of the revenue level difference growth



Source: Compiled by the authors.

In the case of a situation, when the revenue level difference picks up a colossal dimension and a significant part of the national wealth is concentrated in the hands of a few per cent of the population, the possibility of the effective use of labour potential significantly deteriorates (Figure. 12). We mean that the bearer of the

labour potential, even having an exceptional talent and level of intellectual development, may not have the possibility to be engaged in labour activities without the support of the person who has the appropriate leverage and an adequate income level. Under these conditions, the competitive environment in the regional labour markets is in fact levelled off, forming instead of this a stable system of informal arrangements and contacts.

**Conclusions.** Therefore, the analysis allowed identifying special aspects of the transformation process of the labour potential use in Ukraine, which has its own specifics, progresses in a complicated and contradictory way. Changes in the system of labour relations, in particular, the rise in unemployment, deepening differentiation and reduction of real incomes, are characterized by assessment complexity and ambiguity. Existing distortions in the use of labour potential, as a result of the chaotic transition to information society, require the development of the model of transformational transitions to the target conditions, that will ensure the rational formation, balanced development and productive use of the labour potential.

## **Part 2**

# **Innovative-investment transformations of the national economy in the context of unlocking the inner potential of development and economic security**

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## **INNOVATIVE-INVESTMENT DOMINANTS OF THE NATIONAL ECONOMIC SYSTEM RECOVERY UNDER UNSTABLE ECONOMICS CONDITIONS**

**Abstract.** *The innovative-investment dominants of the national economic system recovery under unstable economics conditions were substantiated in the study. The methodological basis of innovation and investment activities enhancement in Ukraine was investigated. It was determined that the state system of integrated support of innovation and investment activities, development of production, improvement of competitiveness and of high technology products export should be based on such an approach to priority technologies selection that contains protectable results of scientific and technological activities and have a high commercial potential. In this study, the attention is focused on the sustainable development concept and on the innovation development paradigm as complementary and interrelated concepts that constitute the theoretical and practical bases of modern progressive global and national transformation of social development. There were determined the vectors of public economic policy, which take into account innovative-investment dominants of national economic system recovery that will allow enhancing the competitiveness, creating new sources of growth and new jobs by increasing productivity, commercialization of innovations, more efficient management of resources.*

**Introduction.** The instability of macroeconomic processes structure in time, the complexity of their dynamics formalization, the pace and the proportions of Ukrainian socio-economic indicators confirm the non-stationarity of the national economy. The development of the national economic science at present is characterized by revaluation of many paradigms. Under these conditions, the functioning of the Ukrainian economy is complicated by the imperfect processes of economic system reforming that resulted in periodic crisis states which both worsened the investment attractiveness of individual companies, industries and deformed an innovative-investment economic environment on the whole. In strategic aspect, the innovative-investment policy has to ensure the sustainable development of the national economic system based on the mobilization and rational use of investment resources. However, this policy is not focused on solving problems to overcome specific situations of a current macroeconomic level, which forms the trend of a negative impact on the strategic benchmarks of the economic

system development in the conditions of resource constraints and non-stable economy.

The problems of innovative-investment development of the economic system in conditions of a non-stable economy according to professional specialization were investigated by follow scientists: V.M. Geyets, B.M. Danylyshyn, V.V. Mikitenko, V.I. Muntiyany and other researchers [<sup>47,48,49</sup>].

The study aims to determine innovative-investment dominants of the national economic system recovery in the conditions of a non-stable economy, to ground the methodological basis of the innovative-investment activity intensifying in Ukraine.

The national sustainable development paradigm orients to the formation of a system of concentrated, scientifically justified and legalized representations about objectives, priorities, content, methods and means of resource-efficient economic activity of the state. [<sup>50</sup>]

The investment intensity in the national economic system depends on the interaction between fiscal and monetary policies that in conditions of an appropriate level of an effective combination and mutual solution in the financial system allows the release of funds and financial assets to invest in the development of industrial-economic systems.

The state innovative-investment policy should be built within certain limits and should be based on such principles as the priority of public funding; integration of budgetary funds with private investment through participation in capital of structures, which are compilers of innovative ideas and technological developments; obtaining additional funding from extrabudgetary sources. The results of innovative-investment activity in Ukraine analysis [<sup>51</sup>] indicate that means to achieve the goal of the innovative-investment policy are not consistent with its content and do not

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<sup>47</sup> Danylyshyn, B.M. (2008) Phenomenological alternatives to economic growth of Ukraine. Kyiv: Council of Productive Forces of Ukraine NAS Ukraine; Nichlava.

<sup>48</sup> Geyecz, V.M. (2000) Instability and Economic Growth. Kyiv: NAS of Ukraine. Institute of forecast economics.

<sup>49</sup> Muntiyany, V.I. (2004) Fundamentals of the theory of information-genetic economic model. Kyiv: NAS of Ukraine. Intern. Scien.-educat. centre YuNESKO inform. Technology and systems.

<sup>50</sup> National paradigm of sustainable development of Ukraine] / under gener. Editor of akad. Of NASU,, PhD of TS., prof. Paton, B. Ye.. (2016). Kyiv: State institution «Institute of economics of natural resources management and sustainable development of NAS of Ukraine».

<sup>51</sup> Kreidych, I. M. (2013) Analysis of innovative-investment activity in Ukraine. Efficient economy: electronic specialized edition, 9, retrieved from: [http://nbuv.gov.ua/UJRN/efek\\_2013\\_9\\_66](http://nbuv.gov.ua/UJRN/efek_2013_9_66).

provide the obtaining of expected results; besides, the process of attaining the aim becomes predictable and is limited by short-term priorities.

A significant innovative-investment dominant of the national economic system recovery is the formation of a developed institutional environment. Only on the basis of a goal and means integrity it is possible to ensure the coordination of all economic interests of innovative-investment process subjects, to increase investment in innovations and effectiveness of their using.

The development of the national innovative-investment strategy for recovery of the national economic system has to become the dominant in the state economic policy and to define key role in establishing mutually beneficial relations between the state and business. This strategy envisages not direct government intervention in the activities of individuals and entities, but coordination, promotion, management and monitoring of business processes. The main impact of the state has to accumulate on creating and maintaining of legal framework fulfilment for the creation of conditions of entrepreneurs' effective activity, establishing common rules of economic activity, orientation on the selection of the most optimal options of available resources using.

Accumulating research results in the field of the market economy state regulation [52,53,54,55,56,57,58] and given the economic realities, we can distinguish two main groups of economic development regulatory mechanisms: direct regulation mechanisms aimed at creating the conditions for the market efficient functioning and directly affect the activity of entities; mechanisms of indirect regulation of economic development. The first group includes legal-regulatory and programmatic mechanisms of economic growth regulating, the second - the financial arrangements. The legal-regulatory state regulation of the economy covers the regulation of property rights, activity of financial and credit institutions,

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<sup>52</sup> Blank, Y. A. (2001) Investment management. Kyiv: Elga N., Nyka – Centr.

<sup>53</sup> Borysov, E. F. (2005) Economic Theory: textbook. [3<sup>rd</sup> ed.] M.: Yurajt-Yzdat.

<sup>54</sup> Brovko, S. (2002) The problems of banking and corporate capital integration of the in a globalized economy]. Banking, 44, 37–47.

<sup>55</sup> Bubyk, S. G. (1999) The analysis of national scientific investments of the leading world states] Problems of science, 2. S. 40–50.

<sup>56</sup> Yaroshenko, F. O & Libanova, E. M. (2004). Budgetary policy in the context of strategy of socio-economic development of Ukraine: Monograph 6 volumes. Kyiv: Scientific and research financial institute under the Minkstry of Finance of Ukraine. V. 2 : Social direction of budgetary policy.

<sup>57</sup> Verkhovskaya, O. R. (2006.) Dynamic capabilities of the company. What is needed, so that they really were capabilities? Management. Issue. 4.

<sup>58</sup> Vorobe, Yu. N. (2002) The financial capital of enterprises: the theory, practice, management] Symferopol: Tavriya.

antimonopoly regulation, tax administration, privatisation and processes of governmentalisation. Programming mechanisms to regulate economic development include targeted complex programs, state orders, pricing and customs policy, investment and innovation policy, foreign economic and sectoral policy. Financial mechanisms consist of budget, tax, fiscal, monetary and amortization policies.

Thus, where the market cannot ensure the optimal allocation of resources and therefore fails, the market self-regulation is replaced and supplemented by various forms of state involvement. Conversely, ineffectiveness of state measures and of direct forms of intervention requires the use of more flexible private and mixed forms of ownership and entrepreneurship, indirect economic regulation.

The methods of state regulation of investment and innovation processes include: direct intervention - administrative and legal regulation; indicative and direct planning; risks insurance; state guarantees; subsidies, investment and crediting of productions, that recognised as particularly important; government borrowing, etc; indirect intervention - creating of an appropriate investment environment: political, legal, educational, macroeconomical; forming of respective ideologies.

Investments are inseparable from the idea of economic growth. The state to stabilize the economic situation and to stimulate development should manage the processes of production and employment. Then innovative-investment activity as the unity of processes of resources investment and of income obtaining in future can be effectively implemented and developed on the basis of the balance between investment demand and investment proposals. For the initiation of the national economic system recovery are necessary the significant capital injections, that results in beginning of growth, which is self-sustaining. Thus, to ensure an economic growth in all areas of activity at the same time is impossible in a lack of investment resources conditions. Therefore, at the initial stage an investment should be directed to the basic industries, the potential of which will allow starting working of a multiplier effect and spreading the process of economic growth onto related industries first, and then on the whole economic system.

To the innovative-investment dominants of the national economic system recovery should be included the creation of an appropriate investment climate. The investment climate is not an abstraction, but has its own financial and legal value that for the investor consists in the expected profitability of investments, and for the country, which hosts an investment (if foreign) or investor (in the case of domestic

investments) - in really received investment resources. The investment climate is primarily affected by the state policy in the field of innovative-investment activity. In this regard, there is a need to develop and implement its basic tasks.

State authorities are trying to create a coherent program of socio-economic development, to reform the economy, to provide the necessary mechanisms for economic activity and appropriate financial-budgetary, monetary and credit system. During carrying out the innovative-investment activity, the state regulation is necessary for a combination of state regulation and economic freedom of subjects of innovation and investment activity, self-regulation.

According to local scientists and economists [<sup>59</sup>], one of the main objectives of sustainable development as for ensuring sustainable socio-economic growth is: technical upgrading of production through the introduction of newest scientific achievements, energy and resource-saving and non-waste technologies, widespread use of renewable energy, solving the problem of disposal of waste, which was generated in the process of economic and other activities. However, this is impossible in case of state support absence.

State support for innovative-investment activity should have a certain limits and be based on the following principles: priority of public funding; integration of public funds with private investment through the participation in capital structures, which are compilers of innovative ideas and technological developments; obtaining additional funding from various sources. These forms are associated with the initial stages of innovation. In other cases, it is possible to involve credit funds as direct preferential loans by reducing interest rates or extending loans periods, guaranteed loans, obtaining credits on terms of guarantees, which are provided by governance structures, compensation agreements, etc.

The experience of almost all developed countries shows that only a limited number of scientific-technical and innovative programs are supported by the state. Mostly, they are devoted to solving such problems as environmental protection, the development of informatics and communication systems, biotechnology, creation of new materials and mechanical engineering monosystems. Significant investments for supporting innovation priorities in the industry are provided by the world most famous industrial companies. The basic condition for state investments during the

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<sup>59</sup> National paradigm of sustainable development of Ukraine] / under gener. Editor of akad. Of NASU,, PhD of TS, prof. Paton, B. Ye. (2016). Kyiv: State institution «Institute of economics of natural resources management ans sustainable development of NAS of Ukraine”.



development of such technologies should be the highly motivated prospect of their high-efficient commercialization. In foreign practice, where the trend for the commercialization of research, especially of applied purposes is growing, it activates the innovation activity of production and other sectors of the economy, which is aimed at satisfaction of socio-economic demands of economic development.

The personal attention should be given to enhancing the innovative-investment activity by involving higher education institutions and scientific research institutes and organizations. At the same time, here could be applied the venture mechanisms of creation and development of innovative-oriented companies. The corporate schemes of creation of innovative-technology companies use the powerful and world-renowned higher education institutions - business and research universities, colleges, etc. Among them such successful US higher educational institutions as Stanford, Harvard University, Massachusetts Institute of Technology; in Europe, there are Cambridge and Oxford universities, Imperial College and others. They are means of specially created internal infrastructure that promote business activities of their students, postgraduate students, lectures. The scientific-technological achievements of universities are the subject of commercialization by means of signing the relevant license agreements between universities and developers and by the creation of so-called university (academic) spin-off companies.

A variety of business structures that are structural units of these universities and help students and graduates in the creation of new enterprises plays an important role in the development of entrepreneurial skills among employees of universities. In Stanford - a Stanford Business School (Stanford Graduate School of Business), with its program to support innovation and entrepreneurship (Program in Innovation and Entrepreneurship), at Yale University - Institute of Entrepreneurship (The Yale Entrepreneurial Institute -YEI) with an innovative program to support early development of companies «Venture Creation Program» [60].

Special offices of the technology transfer, which are the structural units of the university, dealing with identification of technologies that are potentially suitable for the establishment of start-ups. Employees of universities – inventors, who are interested in establishing companies, sometimes even leave the university to be part of a young company's team. The transfer of developed in the university technologies

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<sup>60</sup> Lytvyn, I. V. (2012) Academic Entrepreneurship: Experience of Stanford University. Problems of economy & management. 725. 305–312.

takes place by signing the relevant license agreements, under which universities can receive royalties from sales of developed products or by participating in the ownership of such companies rather than royalties [61].

Consequently, higher education institutions are active providers of personnel, scientific and technological knowledge for creation of innovation-oriented companies. Table 1 shows the successful companies of Stanford University, most of which have developed technologies with the support of the university and which are among the most profitable and rapidly developing US companies.

Hence, the venture mechanisms of the creation and development of innovation-oriented companies proved their effectiveness worldwide. The analysis of the literature allowed allocating classical and corporate support schemes of innovative companies by means of venture capital. The classical scheme envisages investment of funds with equity nature from individual and institutional investors to the statutory fund of a start-up for its development and rapid market value gain. Corporate schemes are used by large and medium-sized businesses to create and to incubate the young companies - subsidiaries spin-offs, which were founded by employees of parent companies that develop new products and allow expanding the areas of development and product range.

Corporate schemes are also used by universities to commercialize innovations, which are created by scientists within the walls of higher educational institutions. For qualitative selection of innovative projects and their effective management, within the corporate venture operations to support spin-off firms of parent companies, financial and industrial groups and higher education institutions are created the subsidiaries venture funds and technology transfer offices. It is important to take into account the new approaches in the venture companies' management through the application of principles and value-based management mechanisms for rapid capitalization of innovation-oriented enterprises value.

Table 1. The spin-off companies from Stanford University and their average income

<b>Companies</b>	<b>Average incomes of companies</b>	<b>Companies</b>	<b>Average incomes of companies</b>
Atheros Communications	\$927 mln.	Charles Schwab &	\$4 bln.

<sup>61</sup> Lytvyn, I. V. (2012) Academic Entrepreneurship: Experience of Stanford University. Problems of economy & management. 725. 305–312.

		Company	
Cisco Systems	\$42 bln.	Cypress Semiconductor	\$878 mln.
Google	\$29 bln.	Dolby Laboratories	\$944 mln.
Hewlett-Packard Company	\$126 bln.	eBay	\$9 bln.
Intuit	\$4 bln.	E*Trade	\$1 bln.
Logitech	\$2 bln.	Electronic Arts	\$3 bln.
MIPS Technologies	\$85 mln.	Gap	\$15 bln.
Nike	\$20 bln.	Intuitive Surgical, Inc.	\$1 bln.
Rambus	\$323 mln.	LinkedIn	\$161 mln.
Silicon Graphics	\$416 mln.	MathWorks	\$400 mln.
Sun Microsystems	\$11 bln.	Netflix	\$2 bln.
Sun Power Corp.	\$2 bln.	NVIDIA	\$4 bln.
Varian	\$2 bln.	Orbitz	\$750 mln.
VM.ware	\$3 bln.	Taiwan Semiconductor	\$14 bln.
Yahoo!	\$6 bln.	Tesla Motors	\$99 mln.

Source: Compiled by the authors based on: [62]

With the development of information technologies, the mechanisms of innovation companies financing are constantly improving. The new innovative way of equity investment into the share capital of promising start-ups is crowd funding, which allows significant expanding of the potential investors' range by collection of funds via the Internet from the public.

Through various venture investment schemes, most of the problems of young start-ups for funding and innovation are solved. This international experience of innovation-oriented companies' supporting is quite valuable and should be adaptably applied in Ukraine [63].

One of the most important issues of the state innovative-investment policy is to identify priority areas and investment targets, which should comply with both the long-term national interests of the state and the urgent tasks that arise from the current state and structure of the Ukrainian economy. In the state program of foreign capital attracting the following main priority areas for investment were defined: agriculture (high-performance agrotechnologies, enterprises of processing

<sup>62</sup> Lytvyn, I. V. (2012) Academic Entrepreneurship: Experience of Stanford University. Problems of economy & management. 725. 305–312.

<sup>63</sup> Kreidych, I. M. & Shpak, N. O. & Boyarynova, K. O. & Grygorska, N. M. & Milko, I. V. & Lytvyn, I. V. (2016) Transformation processes in the economic development of innovation-oriented enterprises of mechanical engineering: monograph. Kyiv: DKS centr.

and food industry upgrading, container production, agricultural machinery, mini-shops of farms, chemical pesticides); medical and microbiological industry; Light industry; timber industry complex; engineering (TV and radio devices, electrical appliances, passenger vehicles, heavy cargo aircraft, medical equipment, machine tools with program management); metallurgical complex (powder metallurgy, production of tin plate, aluminium sheets and tubes); development of fuel and energy complex and introduction of energy and resource saving technologies; transport infrastructure; communication; chemical and petrochemical industry; social infrastructure; Chernobyl accident consequences recovery [<sup>64,65,66</sup>].

The basic condition for state investments must be a reasonable prospect of a highly effective commercialization. In foreign practice, the trend for the commercialization of scientific research, especially with applied purposes is growing; it activates innovative activity of industrial and other sectors of the economy that aims to meet social and economic needs of the economy.

Macroeconomic environment envisages, in its turn, besides the creation of specific economic management conditions for innovative-investment activity subjects, methods of a macroeconomic impact on the investment intensity: using of monetary influence methods, budget management, preferential or restrictive taxation.

To innovative and investment dominants of the national economic system recovery should belong the development strategy of the stock market, which includes the following areas:

- the accumulation of public funds within the framework of voluntary and compulsory social and pension insurance systems and their focus on long-term investment;
- formation of transparent tax incentives investment processes;
- stimulating the development of corporate securities by improving macroeconomic regulators;
- tax stimulation of long term investments, particularly into innovative businesses;

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<sup>64</sup> Kozhevnykov, R. & Dedova, Y. (1998). State innovation policy and its financial support]. Economic issues. 12. 87–92.

<sup>65</sup> Kreidych, I. M. (2010) The investment policy of the enterprise: monograph. Kyiv: DKS centr.

<sup>66</sup> Kreidych, I. M. (2008) Investment policy as a basis for economic growth model: monograph. Kyiv: IMEKS LTD.

- creation of a favourable tax regime for long-term investments in securities of individuals;
- introduction of a system of the business entities rating and the stock market instruments by independent rating agencies;
- creation of an effective system for the protection of medium and small investors by guaranteeing and insurance of private investments;
- improvement of the system of information disclosure in the stock market based on a prompt, free of charge access of investors to the information about securities issuers and professional participants of the stock market, including the introduction of international standards of information disclosure.

It was found that the modern global economy actively forms the paradigm of scientific-technological development, parts of which are the growing relationship between capital markets and new technologies, the rapid development of the "knowledge economy", strengthening the new technologies' social orientation, the global nature of the creation and usage of knowledge, technologies, products and services. The basic concept of the world economy progress is the concept of sustainable development, which is the basis for innovative development paradigm.

At the present stage of world civilization development, the transition from industrial to post-industrial phase of the society development as a result of modern innovative technological factors takes place. The typical features of a post-industrial society are: increasing efficiency and productivity of labour by the use of modern high and flexible technologies; globalization of information exchange; spread of production's distribution network instead of its concentration; strengthening of production intellectualization, which involves the growth of the intellectual intangible assets share in the assets of the company; a high level of human education and their information technology armament.

The concept of sustainable development and innovative development paradigm as complementary and interrelated concepts are theoretical-methodological bases of modern progressive global and national transformations of social development. The insufficient level of theoretical development of approaches in conjunction with the methods of innovative-investment policy forming, neglecting the importance of the innovative-investment activity regulatory mechanisms in conditions of the unsteady economy is a major cause of low efficiency of reforms conducted in Ukraine.

Attracting foreign capital into the economy of Ukraine to restore the national economic system and to ensure the transition of the national production to sustainable economic growth requires activation of increasing of the promotion and risk reduction level of innovative development perspective directions. Currently, integration and globalization processes are not very tangible for Ukraine to increase the share of foreign capital in its economy compared with transition economies of other countries.

According to the experts of the National Academy of Sciences of Ukraine [67, p. 45-49] the main innovative-investment dominant for Ukrainian conditions, now, is the development of an adequate for national interests economic system according to the principle "from individualism - to corporatism." This view is based on determining the essential features of a model of sustainable development of Ukraine, which corresponds to the traditional economic type. However, the latter brings forth its own requirements for innovative methods of system management. They are purely national characteristics, namely, on the one hand, management of development process should ensure smooth contact with the financially oriented economic systems, on the other – be directed at forming ecologically oriented type of management. The combination of these two areas of management is the subject of the innovation's search. The process of corporatization of an economic space should be considered as a response to the difficulties that have emerged. An important feature of corporatization is primarily a harmonization of corporate interests. Largely, they form not only profit getting concepts but also the ideology of the real sector of economy development. Here arises the problem that by its structure, which is multilayered, as it is caused by a complex system of interests of economic operators who are facing it in a particular area. However, it concerns primarily the interest related to the use of the territorial natural resources. In this regard, there is a need to rethink the conceptual basis of their application, including: comprehensive assessment of natural resources, the definition of modern methods of their management, identification of problematic assemblies of their capitalization, as a condition for inclusion in economic relations; disclosure of the fundamentals of a problem of natural resources rents assigning and, finally,

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<sup>67</sup> National paradigm of sustainable development of Ukraine] / under gener. Editor of akad. Of NASU, PhD of TS, prof. Paton, B. Ye. (2016). Kyiv: State institution «Institute of economics of natural resources management and sustainable development of NAS of Ukraine”.

identifying, on their basis, the directions to form institutional environment for sustainable development that meets modern requirements.

Hence, a careful study of general trends with the systemic nature of the transformation of an economic system makes it possible to talk about the birth of the modern, postindustrial type of a corporate economic model and appropriate corporate governance.

A further innovative-investment dominant of the national economic system recovery is the capitalization as the principle of organization of the relations with functional positions. In this aspect the capital is considered, primarily, as a productive power or value that brings added value. In this regard, the issue of management of such force, including the process of values reproduction, becomes principal.

It is known that along this way objective difficulties arise. In many respects, they are caused, on the one hand, by the unevenness of the world economic space development, on the other – by the information asymmetry, which complicates the conducting of objective evaluation of the results of efforts that were made in one or another economic activity. In determining priorities of the future development, it is appropriate to design such economic environment in which the most demanded was exactly the most accessible capital. For Ukraine, this is territorial natural resources, on the basis of which other competitive value chain can be formed [68]. It should be emphasized that the capitalization of these assets is crucial to the recovery of the national economic system, since it allows formulating the goals of increasing the investment attractiveness and efficiency of local resources. In this case, for the owners of both capital and natural resources areas the main thing becomes an effective deployment and usage of existing assets in economic activities in order to maximize their value and income (Figure. 1) [69].

According to the index of investment attractiveness, which is defined by the European Business Association and is based on regular monitoring of the business climate by the first people of member companies of the Association, in Ukraine from

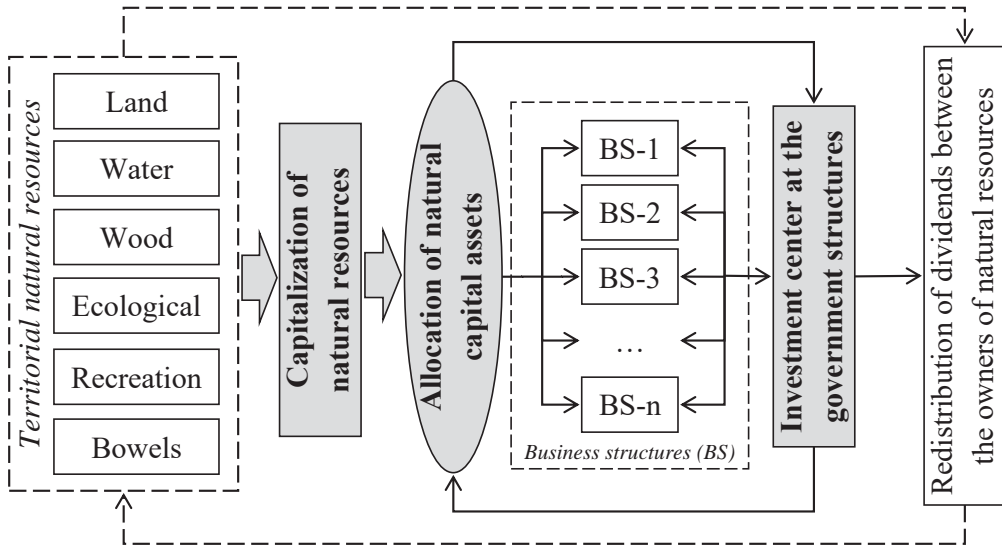
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<sup>68</sup> Saveleva, Yu. V. (2008) Features of reproduction of the regional capital: the nature, approaches to the assessment, methods of management. Petrozavodsk: Publishing house of Karelia scientific centre of RAS.

<sup>69</sup> Bystryakov, I. K. (2011) Natural resources as the factor of activation of environmental-economic activity. *Economist*. 4. 21.

2011 it has been steadily reducing and at the beginning of 2014 it reached its historical minimum [70].

Figure. 1. Scheme of natural-resource capital reproduction.



Source: Compiled by the authors based on: [71]

As demonstrated, the macroeconomic factors of Ukraine, which form a significant impact on creation and development of innovation-oriented companies, sweeping reforms in all spheres of life will not be held, so far, expectations of the appearance of significant domestic breakthrough innovations will have a rather pessimistic nature.

**Conclusions.** We believe that the new institutional economic theory with the theories of property rights, transaction costs, alternative costs, contractual and corporate relations, "knowledge economy" is the most appropriate direction to ensure the sustainable economic growth, but there is a need to synthesize the studied elements of post-Keynesian, neoclassical and Marxist analyses that will

<sup>70</sup> Ukrainian association of investment business [Electronic specialized edition]. Retrieved from: <http://www.uaib.com.ua>.

<sup>71</sup> National paradigm of sustainable development of Ukraine] / under gener. Editor of akad. Of NASU, PhD of TS, prof. Paton, B. Ye. (2016). Kyiv: State institution «Institute of economics of natural resources management and sustainable development of NAS of Ukraine».



contribute to a logical reorientation to post-industrial development with investment support.

The innovative-investment state policy should be understood as the complex of legal, administrative and economic measures of the state aimed at dissemination and promotion of innovative-investment processes. Innovation and investment are the basis for material production sector restructuring, and therefore state should use the full range of economic, legal and administrative means to overcome the negative trend of investment decreasing and to increase the innovation-investment activity. All methods of the state regulation of the innovative-investment activity are interrelated, and so their use cannot be arbitrary. Each model of the state innovative-investment policy is a certain combination of measures and relevant state institutions that develop and implement these measures. Compliance of organizational forms and methods of the innovation-investment activity of the state regulation depends on the condition of development of market relations, an economic structure and the specific economic situation.

The research of epistemological roots of innovation, investment and reconsideration of new phenomena and processes that occurred in the innovative and investment area, allowed noting that the investment was the basis for increasing the value, for appearing of the growth processes at all levels of economic activity. In the innovative-investment area, the most important structural relationships are established: between accumulation and consumption, between investing in real and financial assets, between investment and growth of capital property, between expenditure of capital and the profitability of investment, which determine the intensity of economic development.

It is determined that to the innovative-investment dominants of the national economic system recovery belong: intensity of investments in the national economic system depending on the interaction of fiscal and monetary policy; formation of a developed institutional environment; development of a national innovative-investment strategy of the national economic system recovery; creating appropriate investment climate; technical re-equipment of production through the introduction of new scientific knowledge, energy- and resource-saving and non-waste technologies, wide application of renewable energy sources, solving the problem of waste disposal produced during the process of economic and other activities; establishing an adequate for national interests system of management according to the principle "from individualism - to corporatism"; capitalization as the principle of

relationship organization of the functional position, in this aspect the capital is considered, primarily, as a productive power or value that brings added value; activation of innovative-investment activities with the participation of higher education institutions and scientific-research institutes and organizations; identification of priority areas and investment targets, which have to comply with a long-term national interests as well as with urgent tasks that arise from the current state and economic structure of Ukraine. The basic condition for government investments must be reasonable prospect of highly effective commercialization.

To innovative-investment dominants of the national economic system recovery should belong the strategy of the stock market development, which includes the following areas: accumulation of population funds within the voluntary and obligatory social and pension insurance and their long-term investment direction; formation of transparent tax incentives for investment processes; promotion of the development of corporate securities by improving macroeconomic regulators; tax incentives for long term investments, particularly for innovative businesses; creation of favorable tax regime for long-term individuals investments in securities; implementation of the system of rating estimation of business entities and of the stock market instruments by independent rating agencies; creating an effective system for the protection of medium and small investors by guaranteeing and insuring private investment; improving the system of information disclosure at the stock market based on a free, prompt, complimentary access of investors to the information about securities issuers and professional participants of the stock market, including the introduction of international disclosure standards.

Thus, during the formation of the basic principles of the state economic policy, the compliance with dominants of the national economic system recovery in conditions of the unsteady economy will enable to: increase the efficiency of resources using and encouraging their recycling and reusing; provide the change of consumption patterns; activate the implementation of innovations and support of scientific research; provide the assessment of the economic value of the natural capital and ecosystems and identification of key initiatives for long-term strategies. This will allow increasing the competitiveness, creating new sources of growth and new work places by improving productivity, commercialization of innovations, effective management of resources.

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## **SYSTEM ANALYSIS OF INNOVATION COMPONENT OF UKRAINE'S ECONOMIC SECURITY**

**Abstract.** *The article is devoted to the relevance of construction of a new development model, based on a high-tech, knowledge-intensive and energy efficient productions, a deep integration of scientific research and production sphere for the purposes of post-crisis recovery of economy. Traditional methods of estimation of the state economic security were analyzed. With the use of systems analysis, authors considered the state of the development of an innovative activity as a factor of the providing of Ukraine's innovative security. Systemic problems of the development of a national science-technology and innovation sphere were determined. The article explored the main sources and problems of the financing of innovation activity. The attention is focused on the issue, that an innovational activity envisages the involvement investment resources to the process of development and implementation of innovations. Authors identified the main reasons, which prevent the effective use of domestic innovation potential and development of innovation activity in modern conditions.*

**Introduction.** The last decade of the twentieth and the beginning of twenty-first century of Ukraine was marked by a large-scale institutional transformation that led to the dismantling of the administrative-command management system and formation of market relations in the country. Considering the incomplete process of reforming the national economy in Ukraine and low efficiency of traditional growth factors acquires relevance of construction of a new development model based on high-tech, knowledge-intensive and energy-efficient productions as the most effective way of increasing the competitiveness of the national economy and strengthening of the state economic security.

During the years of Ukraine's independence, the declaration of a structurally innovative development model by the Government, unfortunately, has not been confirmed by active stimulating measures, and providing of innovative security system remained not formed. Impediments to creating favorable conditions for the development and strengthening of Ukraine's innovative security must be recognized as systemic due to the lack of sufficient attention from the central and regional public administration, imperfection of state innovation policy, which threatens further effective development of innovative sector.

Evidence of this is the reduction of innovation activity dynamic, curtailing of implementation of innovation and investment projects, reduction of high-tech export share, significant loss of intellectual capital and others. The situation is complicated by the warfare in eastern Ukraine and annexation of Crimea. The military threat, macroeconomic instability, a sharp reduction of effective demand of the population and corporate sector are the main causes of reduction of the level of investment and innovation providing of the economic security of the real economy.

At the same time, Ukraine continues to own significant potential for the development of science, technology and innovation activities that can strengthen the competitiveness of the domestic production and structural transformation of the national economy. At the modern stage of economic development, Ukraine remains among the world leaders in many areas of basic science (physics, mathematics, computer science, chemistry, physiology, medicine); is included in eight countries with the necessary scientific and technological potential to create aerospace engineering and the top-ten shipbuilding countries; occupies the 9th place among the largest exporters of weapons [72]. According to the Bonn International Center for Conversion, Ukraine has risen from the 20th to the 13th place in the ranking of militarized countries in the world [73]. According to the International Telecommunication Union, Ukraine is at the 81th place in the world by the level of development of information and communication technologies. At the end of 2014 in Ukraine, about 5.89 million users of the Internet (the 94th place among 191 countries by level of Internet penetration) were registered [74].

In order to minimize the negative trends and imbalances in the innovation sphere, which directly or indirectly produce a reduction of the competitive position of the national economy and further increase of Ukraine's technological backwardness from developed countries the issue of systems research of an innovative component of economic security is actualized. This allows us to get an objective information about the general state of the innovation sphere development

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<sup>72</sup> Ukraine got into the top 10 arms exporters in the world [Electronic resource] – Retrieved from: <http://news.vash.ua/news/finansy/ukrayina-potrapiyla-potrapiyla-u-top10-eksporteriv-zbroji-u-sviti>.

<sup>73</sup> Ukraine has risen to 13 places in the ranking of militarized countries [Electronic resource] – Retrieved from: [http://espresso.tv/news/2014/12/12/ukrayina\\_pidnyalasya\\_do\\_13\\_miscya\\_v\\_reytnhu\\_militaryzovanykh\\_k\\_rayin\\_svitu](http://espresso.tv/news/2014/12/12/ukrayina_pidnyalasya_do_13_miscya_v_reytnhu_militaryzovanykh_k_rayin_svitu).

<sup>74</sup> Report about the work of the National Commission for State Regulation of Communications and Informatization in 2014 [Electronic resource] – Retrieved from: [http://nrzi.gov.ua/images/upload/142/5369/r165\\_dod\\_2015-03-24.pdf](http://nrzi.gov.ua/images/upload/142/5369/r165_dod_2015-03-24.pdf).

and its impact on the security economy, identify the threats and risks that determine the innovative security, identify strategic priorities of strengthening the innovation security as a separate direction, and in the system of national security. Therefore, it is necessary to use modern methods of the systematic evaluation the innovation security at state, regional and industry-sector levels, the definition of indicators, which can make diagnosis of the security situation and identify the components and indicators by which the threshold limits of safe functioning and development of the innovation sector are complicated.

Based on the analysis of a number of scientific publications and studies of leading scientists, today we can make conclusion about the availability of the assessment methods of economic security and its components: (1) the monitoring of the main socio-economic indicators and comparing them with the limit values that should not be less than the world average; (2) the expert assessment methods; (3) method of analyzing and processing scenarios; (4) the optimization methods; (5) the theoretical and game methods; (6) the methods of multivariate statistical analysis; (7) the methods of the theory of artificial neural networks [75]. In our opinion, most of these methods have a theoretical value and are not often used for evaluating and forecasting the state innovation security because of the complexity of the applying of the appropriate mathematical apparatus and necessity of processing large data arrays.

Whereas there are some difficulties with the using traditional methods of analysis and optimization of any system, therefore solving this problem is impossible without applying the systems theory as one of the most effective tools of research of complex systems. Since the innovative security as a set of interrelated elements systemic is characterized by the following characteristics: a considerable complexity of the system caused by the large number of synergistic relationships between elements and subsystems; continuous dynamic character of development; the stochastic impact of the factors of the internal and external environment on the innovation security system.

Further, we should make the analysis of the development of the innovative activity of economic entities as a prerequisite of providing the innovation state security. According to the World Economic Forum in 2015 Ukraine took the 79 place among 140 countries according the Index of global competitiveness (2014 p. – 76)

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<sup>75</sup> Modeling of economic security: state, region, enterprise: monograph / [V. Geyets, M. Kizim, T. Klebanova, O. Chernyak and other; edited by V. Geyets]. - H. VD "INZHEK", 2006. - 239 p.

giving way to not only developed countries but also some countries of the CIS and post-Soviet countries. One of the main reasons for such low position is insufficient development of the innovation components of competitiveness of the economy (table 1).

Table 1. Components of innovation subindex of the Global Competitiveness Index in Ukraine in 2010-2013

The components of the Global Innovation Index	Rating					
	2010	2011	2012	2013	2014	2015
Ability to innovate	37	42	58	100	82	52
Quality of research institutions	68	72	64	69	67	43
Expenses of companies for R & D	69	75	104	112	66	54
Interaction between educational institutions and industry for the implementation of R & D	72	70	69	77	74	74
Purchase of high-tech goods at public expense from the state budget	112	112	97	115	123	98
Availability of scientists and engineers	53	51	25	46	48	29

Source: Based on the data: [76]

Over the past two decades, the state of the innovation activity in Ukraine has significantly deteriorated and does not meet the peculiarities of competitive challenges of Post-transformational phase development of the world economy. Especially negative tendencies are typical for a human resources component of the innovative potential of Ukraine, which is reflected primarily in the intensive emigration of highly qualified personnel that occurs during the entire period of independence (from 1996 to 2011 1622 scientists moved from Ukraine for permanent residence abroad, among them most intensively emigrated to the USA, Germany and Russia). The number of specialists who perform R & D decreased from 170.6 thousand in 2005 to 123.2 thousand in 2013, the number of Ph.D. involved in the performance of scientific and technical works - from 17 thousand in 2005 to 15.9 thousand in 2013.

At the same time, the tendency to reduce the number of researchers is accompanied by the growing number of doctors and Ph.D. working in public administration, education and other areas. Thus, the number of doctors is increasing consistently - from 4,200 people in 2005 to 4,500 in 2013, which positively affects

<sup>76</sup> Information World Economic Forum «The Global Competitiveness Report» [Electronic resource] – Retrieved from: <http://www.weforum.org/issues/global-competitiveness>

the quality of work due to the fact that highly qualified specialists perform them (table 2). Thus, further a quantitative and qualitative decline of domestic scientific personnel potential is a real threat to the future implementation of innovative model of economic development of Ukraine.

Table 2. Characteristic of scientific activity in Ukraine in 2005, 2007, 2010, 2012, 2013

Indicators	Years					Growth rates (%) to 2013	
	2005	2007	2010	2012	2013	2005 p.	2012 p.
Number of organizations that perform scientific and technical works, units, including:	1510	1404	1303	1208	1143	75,7	94,6
Number of employees of organizations that perform scientific and technical works, thous. pers.	170,6	155,5	141,1	129,9	123,2	72,2	94,8
Number of doctors of sciences involved in the performance of scientific and technical works, pers.	4200	4390	4400	4500	4500	107,1	-
Number of Ph.D. involved in the performance of scientific and technical works, pers.	17000	16976	16100	15900	15900	93,5	-

Source: Based on the data: [77]

An extremely negative trend is a decrease in the number of organizations that perform R&D especially in the area of the technical sciences (from 800 in 2005 to 483 in 2013) and the natural sciences (from 462 in 2005 to 389 in 2013). In contrast, the number of organizations that act, for example, in the humanities, increased in 1.55 times. In the structure of organizations that perform scientific and technical works for scientific sector compared to 2005 the number of sectoral organizations decreased by 304 units, academic institutions - increased by 5 units. It should be noted that for the period 2005-2013 the share of scientific and research organizations of the public sector increased from 33,2% to 39,9% (6,7%), confirming the strengthening of the role of the state in this area. However, the share of business sector organizations decreased - by 11% in 2013 to 2005 and 0,1% last year. It

<sup>77</sup> State Statistics Service of Ukraine. [Electronic resource]. – Retrieved from: <http://www.ukrstat.gov.ua>.

suggests the reducing of the role of research institutions in the activation of innovation processes as a prerequisite for providing the innovative security and competitiveness of the national economy.

Table 3. The indicators of financing of scientific and technical works in Ukraine in 2005, 2007, 2010, 2012, 2013

Indicators	Years					Growth rates (%) of indicator in 2013 to	
	2005	2007	2010	2012	2013	2005 p.	2012 p.
Total amount of financing, mln UAH	5160,4	6149,2	8995,9	10558,5	11161,1	216,3	105,7
A share of financing of Ukraine's GDP,%	1,17	0,86	0,82	0,75	0,77	-0,4	0,02
The shares in the total volume funding:							
- State and local budgets, %	33,7	46,2	41,7	45,2	43,2	9,5	-2
- special purpose funds, %	0,5	0,3	0,5	0,2	0,2	-0,3	-
- own funds, %	6,6	8,5	9,7	10,6	13,1	6,5	2,5
- funds of customers - enterprises and organizations of Ukraine, %	32,6	28,1	21,8	23,3	20,7	-11,9	-2,6
- funds of customers - subjects of foreign countries, %	24,4	15,9	25,7	19,4	21,6	-2,8	2,2
- funds from other sources, %	2,4	1,0	0,6	1,3	1,2	-1,2	-0,1

Source: Based on the data: [78]

Major problems are connected with limited amount of funding for scientific and technical works, which is one of the main reasons for the deterioration of the innovation sphere. By the Law of Ukraine "On the Scientific and Scientific-Technical Activity" it is determined that the budgetary costs of R&D should be at least 1.7% of GDP. However, in practice, the total cost on these goals (from all sources) in Ukraine during the analyzed period were significantly lower and did not exceed 1.3% of GDP (table 3). The indicator of knowledge intensity of GDP in Ukraine is one of the lowest compared with developed countries. Thus, in 2013, this indicator from all sources of funding of the scientific sphere amounted to 0.77% of GDP and from the state budget this indicator reached a minimum low level – 0.33% of GDP.

<sup>78</sup> See 77.



Because of the using of the residual budgetary financing principle of scientific and technological sphere, and almost complete abolition in 2005-2007 the system of state stimulation to attract investment resources of the real sector of economy in R&D, the budget share in the financing of science (which was at the level 27-34%, which corresponded to the standard of the developed countries) has increased to 45% due to the relative reduction of the share of expenditure on research and development by businesses that led to a reduction of an innovation activity of enterprises (in 2005 – 32.6%, in 2010 – 21.8%, in 2013 – 20.7%). Meanwhile, in the EU the business sector is one of the largest institutional investor that invests in scientific and technical developments. Thus, in 2011 its share in total expenditure in the EU-27 was 61.8% and the public sector – 0.76% of GDP. It should be noted that the funding of scientific, technical and innovation activity in Ukraine is insufficient, which leads to curtailing of important research and development, and thereby weakens the scientific and technological component of the state innovation security.

Thus, the current state of the development of the national scientific and technological sphere is characterized by a systemic deformation, that consists in the fact, that its rate of development, the structure, the level of utilization of scientific and technological results do not correspond to needs of providing Ukraine's innovative security, the task for its further strengthening on intensive basis. Despite the generally high potential of scientific and technological development, the sphere is characterized by a number of disadvantages, obstacles and unresolved issues (saving of the low technological structures in the national economy; a shortage of highly qualified personnel, a lack of generation's change of highly qualified personnel, a violation of the age structure of employees of the scientific sphere; a limited funding of the scientific and technical activity; an insufficient level of utilization and commercialization results of the scientific research and development), which makes impossible the effective implementation by science of its social functions and leads to irreversible destruction of its potential.

Conditions of the global market environment dictate the necessity of activation of the innovation activity as the most effective tool to strengthen the state innovation security and competitiveness of the national economy. At the same time, the analysis of the innovation activity in Ukraine during 2005-2013 demonstrates the instability of the development of these economic sectors (Table 4).

Table 4. The indicators of innovation activity in Ukraine in 2005, 2007, 2011, 2012, 2013

Indicators	Years					Growth rates (%) of indicator in 2013 to	
	2005	2007	2010	2012	2013	2005 p.	2012 p.
A share of industrial enterprises, which engaged in innovation activity, %	11,9	14,2	13,8	17,4	16,8	4,9	-0,6
A share of industrial enterprises which implemented innovations,%	8,2	11,5	11,5	13,6	12,9	4,7	-0,7
Total funding for innovation activity, bln UAH	575, 2	1082, 1	804,6	1148, 1	956, 3	166,3	83,3
Disbursed innovative kinds of products, names	3152	2526	2408	3403	3138	99,6	92,2
of these new types of equipment	657	881	663	942	809	123,1	85,9
A share of innovative products in total volume of implemented industrial products, %	6,5	6,7	3,8	3,3	3,3	-3,2	-
A share of innovative products in total implemented of innovative products outside of Ukraine, %	50,0	36,5	40,7	36,9	44,8	-5,2	7,9

Source: Based on the data: [79]

Thus, the innovation activity in Ukraine is characterized by slow pace of growth in the number of innovation active enterprises in the industry, whose number in 2013 increased only by 4.9% compared to 2005, and the insignificant volume of realized innovative products. Their share in the total volume of the realized industrial production fell from 6.5% in 2005 to 3.3% in 2013. By a share of enterprises engaged in the innovation activity, Ukraine is significantly inferior to developed countries (in the USA, Japan, Germany and France a share of innovation active enterprises varies within the framework 70-80%; in the EU-27 a share of enterprises that implement innovations four times higher than in Ukraine). Therefore, the main problem in the innovation sphere remains low susceptibility business sector to innovation that does not contribute to acceleration of the pace of modernization of real sector of economy, expansion of the capacity of the domestic market, strengthening the competitiveness and increase of the economic efficiency of the national economy.

<sup>79</sup> See 77.

The consequence of the fact that in Ukraine an economic model with a focus on low-tech industries had been formed became the deepening in the industrial complex tendencies of domination of industries with low research intensity (Figure 1). Thus, in 2011-2013 an activity of high-tech sector companies decreased from 150 units to 119 units (26.1%). Thus in the medium and high-tech sector, it increased from 404 units to 427 units, the largest amount of innovation active enterprises are concentrated in low-tech sector - 832 units. Thus, there are grounds to argue about the existence of a threatening tendency for reducing the competitive position of domestic producers on the international markets and further increasing of the technological backlog of Ukraine from the world developed countries [<sup>80</sup>].

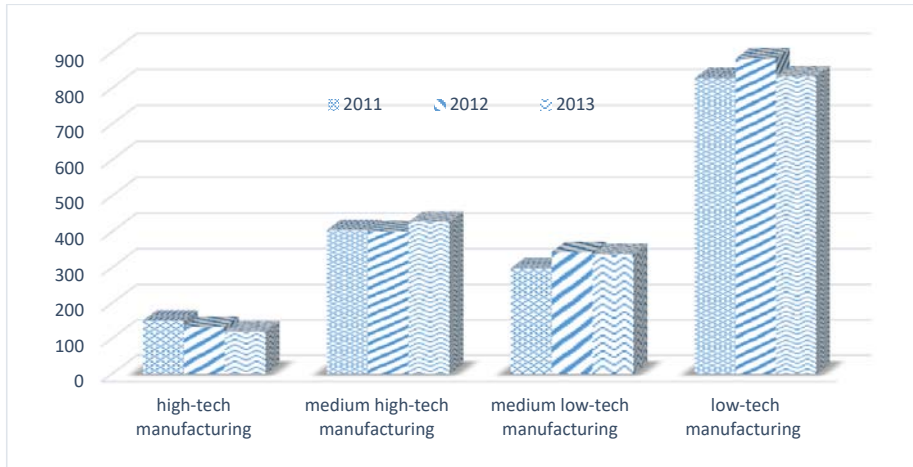
This tendency reduces the efficiency of foreign economic activity in Ukraine, leads to strengthening of import dependence of the internal domestic market from high technology products and scientific and technological services, localization of labor and resource-intensive and ecologically hazardous industries in the country. This is confirmed by a share of export of innovative products in the total amount of the implemented innovative products in 2013 – 44,8% (in 2005 - 50%), the volume of import of innovative products exceeded their own production.

An insufficient level of usage and commercialization of scientific research and developments does not form the basis for long-term sustainable development. Unfortunately, the process of commercialization in Ukraine has the opposite direction of the development compared to the dynamics of creating new samples of domestic products. Thus, in 2013 the production of only 3.1 thousand kinds of innovative products from 5.6 thousand created new products (in 2012 – 3.4 thousand from 6.4 thousand created new products) was mastered.

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<sup>80</sup> State of the development of science and technology, the results of scientific, technical, innovation, technology transfer in 2013 / Analytical reference / Ukrainian Institute of Scientific, Technical and Economic Information / The State Agency on Science, Innovation and Informatization of Ukraine. - K., 2014. - 180 p.

Figure 1. The number of the enterprises, which carried an innovation activity in 2011-2013 by the technological sectors, units



Source: Compiled by the authors on: [81]

We should pay attention to such a positive aspect of the innovation activity in Ukraine as an increasing of expenditure on innovation. The total growth in 2013 relative to 2005 was only 2 times lower and last year an indicator decreased by 1918 mln UAH reaching 9562.6 mln UAH. However, the main factor of growth of the volumes of financing was the increase of costs to purchase industrial machinery, equipment, software (a share of its financing increased in 2005-2013 to 58.0%). Accordingly, the negative trends are small shares for the development the priorities of innovation activity - research and development – 17.1%, internal research – 13.7%, external research – 3.4%. A share of acquisition costs of other external knowledge (new technologies) is also very low (0.9%).

The scale of acquisition (transfer) of new technologies in Ukraine does not demonstrate a significant revitalization of the innovation activity. In 2013, in Ukraine 120 companies (2012 - 129) acquired the new technologies, outside Ukraine - 73 and 80 respectively. Most businesses abroad received the materialized technology (equipment), the rights to use existing technology and the intangible assets. The results of the research and development, which are carried in their new knowledge, has not been acquired. As for the transfer of new technologies, it is carried only within Ukraine. Therefore, the creating of an effective system of commercialization of the domestic objects of intellectual property, which provides a tight connection

<sup>81</sup> See 80.

between science and industry, is the priority in the field of providing state innovative security. Today own funds of enterprises whose share in 2013 was in total amount 72.9% are the main source of financing of the innovative activity in Ukraine (Table 5).

Table 5. The indicators of financing of the innovation activity in Ukraine by the sources of investments, mln UAH /% of the total number of innovation active enterprises in 2005, 2007, 2010, 2012, 2013

Indicators	Years					Growth rates (%) of indicator in 2013 to	
	2005	2007	2010	2012	2013	2005	2012
Total	<u>5751,6</u> 100	<u>10821,0</u> 100	<u>8045,5</u> 100	<u>11480,6</u> 100,0	<u>9662,7</u> 100,0	<u>168,1</u> -	<u>84,2</u> -
including the funds							
Own	<u>5045,4</u> 87,7	<u>7969,7</u> 73,7	<u>4775,2</u> 59,3	<u>7335,9</u> 63,9	<u>6973,4</u> 72,9	<u>138,2</u> -14,8	<u>95,1</u> 9
state budget	<u>28,1</u> 0,5	<u>144,8</u> 1,3	<u>87,0</u> 1,1	<u>224,3</u> 2,0	<u>24,7</u> 0,3	<u>87,9</u> -0,2	<u>11,1</u> -1,7
local budgets	<u>14,9</u> 0,3	<u>7,3</u> 0,1	<u>5,7</u> 0,1	<u>17,6</u> 0,1	<u>157,7</u> 1,6	<u>y 10,5 p.</u> 1,3	<u>95,1</u> 1,5
extrabudgetary funds	<u>0,3</u> 0,0	<u>0,1</u> 0,0	<u>0,9</u> 0,0	<u>0,02</u> 0,0	<u>2,2</u> 0,0	<u>y 7,3 p.</u> -	<u>125,9</u> -
domestic investors	<u>79,6</u> 1,4	<u>26,2</u> 0,2	<u>31,2</u> 0,4	<u>154,5</u> 1,3	<u>123,8</u> 1,3	<u>155,5</u> -0,1	<u>80,1</u> -
foreign investors	<u>157,9</u> 2,7	<u>321,8</u> 3,0	<u>2411,4</u> 30,0	<u>994,8</u> 8,7	<u>1253,2</u> 13,1	<u>y 7,9 p.</u> 10,4	<u>125,9</u> 4,4
Credits	<u>409,7</u> 7,1	<u>2000,7</u> 18,5	<u>626,2</u> 7,8	<u>2407,8</u> 21,0	<u>630,2</u> 6,6	<u>153,9</u> -0,5	<u>26,2</u> -14,4
other sources	<u>15,7</u> <u>0,3</u>	<u>350,4</u> <u>3,2</u>	<u>108,2</u> <u>1,3</u>	<u>345,8</u> <u>3,0</u>	<u>397,6</u> <u>4,2</u>	<u>y 25,3 p.</u> 3,9	<u>114,9</u> 1,2

Source: Based on the data: [82]

Their dominance among other sources of financing of the innovation activity is caused by the insufficient clear and complex process of attracting financial resources (because of unfavorable investment climate, the lack of venture financing of innovative activity, etc.). The shares of financing of the innovation activity by funds of domestic investors – 1,3% and foreign investors – 13,1% are insignificant, which is caused by the fears of investors regarding an instability in the

<sup>82</sup> See 77.

financial sector, because of the intensification of risks related to the onset of the political crisis in 2013, and the lack of effective economic incentives for attracting investment resources in innovative processes. It should be noted that an unformed full institutional environment of the formation of a venture finance and investment basis of the state innovative security is the main factor of deepening the gap between the innovation sphere and financial institutions.

There is a shortage of the state's role in financing of the innovative activity in Ukraine, because the amount of funds of state and local budgets to finance innovation decreased by 59.5 mln UAH and reached 182.4 mln UAH (1,9% in 2013, 2,1% in 2012), which significantly limits the regulating and stimulating effect of the state on the innovative activity.

Also in Ukraine, the financing of the innovative activity is characterized by a low use of credit. While innovative projects are usually long-term and require significant investment in its implementation, credit resources are primarily provided for the short term and at high interest rates, which lead to the low share of loans in total financing of an innovation activity, which in 2013 was only 6.6%. It should be noted that in the current economic conditions the problem of formation of the financial and credit support of innovative security requires a program of action not only from the state, but from the banking system and other financial institutions, which has a strategic importance both for enhancing the innovative activity of the real sector, and for the implementation of an innovative model of the economic development of Ukraine.

It is important to note that in general the growth of competitiveness of the national economy is primarily conditioned by an innovative character of the development of its strategic sectors. The highest innovation potential is in mechanical engineering, food, chemical and petrochemical industries that have the largest share of innovation active enterprises and are leaders in the implementation of innovative products and in the introduction of new technological processes (Table 6).

First, it is explained by a high scientific potential of these industries, an availability of qualified personnel, the higher level of the costs of innovation activity compared with other industries.

Table 6. The indicators of the level of innovation development of industries in Ukraine in 2013

Branches of Industry	The number of innovation active enterprises, units / % to the total number of enterprises of industry	The number of enterprises that have implemented		The number of enterprises that have implemented innovative products, units / % to the total number of enterprises of industry	The number of implemented new technological processes, units
		organizational innovations, units / % to the total number of enterprises of industry	marketing innovation, units / % to the total number of enterprises of industry		
The industry in general, incl.:	<u>1758</u> 17,4	<u>147</u> 1,5	<u>178</u> 1,8	<u>1037</u> 10,3	2188
Mining industry	<u>46</u> 7,5	<u>4</u> 0,7	<u>1</u> 0,2	<u>8</u> 1,3	35
Processing industry, incl.:	<u>1581</u> 18,6	<u>134</u> 1,6	<u>175</u> 2,1	<u>1023</u> 12,1	2096
- food industry	<u>420</u> 18,7	<u>27</u> 1,2	<u>54</u> 2,4	<u>281</u> 12,5	268
- light industry	<u>81</u> 13,6	<u>4</u> 0,7	<u>9</u> 1,5	<u>44</u> 7,4	57
- pulp and paper industry	<u>78</u> 12,5	<u>5</u> 0,8	<u>7</u> 1,1	<u>31</u> 4,9	47
- chemical and petrochemical	<u>189</u> 23,7	<u>16</u> 2	<u>21</u> 2,6	<u>134</u> 16,8	122
- metallurgy and manufacture of fabricated metal products	<u>144</u> 18	<u>10</u> 1,3	<u>15</u> 1,9	<u>92</u> 11,5	153
- mechanical engineering	<u>426</u> 24,7	<u>58</u> 3,4	<u>47</u> 2,7	<u>317</u> 18,3	1247
Production and distribution of electricity, gas and water	<u>131</u> 13,3	<u>9</u> 0,9	<u>2</u> 0,2	<u>6</u> 0,6	57

Source: Based on the data: [83]

Thus, in 2013 a share of innovation active enterprises of engineering industry was 24.7%, food industry – 18.7%, chemical and petrochemical industry – 23.7%, which significantly exceeds the average for the industry. A share of enterprises that have implemented innovative products in the total number of enterprises in the industry was 18.3%, 12.5% and 16.8% accordingly, the number of implemented new

<sup>83</sup> See 77.

technological processes - 1247 units, 268 units and 122 units accordingly.

As for other industries in Ukraine, it should be noted that their innovation potential is not used, one can observe their technological backwardness compared to developed countries, which manifests itself in the impossibility of the manufacturing of competitive products conforming to the expectations of customers and end users. Thus, enterprises of the industrial complex of Ukraine are mostly oriented on the production of low value added products, while prospective innovative production are still undeveloped. The worst situation in this aspect was in the areas of: production and distribution of electricity, gas and water (13.3% in the structure by the number of enterprises involved in an innovation activity, and 0.6%, which implemented innovative products), pulp and paper production (12.5% and 4.9% accordingly), light industry (13.6% and 7.4% accordingly). The situation in the metallurgical industry and manufacture of fabricated metal products was slightly better (43.5% and 27.5% accordingly). It is important to implement a number of actions aimed to stimulate the improvement of these important structural characteristics of innovation activity in Ukraine.

At the same time, enterprises of the domestic industry insufficiently use the potential of the introduction of a non-technical innovation, especially organizational and marketing, which are important components of innovative network structures. It suggests a lack of attention to industrial enterprises to the implementation of modern corporate governance practices and the development of integrated strategies of business management.

**Conclusions.** Ukraine continues to own significant potential for the development of science, technology and innovation activities that can strengthen the competitiveness of the domestic production and structural transformation of the national economy. However, in recent years in Ukraine a raw export-oriented development model has been fixed which is characterized by a low share of export of production with added value, a high import dependence on energy from the Russian Federation, the increase of a share of import of high-tech products from the EU countries, the intensification of migration processes of the intellectual capital.

The current state of development of the national scientific and technological sphere is characterized by a systemic deformation, which consists in the fact that the pace of its development, a structure, a level of using scientific and technological results do not correspond to needs of providing Ukraine's innovation security. The



number of organizational, legal and financial obstacles prevent an effective development of the scientific and technological sphere. Among them are: a low technological complexity of the domestic economy, a lack of highly qualified personnel, a lack of generation change of highly qualified personnel, the infringement of the age structure of employees of the scientific sphere, a limited amount of funding for the scientific and technical activity, an insufficient level of utilization and commercialization of scientific research and developments.

In Ukraine, there are some important negative characteristics of the development of the innovative activity that increase threats of the state innovative security. They are: a slow pace of growth in the number of innovation-active industrial enterprises (the number of which increased only by 4,9% in 2013 compared to 2005); an insufficient volume of implemented innovative products (a share in the total volume of the implemented industrial production fell from 6,5% in 2005 to 3,3% in 2013); deepening the gap between the innovative sphere and financial and investment institutions (the main source of financing of the innovation activity are the funds of enterprises, whose share in the total volume was 72,9% in 2013); significant inter-regional and inter-sectoral asymmetry of the innovative development, which envisages the concentration of resources in old industrial regions and in exporting regions of raw natural resources and a low degree of product processing.

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## **THE INTERNET COMMUNICATION ASPECT OF FINANCE AND ECONOMY SECURITY OF MANAGEMENT RENOVATION IN THE ECONOMIC SPHERE OF SERVICES**

**Abstract.** *Internet commerce communication causes new conditions of renovation of an economic system. In addition, the problem of finance and economy security of Internet commerce communication activity arises. The theoretical basis of the management of Internet commerce communication activity is revealed in the article. The model of the modern Internet business is considered. The recommendation of Internet commercial activity state financial security improvement are suggested.*

**Introduction.** The definition of paradigms of the idea of Internet commerce communication and its finance and economic security requires description of the scope and methods of implementing the system of concepts, constituting Internet commerce communication and finance and economic security of management renovation in the economy sphere of services discovering the basics of understanding the value of these communications.

The traditional definition of the term "communication" is usually understood as a special type of intercourse, in which the basic process is accompanied by an emotional and existential component, mostly it is also the transfer of information.

The modern Internet communication includes all dimensions of social interaction: economic, political, social and cultural, which could affect the nature of a human life. The Internet as a means of interactive communication has reached a high level of development and the impact on public life that is why it provides new perspectives for both interpersonal relationships ("dual" social relations) and building the community ("networks" of social relations).

There are many definitions of the Internet. The systematic approach treats the Internet as a type of a complex self-developing renovating system, which consists of interconnected heterogeneous elements and subsystems, properties and relationships created by people based on feedback and operating within certain limits. The elements of the Internet commerce renovation systems are: technical

resources, information resources, software resources, technologies, qualified experts, energy resources and users. The sociological approach focuses on communicative abilities and social relations of people interacting in the global information environment. From this point of view the Internet is defined as a set of communication channels, communication environment, a global social communication computer network designed to meet the personal and group communication needs through the use of telecommunications technologies.

Internet communication, spreading in everyday life, makes fundamental changes in the structure of the commerce communication. The scientists J. Blumler, E. Katz, K. Rosengren, J. Walther, E. Parker, M. Morris, C. Ogan were involved in new communications technologies and implementing them in a social system [<sup>84,85,86,87</sup>]. The researchers face conceptual problems because new communication technologies are studied with the use of previous communication theories and their corresponding categories and methodology of early technologies not taking into account the security problem. There is an interesting comparison of V. Arshinov, Y. Danilov, V. Tarasenko [<sup>88</sup>], they believe that such concepts as information, exchange of information, storage of information are not enough to explain the processes occurring in the complex system of the Internet. The network is used for storing and processing information, they compared it to the ocean, which is "required" for the storage and treatment of water, but sometimes this is true, but not always there may be more interesting things in the ocean [<sup>89</sup>].

Obviously, the renovation changes taking place in the theory and practice of Internet commerce communication require new scientific approaches, especially finance security. I. Parker is right in his idea that in terms of new information technologies a completely new program of studies on the effective use of technology is required [<sup>90</sup>]. In practice, the methodology of analysis often employs the research

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<sup>84</sup> Blumler, J., & Katz, E. The uses of mass communications. Current perspectives on gratifications research. - Beverly Hills, CA: Sage. - 1974, p. 236

<sup>85</sup> Rosengren, K. Uses and gratifications: A paradigm outlined // J. Blumler & E. Katz. The uses of mass communications: Current perspectives on gratifications research. - Beverly Hills, CA: Sage. - 1974. - pp. 269-286

<sup>86</sup> Walther, J. B. Interpersonal effects in computer-mediated interaction: A relational perspective. // Communication Research. - 1992. - № 19. - p. 52-90

<sup>87</sup> Morris M., Ogan C. The Internet as Mass Medium // Journal of Communication. - 1996. - Vol. 46. № 1. - pp. 39-50

<sup>88</sup> Arshinov V.I, Danilov Yu. A, Tarasenko V.V. Methodology of network thinking: the phenomenon of self-organization// Ontology and epistemology of synergy. Moscow, Institute of Philosophy of RAS, 1997. p. 101-119 - [electronic resource]: <http://www.twirpx.com/file/120852/>

<sup>89</sup>See 81

<sup>90</sup> Parker, EB Implications of new information technology // Public Opinion Quarterly, 1973. - № 37, p. 590 – 600.

methods that are used for traditional media (e.g., determining the number of users, frequency of broadcasting information). One should also agree with the idea that the lack of theoretical models that illustrate the transactional and renovation nature of modern means of communication finance security is aggravated by the rapid development and spread of new communication technologies in commerce. In addition, there are the key driving forces that determine the modern commercial development of informatization sector of any services; they are as follows <sup>[91]</sup>:

- spread of the electronic lifestyle — e-mails, trade and banking, booking travel; Internet services and other services available only to those who have a personal computer;
- lower prices of various information and communication technologies (ICT), which increases the appropriate demand and promotes economic trade;
- a large number of electronic games designed for children who will potentially preach the possibilities of information and communication technologies at work tomorrow;
- computerization of education which under the influence of competition, the growth of computer literacy of parents and students themselves as well as under the influence of the network services development increases the social role of information and communication technologies;
- comfort and easiness of use at home, in an office, in a car have always been important engines of social change;
- more and more people and organizations use electronic devices for personal safety and security;
- home computer revolution.

The communicative environment, mediated by the Internet provides the traditional forms of commerce communication with an original and independent character. Techno-mediated commerce communication is both a means of interpersonal commerce communication ("one another") and a mass media ("one - many" "many - many," "many - one"), Table 1.

Given approaches to the concepts of the Internet commerce communication, one should provide the basic concepts of this new system: virtual reality, a virtual entity, a virtual image, a network organization, the Internet business, e-business, e-

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<sup>91</sup> Naumik-Gladka K.G. Socio-economic aspects of communication activity in information economy. Monograph. Kharkiv: S.Kuznets KNUE, 2015 – 160 p.

government. For example, the Internet is space, and the subject that is in it, is involved in direct interpersonal communication, exchange of thoughts and feelings with other subjects presented in this space. The term "virtual space" or "virtual reality" appears and it causes economy security problems.

Table 1. Techno-mediated commercial communication

Commerce communication	Technical advices	Security problem level
«one - one»	Internet, telephone, postal	customer to customer
«one - many»	Internet, printed matter, radio channels	customer to business customer to government
«many - many»	Internet, printed books, radio-television	business to business government - business
«many-one»	Internet, telephone, postal services	business to customer government to customer

Source: Compiled by the authors based on [92]

Getting to the network, the subject gets involved in the Internet communication, reporting and information to the network and perceiving it indirectly. The analysis of different forms of commerce communication on the Internet suggests that the Internet, thanks to anonymity, accessibility, invisibility, plurality, security and ease of use creates the conditions for the manipulation of an individual identity, so the security problem arises. In the course of the Internet commerce communication, the construction of virtual personalities becomes possible that may cause Internet offence. Thus, in the system of the Internet commerce communication a virtual entity and a virtual image are some of the perception elements of a man by a man created from the basic categories of social cognition and personal addictions or crime inclination.

W.Dyzard indicates the difference between the new communication technologies involved in business and mass communications, where some signs of the Internet commerce communication can also be seen: decentralization of sources of messaging, an interactive format of distributing information products, consumer control over the content, time and form of obtaining the selected service. The Internet commerce communication could be defined as an interactive (multi) media communication that can provide the necessary information to users at any level of

<sup>92</sup> See 55.

interest and needs, and has no single point of management of renovations. As a result, there is a characteristic of decentralization and the concept of network organization and a problem of global finance security.

The new social structure in the form of a network society is the foundation of the new economy. It could form the direction of management of renovations. According to M. Castells and E. Kiseleva this is a new type of communication, information and global economy. In other words, knowledge and information are key sources of productivity and competitiveness of these two decisive factors in any economy. The information economy is organized around information networks that have no center, and is based on constant interaction between the nodes of the network, no matter whether they are local or global. The constant adaptation to eddy-like changes in the environment in capital, supply and technology is the essence of this game. The only rule is complete absence of rules. If they still exist, they do by using many networks [<sup>93</sup>].

The concept of Intrenet business reveals another defining concept of the Internet commerce communication.

The development of new forms of information transfer on a global scale will certainly entail changes in social processes. Thus, the classical theory of an information society, such as information-technology paradigm of M. Castells explains social system changes under the influence of information technology. Using the social network theory M. Castells makes it possible to consider the Internet communication society model. In its turn, the theory of society of virtualization, discussed in the works of J. Baudrillard, R. Barth, N. Luhmann, helps to determine the source of virtualization in the use of the Internet communication, and explore the category of online communication resources.

M. Castells gives his version of the concept of the new economy — "informational society", through the analogy with the term "industrial society" with the predominance of the idea of the industrial basis of industrial relations. He considers that an industrial society (a usual notion in the sociological tradition) is not an easy society where there is industry, but society where social and technological forms of social organization permeate all spheres of activities, ranging from the dominant ones — in the economic system and in military technology to objects and

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<sup>93</sup> . Castells M., E. Kiseleva. Russia and community network. —«World of Russia» journal, 2000. - № 1. - P. 23-51 // file:///D:/MyDoc/Downloads/rossiya-i-setevoe-obschestvo-analiticheskoe-issledovanie.pdf

practices of everyday life <sup>[94]</sup>. The term "informational society" in the treatment of M. Castells indicates a special sign of social and productive organization in which creation, processing and transmission of information are basic sources of productivity and power because of new technological conditions in the given historical period. The main distinctive characteristics in the communication economy are presented in Table 2.

The new economy is not only characterized by globalization and active integrative processes. A new vector of society transformation is being developed — "virtualization" as a transition of key activities into the virtual space of the Internet. Information and communication are activities carried on-line on a mass scale.

Table 2. Distinctive characteristics of the communications economy

Characteristics	Industrial	Communicational
Types of communication	Interpersonal communication. Mass communication	Internet communication
The degree of openness of information	centralized and selectively classified	Open, distributed
Forms of information resources.	Printed matter. TV products. Radio products	Online resources
The basis of social inequality	The level of knowledge	The level of access to information
The principle of information transfer	Address	Networking
The nature of the production processes	Real	Virtual
characteristic of motivation and transmission	Cognitive consumer; communicative	Playing

Source: Proposed by the authors.

Network relations of production lead to simplification of class relations. This does not eliminate exploitation, social differentiation and social resistance. However, according to M. Castells social classes based on production, in the form in which they existed in the industrial age, cease to exist in the network society <sup>[95]</sup>. Relations of consumption (i.e. culturally meaningful, differentiated appropriation of a product) is determined by the interaction between the relations of production and

<sup>94</sup> . Castells M. Informational era: Economy, society and culture / scientific. Ed. O.I. Shkaratan. – M.: SU HSE, 2000. - 608 p, p. 43

<sup>95</sup> . Castells M. Materials for an exploratory theory of network society. - Brit. J. of. Soc., 2000. - N 51. - P. 5-24.

culture. Implementation of networks in industrial relations results, on the one hand, in the individualization of work and increased differentiation and inequality of consumption. On the other hand, the fragmentation of culture and personalization of positions in industrial relations leads to growing diversity in consumption patterns, life styles. Power relations also undergo changes: the hierarchical principle of organization is replaced by the network. Power relations that continue to exist in a society take a different form: "the power of information flows prevails over the flows of power" [96].

In the information society, as Castells believes, there is a transition from the "Gutenberg Galaxy" to the "Galaxy of McLuhan" [97]. A society, in which television dominates, can be described as a system of mass media. The formation of mass society and the emergence of mass culture was largely because governments and oligopoly of large corporations controlled the new electronic communications technology. However, the most significant change brought to the social life due to the advent of television, consisted in neither centralization nor its potential as a weapon of propaganda or tool of renovation. TV meant, above all, the end of the Gutenberg galaxy domination, i.e. communication systems, in which typographical thinking and phonetic alphabet dominated. In its turn, TV completes a series of sensory perception of the world by a man. TV introduces the practice of an active research approach that includes all feeling at the same time, not one vision. You have to be "with" him or her, in television images projected onto you. You serve screen. Photos are around you. You are the point of extinction. This creates a kind of focus inward, reverse perspective ..." [98].

According to some authors, the logic of network communications becomes dominant, destroys appropriate communication models. The role of traditional social communities in the mass media began to decline. They saved their influence only in those of them who have accepted the logic of the network [99]. According to M. Castells, from the standpoint of modern society, an electronic communication is the inherent communication. With digital network communications, all types of messages in a new kind of society work in a binary mode: presence or absence in

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<sup>96</sup> See 59.

<sup>97</sup> Castells M. Informational era: Economy, society and culture / scientific. Ed. O.I. Shkaratan. - M.: SU HSE, 2000. - 608 p, p. 43

<sup>98</sup> McLuhan M. The medium is the message. - N.Y.: Springer, 1967. - P. 87-89.

<sup>99</sup> Aleksuhin S.I. Formation of new communication communities// [electronic resource] Electronic journal "Investigated in Russia". - 2003. - P. 503-516. - Retrieved from: <http://archive.is/zhurnal.ape.relarn.ru>; <http://archive.is/jVbGR>; <http://scipeople.com/publication/2624/>



the communication multimedia system. All other messages reduced to individual imagination or to subcultures are becoming more and more marginalized, personal contacts dominate there. Nevertheless, this does not mean that the process of homogenization of manifestations of culture and complete mastery over codes from multiple senders occupying the central position takes place. Through diversification, multimodality and instability of the new communications system it is able to embrace and integrate all expressions of interests and values, including the expression of social conflicts" [100]. The cost of the inclusion in the system is the adoption of its logic, language, encoding and decoding i.e. its values.

In the opinion of M. Grachev, recently the scientists have written more and more that humanity is coming in a time when the image of the world created by the media, and especially television, and with the help of the Internet as well, does not largely coincide with reality. New communication technologies create a fundamentally different, previously unknown "global space — time": local, limited space is literal by becoming global and the specific time is getting rather relative, because when and how an event was presented and perceived is more important than when or how it took place or that event was [101]. With the increasing role of the Internet commercial communication in the modern world, many key issues of social and economic development today can be defined in terms of the impact of information and symbolic content taken and transferred to the media industry, translated into everyday life typical conditions in which are perceived by information products recipients.

D. Ivanov insists that in a society where people lay no less and sometimes even more emphasis on images rather than real events, information technology develops through the creation of systems of centralized management and programming of social processes [102]. Accordingly, the use of the media and control over the content of the transmitted messages in the period of transition to an information society is one of compulsory prerequisites for the implementation, maintenance, and, if necessary, the conquest of power. The fact that the Internet

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<sup>100</sup> Castells M. Formation of Network society structures // Postindustrial new wave in the West. Anthology. - M.: Academia, 1999. - S. 494, c. 353

<sup>101</sup> Grachev M.N. Means of communication as a tool to transform the socio-political reality // Bulletin of The Peoples' Friendship University of Russia. - Series: Political science. - 2001. - № 3. - p. 88–103. // [http://grachev62.narod.ru/Grachev/vestnik\\_2001.html](http://grachev62.narod.ru/Grachev/vestnik_2001.html)

<sup>102</sup> Ivanov, D.V., Virtualization of society. Version 2.0. - Spb.: "Peterburhskoe Vostokovedenye", 2002. - p. 224, p. 18 // [http://modernlib.ru/books/ivanov\\_d/virtualizaciya\\_obschestva/read\\_1/](http://modernlib.ru/books/ivanov_d/virtualizaciya_obschestva/read_1/)

commercial communication as creation of images in modern society plays a crucial role is indisputable.

Familiarity with the works of the above researchers suggests that the logic of network communications begins to form the character of all commercial communication processes, including mass communications in economy, despite the fact that the communication network directly included no more than one tenth of the total population. First, it is determined by the fact that the opinion leaders in the oppressive majority already belong to the communities represented in the Network. However, the most important here is not even a formal affiliation with network communities, but the functional dependence of their language, codes, communications organization. It is important to emphasize the effect of increasing the speed of network communications and redundancy of information files. In an era of information explosion of the second half of the XX the century the growth of the velocity and volume of information processes led to the formation of a mosaic culture, postmodern aesthetics, influenced the appearance of the postnonclassical scientific paradigm, the so-called counter-modernism. Now scientists are trying to understand the situation where network information flows literally before our eyes are multiply accelerating and growing. They also predict a qualitative change in all social and economical practices in the near future. In the fields of formation of communication community ideologies, the situation where ideological transformations occur repeatedly in short intervals, changing not only the mental configuration, but also the structure of experience is observed. One can say that the characteristics of communications are not less important than economic and political factors in determining the current economic and social structure and course of changes and renovations.

To renovate the modern economic system in terms of intensive Internet communication increase, the model of the Internet commercial interaction is considered.

Certainly, the model of the modern Internet business proposed by the author [103], can be described by the main elements:  $IT = IB + IC + IM + IO + IU \dots$  where IB is Internet Business; IT is Internet Technology; IM is Internet Marketing; IC is the information component; IO is investment opportunities; IU is the Internet User.

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<sup>103</sup> Naumik-Gładka K.G. Socio-economic aspects of communication activity in information economy. Monograph. Kharkiv: S.Kuznets KNUE, 2015 – 160 p.

However, this model is just a list of part of the elements characterizing the features of electronic commercial communication.

The elements of the communication cycle define the basic elements of the model of the Internet activity and activities determine the areas of self-development of Internet commercial activities (Table 3).

Table 3. The development of Internet activity

Types of activities (psychological approach)	Internet activity (examples)	
	Commercial online activity	Non commercial
Studying	Internet universities	Internet library Supporting resources
Game	Online games	Online games
Labor	Manufacturing demanded an intangible product	
Communication	Internet exchange	Social networks
Management	Programs of distant support, service and influence	E-government

Source: Proposed by the authors.

Given the characteristics of the production cycle of communication products one should note that there are problems in the development of the Internet business that hinder this development and are based on the principles of the main stages of production (Table 4).

The main direction of the modern Internet commercial communication is the contextual advertising mechanism that provides attraction of a lot of small businesses and private entrepreneurs with small budgets ready to spend small amount on customer "cry". There is no marginal cost on this advertising market, advertisers are free to choose how much they are willing to spend a day on Internet advertising and how much to pay for each visitor drawn by the advertisements.

Table 4. Problems of Internet business

Stages of production cycle	Problem	Example and direction of development
Investment, purchase	Safe transfer	Coding of information
Production, processing	The development of technical processing, development of communications services	Options of Internet traffic, the possibility of creating technical services (SWIFT system)
Transportation, storage,	The development of transport	Types of advertising, delivery types,

marketing	and storage infrastructure which provides short-term delivery	contextual and media advertising, delivery express (Nova Pochta)
Purchase, consumption	The development of the financial infrastructure that provides secure payment means the use of tools and competence of consumers	Means of payment Communication products provided by consumers (PayPal)

Source: Proposed by the authors.

Another area of advertising is media advertising with placing the world's largest brands, which are ready to pay a fee for services, for example, raising up their page in the section, additional posting a photo or video on the main page, advertising their blog.

Internet auctions are actively developing projects, allowing individuals and small companies to sell goods over the Net. The core set of services on the auction site used to be free, now agreements are charged a few percent of the amount that is deducted from the user's individual account (the account balance may be negative). An example of such auctions is molotok.ru, ebay, www.AUCTION.

Low consumer activity on the Internet is mainly caused by heterogeneity of Internet communications model elements. Thus, the Internet computer literacy of population is low compared to developed countries; online payments are insufficient and impossible to feel factually.

In practice, there are different aspects of renovating an industry and respectively industry capital reproduction: technical, organizational, economic.

The production and technical aspect of building an industry is treated as the relationship and consistency of production processes, community of resources, which are recycled, and materials, proportion and subordination of all production parts of the industry.

Production of the sector products (works, services) usually involves the implementation of various technological processes of processing (treatment) of resources, pieces of work — information, programs and messages. The process of obtaining the finished products involves some set of influences on feedstock (mechanical, physical, intellectual). That is, the manufacturing process of the communication sphere is a systematic and deliberate change in time and space of quantitative and qualitative characteristics of means of production and labor to

make finished products (communications products, different services) from input resources (raw materials) in accordance with the given program (the goal).

The set of processes of processing (treatment) resources determines the technology of making communication products. The main phases of production of communication products are procuring processing, cleaning (structuring), testing. As a result of exercising these stages the primary resource conversion into finished products - communication product.

Ongoing production processes in subdivisions, which, depending on the size and degree of completion of the process are classified as follows: the primary element of the production process organization of the communication product is a job - part of the production area, where a worker or group of workers are performing special operations for the product or service manufacturing, using appropriate equipment. Groups of workplaces are combined into production departments, where relatively a local part of the production process is carried out — or finished communication product parts are manufactured, or stage of the technological process is carried out. The department - is the primary structural unit of the communication complex. The set of manufacturing processes determines the production structure of the communication complex - a set of basic, support and service units that ensure the process of the system's input into its output — it is a ready communication product.

As a result of production processes, communication product is produced, which has different degrees of standardization: from highly standardized (standardized communication services) to the specific one (advertising).

In the first case, standardized technologies and resources are used. Typically, such industries are characterized by a high degree of automation and mechanization. Manufacturing of special products often include a unique nature of production, highly skilled workers are involved, the production process is slow and less exposed for unification, more sophisticated control systems are applied.

To characterize the industrial and technological structure, the production notions are used — classification category of factors and elements of production, determined by the nomenclature, regularity and scale of production of communication products.

Depending on the degree of standardization and volume of communication products, the following types of production are distinguished (Table 5).

At the present stage of development of the productive forces, the organization of production, harmonization and coordination of individual parts of the sphere of communication is one of the factors determining the efficiency of production and, in fact - the possibility of the communication industry.

The organizational aspect of building complex communication implies the organizational structure, relationships and the relations between the individual structural associations and administrative units of the complex, with central administration possible.

Relations between the individual elements of the communication complex are divided into vertical and horizontal. Horizontal relationships are characterized by coordination and are usually bonds of one level: relationships between competing companies, companies that produce complementary products or substitute products. Vertical relationships are subordination relations; the need for them arises when there are multiple levels of the technological cycle of production, i.e. the communication products production hierarchy.

Table 5. Types of production in the areas of communications

Type of production	Characteristics	Notes
Single-piece production	Development of an individual information and communication project and production of small batches of communication products according to it	The project may be required for the development of a new or high technology product, installation of a new production line. A typical example of such production is advertising
Production of lots	Making batches of communications services or of individual communication services with various specifications according to customer orders	Typically, with this type of production to individual orders small batches of communications products are offered (produced). An example of this is the production of packages of communications provide with an opportunity of individual flexible formation
Serial production	Production, which involves the production of medium volume (series) homogeneous communication products	This type of production includes printing
Mass production	Production of large volumes of standardized products of Communication areas	A typical feature of this production is a high level of standardization of both products and the necessary work, standardized communication services

Source: Proposed by the authors.

While the industrial and technological structure of the communication complex presents the industry trend of resource flows (direction of complete production elements and the sequence of stages of the process), the management structure shows the direction of control actions. Within the structure of communication complex management an appropriate process of state regulation takes place.

The variety of linear and functional relationships that can be established between individual objects, determines the diversity of self-organization structures of the communication complex. The scale and diversification of the production of communication products is of decisive importance. With a low and medium number of business and few linear functions and relations between them, a linear structure is acceptable. With the growth of the communication complex and the increasing complexity of its resource flows, a transformation of its organization into a functional structure becomes necessary. With further increase of production, the functional structure transforms into a network and even a chaotic one.

The following reasons for changing the structure of the branch organization of the communications complex are typical:

- expansion of the functional significance of communications products;
- strengthening of resource flows in the communications sector;
- marketing development;
- organizations of economic security required.

The economic aspect of the mechanism of communication activities development implies a set of activities on planning, organization, accounting and control, motivation (the functional aspect) and a set of material, technical and financial resources to provide them.

It is important to emphasize that the basis of the economic aspect of the mechanism for the development of communication activities is just a set of management techniques. During the production process, the resources are distributed and transformed into finished products of communication. Each element of this sector has its "niche" in the overall communication process: the user chooses from the best alternatives of communication products after the selection criteria (e.g. price — quality).

Therefore, speaking about the economic structurization, the scope of communication activities should be seen as a combination of elements, each of

which influences the final results, being responsible for a particular area of work, for the fulfillment of a production and engineering or management and administration function. In other words, the scope of communication is a set of responsibility centers. Depending on how a particular responsibility center affects the economic performance of the industry, the centers of responsibility may be divided into cost centers and profit centers.

A cost center is a set of types of subsidized production, or dependent production, satellite production, existing as industry elements that perform support and service functions, deliver semiproducts (ancillary services) to profit centers. Depending on manageability, the centers may be those with regulated and partially regulated costs. An example of regulated costs center may be production, of semi-finished products for communications services. Examples of partially regulated costs centers are nature conservation facilities, production of electricity. Commercial and non-profit costs centers can also be selected. Non-profit cost centers are units of socio-cultural and domestic purposes, not focused on profit.

Profit centers are sector elements, which are centers of growth and provide income and increased financial flows. Profit centers and cost centers can be centers of investment, if the profit center is located in the area of growth. In practice responsibility center are divided according to two principles: functional and territorial. The functional principle is used to classify the following costs centers: service — providing services to other centers within the industry; material — responsibility centers engaged in manufacturing and warehousing communications products; production — the main production units, the units involved in direct production; management — providing consulting and outsourcing; sales — performing the intermediary sales function.

The distribution of responsibility centers according to the functional principle complements the distribution on a territorial basis.

The social aspect of the formation and development of an industry is linked to the social effect and is displayed in terms of quality of life. Renovation of any industry demands creation of effective financial control system, which is not possible without creating a common information base, which would save systematized information on the results of inspections of all objects of control of all existing regulatory authorities. This system should simplify the information exchange between supervisory authorities, above all, to avoid duplication of audits



and to enable risk assessment based on the study results of previous inspections. In addition, creating a common information database will provide an opportunity to obtain information not only by regulatory authorities, but also by the public and will decrease the economic threats. Publicity information about inspections increases public trust in government and managers of budget funds and the level of financial security.

The next step to improve the economic control is development of specialized computer program and use it in the controllers' work.

The use of such programs should free up time of controllers to identify risk factors, analyzing the causes of violations and assess the effectiveness of an institution. In addition, the use of specialized computer programs in the state financial control will allow controlling the majority of objects at the same time and during inspections will allow controlling the usage of a continuous method for most operations. Since most of the control objects use a specialized accounting programs, accounting data can even be not entered into the program of controllers and just transfer them.

**Conclusions.** State financial control is carried out by controllers, that is why the result depends a lot on the skills of workers. It is therefore advisable to establish a unified system of training for control. Such a system should also carry out professional skills development, which should affect the provision of next ranking of civil servants. The high level of qualification should be confirmed by the appropriate certificate - a document that would give workers' rights to engage in control activities. This body should also ensure the creation of appropriate literature for carrying out control, design methodology of checks, searching for ways to improve control, research and introduction of international experience in domestic practice of controllers.

An important role in enhancing the effectiveness of the state financial control to ensure an adequate level of financial security in Ukraine and minimize threats belongs to the organization of state controllers' work. Therefore, today the excessive overload of controllers reduces the effectiveness of control, undermining the efficiency and customized nature of inspections, causes inadequate staff motivation and ineffective system of assessment of supervisory departments. It is possible to solve these problems by developing an efficient system of assessment of

departments that would take into account not only the number of the control measures or the amount of money given back into the budget, but also indicators such as the ratio of the amount of returned to the budget funds to the amount of the control measures, the ratio of detected violations the number of internal government auditors involved in checking and other.

The implementation of the above-mentioned measures will bring SFC to a new level that will open the possibility for economic growth of our country and bring the domestic SFC system to SFC system operation as in developed countries. The above measures of SFC improvement can be realized only with the help of appropriate legislation, regulations, and amendments to already existing through the implementation of international standards and European best practices in SFC.

## **Part 3**

# **Challenges and threats to the external-economic security of the state under conditions of structural transformations**

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## **CHALLENGES AND THREATS TO THE FINANCIAL SYSTEM OF UKRAINE UNDER CONDITIONS OF A HYBRID WARFARE**

**Abstract.** *In the article, the analysis of current challenges and threats to the financial security of the state (outside its spheres) under conditions of a hybrid war against Ukraine (2015 - early 2016) was conducted. The authors also elaborated scientific and practical recommendations to develop a new model of financial policy in the fiscal sphere, which would ensure its resistance to internal and external negative influences, allow the country to efficiently generate and rationally use financial resources to meet its needs through the fulfilment of obligations and guaranteeing the socio-economic development of the country. The article covers the analysis of challenges and threats to the financial system of Ukraine and determines the fiscal instruments to stabilize Ukraine's financial system and economic and financial tools to combat hybrid threats.*

**Introduction.** The aggressive Russian actions performed within the hybrid war to exhaust Ukrainian economy and undermine social and political stability are aimed at destroying the state of Ukraine and seizing its territory. These actions are manifested not only in the military aggression, intelligence and subversive and sabotage activities, trade and economic wars and financial pressure, but also in blocking efforts of Ukraine to counter the monopolization of strategic sectors of the national economy by the Russian capital and to eliminate the dependency on monopoly supply of critical raw materials, especially energy resources and so on.

The financial system is a reflection of social and economic processes in the country. It must ensure their positive dynamics and demonstrate the ability to reduce the impact of many challenges and risks that are exacerbated during transformational changes. However, the current state of the financial system of Ukraine is influenced by a number of destructive external and internal challenges i.e. real GDP fall, growth of inflation, maintaining a high level of budget deficit and the national debt and worsening of imbalances in the fiscal and monetary areas.

In these circumstances, it becomes urgent to research problems of providing the financial security and protection of financial interests of the country in monetary and credit, budgetary, fiscal, monetary, banking, etc. areas. The security as such should be characterized by balance, resistance to internal and external negative influences, the ability of the state to effectively form and rationally use financial resources for meeting its needs through the fulfilment of obligations and guaranteeing the functioning and socio-economic development in the context of the hybrid war against Ukraine.

The article aims to identify and analyze the major challenges and threats to the financial security of Ukraine (outside its spheres) and to develop scientific and practical recommendations concerning next steps in creating a new model of financial policy in the fiscal sphere, which would help not only to overcome existing threats, but also prevent the turning of new challenges and risks into the threats to functioning of the financial system of the country. The article covers the analysis of challenges and threats to the financial system of Ukraine under the hybrid war (2015 - early 2016), the definition of fiscal instruments to stabilize the financial system of Ukraine.

The main factors of forming the challenges and threats to the financial system of the state in 2015 were:

- excessive debt burden. For 2015, the amount of the national and publicly guaranteed debt of Ukraine has been growing and as a result, amounted to 1571.8 billion UAH (compared to 1100.8 billion UAH in 2014) including the national debt – 1 333, 9 billion UAH and publicly guaranteed debt – 237.9 billion UAH. In relation to GDP, public and publicly guaranteed debt in 2015 amounted to 79.3 % (70.3 % of GDP in 2014), exceeding the threshold limit of debt burden by 60 % of GDP, stated in the Budget Code of Ukraine [<sup>104</sup>]. Rising debt burden is mainly connected with the exacerbation of monetary and budgetary imbalances. Due to a significant devaluation of the national currency (15.77 UAH/ per 1 USD at the end of 2014 and 24.00 UAH / per 1 USD at the end of December 2015) the denominated in foreign currency share of public and publicly guaranteed debt increased in UAH terms by 470.9 billion UAH, which exacerbated the currency risks of the national debt management.

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<sup>104</sup><http://www.minfin.gov.ua/news/view/statystychni-materialy-shchodo-derzhavnoho-ta-harantovanoho-derzhavoiu-borhu-ukrainy-u--rotsi?category=borg&subcategory=statistichna-informacija-schodo-borgu>

The factors that aggravated the debt burden in 2015 were financing the needs of general government, which was carried out through the issuing of domestic government bonds in exchange for shares of "Naftohaz of Ukraine" (29.7 billion UAH) and "Ukrhasbank" (3.8 billion UAH) – in exchange for bills of individuals deposits guarantee fund (41.5 billion UAH), as well as financing the state budget by means of domestic borrowings (23.9 billion UAH) [105].

To the positive changes in the debt policy of Ukraine should belong the reduction in 2015 of public and publicly guaranteed debt in dollar terms by 4.3 billion dollars (65.5 billion dollars against 69.8 billion dollars at the end of 2014), which took place due to restructuring and writing-off the part of public and publicly guaranteed external debt. International rating agencies (Fitch, Moody's, S & P) after considering the results of the restructuring, revised credit ratings of government securities of Ukraine upwards;

- devaluation of the national currency, as a result of preservation of crisis macroeconomic trends, unfavorable external conjuncture and limited opportunities of the NBU to support the supply on the foreign exchange market. Objective factors that influenced the devaluation of the UAH in 2015 were: declining of export revenues and the decrease in supply of foreign currency on the interbank market, caused by the fall in prices of traditional export goods and devaluation of currencies of most of the partner countries; strengthening of mutual trade barriers in relations with the Russian Federation; preserving the increased demand for the currency on the part of importer-enterprises and population. In its turn, last year the devaluation of the UAH was restrained by: the balance of payments that was achieved for the first time in 10 years; a significant (from 7.5 to 13.3 billion dollars) increase of international reserves due to the program funding on the part of external creditors, primarily the IMF; a positive balance of currency trading at a rate of 1.5 billion dollars;

- negative expectations of the banking market entities caused by narrowing of the resource base of banks, the reduction in volumes of crediting and deterioration of credit quality, unprofitability of financial institutions, aggravation of the problem of banks capitalization, which increase risks of their insolvency. Confidence in the banking system over a period of 2015 has not been restored. Consequently, gradual

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<sup>105</sup> Ministry of Finance of Ukraine on the State Budget of Ukraine for 2015 // Governmental Courier – 02.03.2016 [Electronic resource]. – Retrieved from: <http://ukurier.gov.ua/uk/articles/informaciya-ministerstva-finansiv-ukrayini-08/>

withdrawal of individual deposits from the banking system continued, although this process was considerably slowed down. According to the NBU, the UAH deposits of private individuals in 2015 fell by 7 billion UAH, or 4% (in 2014 – by 53 billion UAH or 21%); foreign currency deposits in 2015 decreased by 5 billion dollars, or 37% (in 2014 – by 9 billion US dollars, or 40%). After facing a reduction in liabilities, banks were forced to continue to curtail lending activities: in 2015, a credit portfolio of legal entities in national currency went down by 76 billion UAH (in 2014 – by 39 billion UAH), in foreign currency – by 4 billion dollars (2014 – by 6 billion dollars). Reduced lending and rising of expenses on forming insurance reserves as a result of the deterioration of the credit portfolio quality resulted in losses of the banking system: losses of Ukrainian banks in 2015 reached 67 billion UAH, which was above the level of 2014 (53 billion UAH). In its turn, the losses of the banking system triggered a significant reduction of its capitalization – regulatory capital of the banks in 2015 decreased by 58 billion dollars, or 31%, against 131 billion UAH;

- the high level of GDP redistribution through the fiscal system. The share of consolidated budget revenues in GDP in 2015 amounted to 32.9 % (against 28.7 % in 2014 and 30.2 % in 2013), which suggested the strengthening of the tax pressure on the national economy to achieve a balanced budget. The high level of a tax burden on economic entities and citizens has a negative impact on the investment climate in the country and complicates bringing the economy on the path of sustainable socio-economic growth.

The share of consolidated budget expenditures in GDP in 2015 slightly increased and amounted to 34.3% (against 33.0% in 2014 and 34.5% in 2013), which had been caused by the need to restore the defense and national security, service the state debt, maintain a high level of state obligation to provide public goods and services. At the end of the first half of 2016, the share of consolidated budget revenues was at the rate of 31.7% of GDP [<sup>106</sup>], and expenditures – 34.4% of GDP. At the same time, it should be noted that the share of GDP redistribution through the

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<sup>106</sup> Included nominal GDP at the level of 2262 billion UAH according to the Decree of the Cabinet of Ministers of Ukraine dated August 5, 2015 №558 "On approval of the Forecast for economic and social development of Ukraine for 2016 and major macroindicators of economic and social development of Ukraine for 2017-2019 [Electronic resource]. – Retrieved from: <http://zakon5.rada.gov.ua/laws/show/558-2015-%D0%BF>

sector of general government in Ukraine is one of the highest among the countries with similar levels of economic development, and in Eastern Europe region [<sup>107</sup>];

-the high state budget deficit. Ukraine's budget deficit in 2015 was reduced to 30.9 billion dollars against 72.0 billion dollars in 2014, or 1.6% of GDP against 4.5% of GDP respectively. Together with the budget funding of "Naftohaz of Ukraine" the deficit was 5.8% of GDP in 2015 against 10.1% of GDP in 2014 [<sup>108</sup>]. The index exceeded the maximum permissible value for European countries by 3% according to the Maastricht criteria, although, it was almost twice lower than the index in 2014. The deficit of the consolidated budget was formed due to the state budget deficit. The State Budget deficit of Ukraine in 2015 decreased to 45.2 billion UAH against 78.1 billion UAH in 2014, or 2.3% of GDP against 4.9% of GDP respectively. The index was mainly formed due to the increase of expenditures on defense and servicing the state debt.

In 2016, the increase of the budget deficit was forecast: its critical scope will be 83.7 billion UAH, or 3.7 % of GDP, that to some extent go beyond the safe limits of economic indicators. At the same time, there are certain risks to achieve it, which is associated with inflation and devaluation processes, financing the Pension Fund of Ukraine, foreign policy challenges and the military threat from Russia, and the results of cooperation with international financial organizations;

- the restriction of business due to imperfections in the tax administration and control. In Ukraine, there remains a significant imbalance of rights and obligations of taxpayers and fiscal authorities, conditioned by the lack of coordination of the tax system tools and selective changes in tax legislation. The procedures for administrative appeal of illegal decisions in this area are ineffective, which resulted in the necessity to create in 2015 two business-ombudsmen – one as part of the business ombudsman Council and the other in the State Fiscal Service of Ukraine [<sup>109</sup>]. According to the annual

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<sup>107</sup> Fiscal Monitor: Acting Now, Acting Together / International Monetary Fund, World Economic and Financial Surveys. – April, 2016, 87-88. Retrieved from <https://www.imf.org/external/pubs/ft/fm/2016/01/fmindex.htm>

<sup>108</sup> Presentation of the Law of Ukraine "On the State Budget of Ukraine for 2016" / Ministry of Finance of Ukraine – 11.01.2016 [Electronic resource]. – Retrieved from: [http://www.minfin.gov.ua/uploads/0/1201-14%20slides\\_budget\\_2016.pdf](http://www.minfin.gov.ua/uploads/0/1201-14%20slides_budget_2016.pdf).

<sup>109</sup> Commissioner for Enterprise / State Fiscal Service of Ukraine [Electronic resource]. – Retrieved from: <http://sfs.gov.ua/pro-sfs-ukraini/-pro-sfs-ukraini-upovnovajenyi-z-pitan-pidpriemnitstv-/taras-kachka/>



- report [<sup>110</sup>], the Council of a business-ombudsman in May 2015 received 585 complaints from companies about the work of state bodies, and it initiated an investigation on the basis of 342 appeals. Most (43% of all complaints of Ukrainian business) of the complaints concerned the work of the bodies of the State Fiscal Service. In the first quarter of 2016, 84 complaints about the work of the SFS were received. Among the most common problems of the tax administration one can determine [<sup>111</sup>]: lack of transparency of e-administration and the delay in the return of VAT budget reimbursement; organizing and conducting tax audits without reasonable grounds, procedural violations in their course and / or taking unjustified decisions according to the results;
- a critical increase of inflation processes. The devaluation of the national currency and rising of administratively regulated prices in 2015 strengthened inflationary expectations, which led to mounting pressure on the budget and increasing the risks in monetary and credit and budgetary sectors. In 2015, consumer prices increased by 43.3%, exceeding the inflation rate in 2014 (24.9 %). High inflation has a damaging impact on the mood of the currency market entities, causing the growing demand for cash and non-cash currency, which is a prerequisite for exchange rate fluctuations. Along with that, the level of interest rates on deposit and credit markets is increasing, which virtually undermines crediting of enterprises of the real economy that have long-term projects. In addition, high inflation causes a considerable reduction of credit period that further "cuts" enterprises of the real sector of the economy off bank credits. Under these conditions, the rise in the prices of housing and utility fees led to the situation that every third household was forced to apply for obtaining subsidies to pay housing and utility services [<sup>112</sup>].

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<sup>110</sup> Annual Report 2015 / Council of a business-ombudsman – 11.04.2016 [Electronic resource]. – Retrieved from: [https://boi.org.ua/media/uploads/annual\\_report\\_2015/annual\\_report\\_boc\\_2015\\_ukr.pdf](https://boi.org.ua/media/uploads/annual_report_2015/annual_report_boc_2015_ukr.pdf)

<sup>111</sup> System report "Problems of tax administration for business in Ukraine" / Council of a business-ombudsman– 30.10.2015 [Electronic resource]. – Retrieved from:

<https://boi.org.ua/publications/reports/6--sistemnij-zvt-problemi-admnstruvannya-podatkv-dly>

<sup>112</sup> On granting subsidies: express-releases of the State Statistics Service of Ukraine. (State Statistics Service of Ukraine) [Electronic resource]. – Retrieved from: <http://www.ukrstat.gov.ua/express/expr2016/02/27pdf.zip>.

- low quality of public social services, while maintaining a significant proportion of social component in the structure of budget expenditures. The proportion of social spending in the structure of the consolidated budget remains high: in 2015, it amounted to 377.8 billion UAH or 55.6% of its expenditure (in 2014 - 59.1 %). The largest share in the structure of social spending in 2015 was the expenditure on social protection and social security (25.9%), education (16.8%) and health care (10.4%). The amount of financed spending on social protection and social security in 2015 was 176.3 billion UAH that was by 38.3 billion UAH or by 27.8% more than in 2014. The volume of their funding in 2016 is planned at the level of 247,0 billion UAH, or 30.8% of consolidated budget expenditures. Thus, the government is trying to ensure the fulfilment of all social functions, but an urgent issue of their fulfilment is the transition from the mechanism of budget maintenance to guaranteeing the social sphere development ;
- growing share of state budget expenditures for the state debt servicing in recent years has created a so-called displacement effect in relation to increasing funding for other items of expenditure, including a social direction. Therefore, in 2014 the cost of servicing the state debt amounted to 48.0 billion UAH or 16.0% of expenditures excluding transfers (299.6 billion UAH), by the end of 2015 under the influence of devaluation, it soared to 84, 5 billion UAH, or 21.0% of state budget (402.9 billion UAH). The Law of Ukraine "On the State Budget of Ukraine for 2016", according to this article, allocated 99.1 billion UAH or 20.4% of total spending (484.6 billion UAH). To direct the fifth part of spending at the state debt servicing is impossible because of the expansion of financing of other important spheres of the state;
- an unreformed pension system causes the preservation of the revenues deficit of the Pension Fund of Ukraine, which is annually compensated by the state budget. In 2015 cash expenditures of the state budget on transmitting transfers to the Pension Fund increased in comparison with 2014 by 19.0 billion UAH, or 25.1 %, and amounted to 94.8 billion UAH (14.0 billion of which was allocated for financing "advance" payment of pensions for January 2016). The budget of the Pension Fund in the current year was relatively balanced thanks to support from the state budget. To ensure the payment of pensions, allowances and increases to pensions

intended by pension programs, and the deficit of the Pension Fund from the state budget, it was planned to direct 144.9 billion dollars, or 56,3% from planned revenues of the Pension fund of Ukraine (257.2 billion of UAH) [<sup>113</sup>], which had decreased due to the fall of the rate of the unified social tax. However, even with such significant financial support, about 5 million people from the existing 12.3 million pensioners in Ukraine or 41.4% receive a pension lower than 1300 UAH [<sup>114</sup>]. The average size of pension payments as of 01/01/2016 p. was 1700.22 UAH, which was by 118.68 UAH or only 7.5% more than in the previous year (1 581.54 UAH) [<sup>115</sup>]. The corresponding figure at the end of the first quarter of 2016 amounted to 1 703.43 UAH [<sup>116</sup>]. The preparation for the gradual introduction of a funded pension system is hampered by low salaries, high level of their shadowing and high levels of unemployment and emigration. Demographic trends in the ratio of workers and pensioners is decreasing across Europe, and now in Ukraine they deteriorated because of military operations in the occupied Donbas. To strengthen the financial sustainability of the national pension system it is crucial to restore economic growth, increase the number of jobs and the volume of wages fund by improving work productivity.

Conclusions. The state policy of fiscal consolidation, implemented in 2015, for the first time in four years made it possible to execute the state budget according to revenues. This provided a reduction in the budget deficit to 2.3 % of GDP from 4.9 % of GDP in 2014. In addition, a good result at the first stage of fiscal decentralization in Ukraine was the increase of local revenues. The tax reform continued in 2015 and 2016. With the aim to unshadow the economy, the load on the wages fund was decreased – the rate charging a unified tax on obligatory state social insurance, the rate for employers was reduced from 41% to an average of 22% and a 3.6%-fee of employees was cancelled. Additional import fee at the rate of 5 and 10%, which had been introduced in 2015 to balance payments, was also cancelled. Today, the

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<sup>113</sup> On Approval the Pension Fund budget of Ukraine for 2016: the Decree of the Cabinet of Ministers of Ukraine, №190 from 03/10/2016 [Electronic resource]. – Retrieved from: <http://zakon5.rada.gov.ua/laws/show/190-2016-%D0%BF>.

<sup>114</sup> Report on work of the Pension Fund of Ukraine in 2015 / Pension Fund of Ukraine – 23.02.2016 [Electronic resource]. – Retrieved from: <http://www.pfu.gov.ua/pfu/doccatalog/document?id=243697>.

<sup>115</sup> Report on the work of the Pension Fund of Ukraine in 2015 / Pension Fund of Ukraine – 23.02.2016 [Electronic resource]. – Retrieved from: <http://www.pfu.gov.ua/pfu/doccatalog/document?id=243697>

<sup>116</sup> Review of the main outcomes of the Pension Fund of Ukraine in January- May 2016 / Pension Fund of Ukraine – 21.06.2016 [Electronic resource]. – Retrieved from: [http://www.pfu.gov.ua/pfu/control/uk/publish/article?art\\_id=257718&cat\\_id=95533](http://www.pfu.gov.ua/pfu/control/uk/publish/article?art_id=257718&cat_id=95533)

domestic tax rates on personal income and profits by 18% are among the most attractive in Europe, and therefore they serve an important prerequisite for attracting foreign investment and creating new jobs.

Some signs of unshadowing the economy are observed. Hence, when lowering the rates of the UST in two times, revenues declined only by quarter. As of 01.06.2016, the amount of revenues from paying a unified tax is 50.6 billion UAH, which is by 19.4 billion UAH or 27.7% less than the corresponding figure in 2015 (70.0 billion of UAH). At the same time, it should be noted that the increase in the wages fund is largely conditioned by the pressure of inflation and devaluation factors of the previous year and the increase of salaries for military personnel.

Next steps towards creating a new model of budget and tax policy focused on solving urgent social problems and forming the financial basis to implement reforms, should be:

- *reduction of the budget deficit and guaranteeing the budget system balance.* The Law of Ukraine "On the State Budget of Ukraine for 2016" approved the critical volume of state budget deficit in the amount of 83.7 billion UAH, or 3.7 % of GDP. The reduction of the budget deficit is an important mechanism to recover the state finances system. In its turn, the adherence to fiscal consolidation will help to reduce the country's debt burden and relieve inflationary pressure, which is important for restoring investor confidence and increasing investment flows;
- *continuation of the reform of fiscal decentralization.* Decentralization has to become a catalyst for the implementation of educational, medical and housing and utility reforms and for improving energy efficiency of the national economy. For its further implementation, such main tasks should be carried out in 2016: to stimulate the process of unification of communities and increase their capacity; provide clear division of authority and responsibility at different levels of local government (community, city, district, region), particularly in education and health care; do mass-explanatory work among communities, which plan to unite, and provide technical support to communities that are already united;
- *strict adherence to budget and tax legislation.* In recent years, the terms to amend the budget and tax legislation with the aim to comply with the current fiscal balance have been systematically violated. According to paragraphs 4.1.9. p. 4.1 Article 4 of the Tax Code of Ukraine, changes to any

element of taxes and dues cannot be made later than six months before the beginning of the new fiscal period, i.e. by 1 July. In addition, each year the norms of the Budget Code of Ukraine that concern terms of drafting the project of budget and making amendments to financial estimates of the country are violated. Such delays with approving the budget and tax changes during the budget period and before the new budget year cause the violation of terms for preparing the normative acts and lead to numerous technical errors and inconsistencies. The practice that prevails has negative impact on the expectations of business and investors. In order to strengthen the financial security all budget and tax changes must be made in compliance with the principle of stability of law in accordance with prescribed rules;

- *improving the efficiency of tax mechanisms to stimulate socio-economic development*; the effectiveness of the mechanisms is hampered by the complexity of the tax administration and certain institutional problems. Tax instruments and mechanisms must ensure the effect of unshadowing of the economy, an expansion of investment and a renewal of the innovation process, creation of new workplaces, an increase of the export potential of Ukraine in order to enhance exchange rate stability. For this purpose, it is advisable to take a series of next steps:

*To improve tax administration.* In order to save taxpayers time and optimize flow of documents, it is necessary to further simplify the procedures for drawing up basic documents, tax returns and declarations. Particularly promising is the coordination of bases of a unified social tax, individuals' income tax and military fee for ensuring the submission of a single reporting and payment by the total amount. Along with the simplification of the VAT declaration, it is urgent to improve the system of electronic administration of VAT with the creation of a single register of applications for the return of budget refund instead of two existing ones. A small business, especially, needs the reduction of the cost and simplification of the maintenance of payment transactions recorders (cash registers). For a long time, next thing on the agenda has been the necessity to assess the effectiveness of tax benefits by people.

*To resist reduction of the tax base and moving profits abroad to protect the economic interests of the state.* Worldwide experience confirms that one of the most effective tools of deoffshorization is the control of transfer pricing. According

to the tax declaration of corporate income tax for 2015, 121 taxpayers individually adjusted amounts of tax liabilities in accordance with transfer pricing. The financial result before the taxation process was increased by the total amount of over 913.9 million UAH. In particular, the financial result before taxation in transactions of the sale of goods (services) was increased by 613.6 million UAH, in the purchasing of goods (services) – by 300.1 million UAH. Taking into account adjustments conducted independently by taxpayers, the amount of tax liabilities for paying corporate income tax increased by 164.5 million UAH.

It is necessary to intensify work as to attracting and full usage of the resources of international financial assistance to improve logistics and professional level of the staff of appropriate departments of SFS on TP control.

It is reasonable for Ukraine to gradually implement the recommendations of the Global Initiative BEPS [<sup>117</sup>] under the auspices of the OECD and "G 20", including the introduction of a three-tier format report on controlled operation. Other steps can be the conducting of zero declaration, liberalization of rules to perform foreign economic operations, the introduction of income taxation of controlled foreign companies while establishing automatic exchange of tax information with other countries;

*To strengthen the institutional capacity of the State Fiscal Service.* The Ministry of Finance of Ukraine in cooperation with international experts in July 2015 approved the Plan of institutional changes of the State Fiscal Service of Ukraine, which predicts its transformation from a punitive body into customer service. To implement it, the structural reorganization of the SFS took place, including optimization of regional authorities and reduction of staff. The plan also includes: the review of the efficiency of the SFS management; the evaluation by a private expert organization the degree of its corruption; development and implementation of efficiency performance indicators of the SFS on the basis of the analysis of foreign methods of assessment and taking into account international practices generalized by IMF [<sup>118</sup>], the OECD [<sup>119</sup>], the World Bank and others.

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<sup>117</sup> BEPS 2015 Final Reports / OECD, Centre for Tax Policy and Administration [Electronic resource]. – Retrieved from: <http://www.oecd.org/ctp/beps-2015-final-reports.htm>

<sup>118</sup> Crandall W. Revenue Administration: Performance Measurement in Tax Administration / William Crandall // International Monetary Fund, Fiscal Affairs Department. – June, 2010. – Retrieved from: <https://www.imf.org/external/pubs/ft/tnm/2010/tnm1011.pdf>

<sup>119</sup> Tax Administration 2015: Comparative Information on OECD and Other Advanced and Emerging Economies / OECD. – Paris, 2015. – Retrieved from: <http://www.oecd.org/ctp/administration/tax-administration-23077727.htm>

However, it is also advisable to take measures to: increase transparency and accountability of the SFS for public control; improve the quality of providing administrative services and tax consultations in service centers for taxpayers; improve the risk-based system for tax control; strengthen the responsibility of the SFS employees for the losses incurred by taxpayers because of their illegal actions or inactivity; improve the measures to prevent and combat corruption in the SFS and its regional bodies, including of legal, organizational, administrative and preventive character; improve administrative appeal procedures; abandon the punitive model of fiscal control, eliminate overlapping functions of various law enforcement agencies and strengthen the analytical component to investigate economic crimes.

Institutional changes should provide the system work concerning prevention, detection, comprehensive investigation and collection of funds to the budget. Along with that, the activity of the SFS should be aimed at the destruction of criminal financial schemes and reducing the pressure on law-abiding businesses. The imbalance between the right of finance inspectors and taxpayers must be redressed. The result of the joint efforts of the state and taxpayers will be a noticeable improvement of tax culture in Ukraine;

*To develop information and technical support for the State Fiscal Service.* It is important to implement in the SFS work tax tools and mechanisms that will technically prevent from tax evading, reduce risks, or at least make it economically unfavorable. In Ukraine, for several years, an electronic system for making reports and customs declarations has been employed. The target of the reform in this area should be the automation of a maximum number of working processes, procedures and registers in the SFS work both inside and while interacting with taxpayers. Appropriate work, modernization and expansion of functionality of "Electronic office of the taxpayer" have to improve interactions with taxpayers. In the context of globalization, the importance to establish an international cooperation, particularly intensification of the exchange of tax information is increasing. In establishing a unified system of electronic documents flow among central government bodies, it is reasonable to use the experience of successful implementation of an appropriate software at the Presidential Administration of Ukraine [120], which provided a noticeable acceleration of working papers processing;

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<sup>120</sup> Electronic Document Management System. [Electronic resource]. – Retrieved from: <http://sed.reforms.in.ua/basic-page/pro-sed>



- strengthening the fight against smuggling and customs violations. More than a third of the total revenues of the State Fiscal Service of Ukraine to consolidated budget (587.1 billion UAH in 2015) is formed at the expense of customs revenues. In 2015, they amounted to 202.3 billion UAH, which is by 66.6 billion UAH or 49.1% more than in 2014. In 2015, customs made 17,808 reports on violations of customs rules in the sum of over 1.8 billion UAH. As a result of proceedings, the sum of imposed fines and confiscated goods was 2.3 billion UAH, which was 6 times more than in 2014. For 4 months of 2016, customs of the SFS has compiled 7,093 reports in the amount of almost 637 million UAH, also they imposed fines and confiscated goods in the amount of 555 million UAH, almost twice more than for 4 months of 2015. The indicators are the result of an effective fight against corruption, smuggling, and an illegal movement across the border of prohibited goods and other violations of law. Smuggling is one of the biggest challenges for fiscal services. The activity of border or fiscal services it is not enough to solve this problem completely. To combat customs offenses effectively, it is necessary to unite the efforts of all authorities, particularly law enforcement and local government;
- modernization of customs. The Agreement of Ukraine on Association with the EU presupposes implementation of several provisions in the customs area. Establishment of authorized economic operator institution will accelerate customs procedures and simplify formalities. Ukraine's joining the NCTS (New Computerized Transit System, all-European computerized system to manage transit cargoes) will considerably speed up customs procedures, ensure efficient resistance to smuggling and, in general, promote the development of trade and economic relations between Ukraine and the EU. Other important tasks for improvement the customs system of Ukraine are the simplification of customs procedures, computerization of services, improvement in the system of risk analysis, the full launch of the "Single window", development of infrastructure, minimizing the risk of corruption and so on. For the development of customs, the pursuit of international cooperation with the implementation of best experiences is important. The best experiences are as follows setting automatic exchange of information with customs authorities of foreign countries, spreading an integrated border management at all



border crossing points and establishing the position of customs attaché. To speed up the turnover of goods, inspectors' attention should be shifted from the process of goods crossing the border to customs and tax office post-audit.

- improving the efficiency of budget funds usage through the development and adoption of social standards. An important step in ensuring an efficient use of budget funds is elaboration of field methods to calculate the cost of social services and their content for all sectors (education, health, etc.), which will help to identify the monetary equivalent of a provided services and also its content. Adoption of social standards will allow optimizing the number and structure of budgetary institutions and ensuring efficiency of budget planning and budget usage at all levels;
- establishing an efficient mechanism of verification (authentication of data) by creating a single centralized database of recipients of social benefits, pensions and allowances from the state, which should ensure the efficiency of social protection and security of citizens. An analytical and information system of electronic verification and monitoring should guarantee an effective fight against abuse and fraud, particularly, detect "dead souls" among the recipients of social benefits. This will ensure better expenditure planning and efficient control over the proper use of public funds. At the same time, the verification of eligibility will help to enhance justice in gaining social assistance and improve its targeting in favor of the needy. At the beginning of June 2016, the government issued some recommendations to stop payments to 514 thousand of people in the amount of 8.9 billion UAH per year. The fiscal effect of physical verification of payments to internally displaced people through the Savings Bank provided the actual saving of 1.1 billion UAH. According to preliminary estimates of the Ministry of Finance, verification will allow saving on budget expenses of about 5 billion UAH;
- improvement of state strategic planning by developing medium-term budget forecasting and planning. The introduction of the medium-term budget forecasting and planning and the system of strategic planning is an important task of reforming state finances. Changes should be focused on development of a program-target method of budget planning and improving budgetary discipline and financial control and the

- implementation of a three-year fiscal declaration and strategic plans of the ministries (within the limit amounts of medium-term budget) including the review of the existing system of state target programs on the basis of state planning and forecasting. At the same time, the importance of the medium-term planning is increasing in the process of fiscal decentralization. Building a clear hierarchy of strategic planning from macro- to microeconomic level will help to move away from the practice of making situational decisions and improve the predictability of budget policy and thus contribute to the formation of rational expectations of citizens and business in the process of management;
- guaranteeing transparency in the sphere of state finances. With the adoption of the Law of Ukraine "On the open use of public funds » №183-VIII from 11.02.2015, the long process of accountability and transparency of public finance for citizens began. Electronic services are designed to facilitate this process. The Ministry of Finance of Ukraine has to continue implementing the project "Transparent budget" that presupposes the creation of information and analytical systems to provide a new level of control in the state finance sphere. It is expected that its implementation will contribute to budget literacy and citizens' awareness of the budget process; openness of the process of preparation, adoption and implementation of the budget; accessibility, quality, efficiency and rates of informing people about public funds; efficient use of public funds; investment attractiveness of the state at the expense of a more open policy. This will create conditions for public debate, ensuring the right of citizens to information and participation in decision-making; strengthen public control over drafting, execution of public funds and reporting about them; reduce the likelihood of abuses and corruption at all stages of planning and using of public funds [<sup>121</sup>]. On the success of this project will depend Ukraine's rating according to Open Budget Index of International Budget Partnership, including the rate of public participation in the budget process.

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<sup>121</sup> Cabinet of Ministers of Ukraine "On approval of the concept of an integrated information and analytical system "Transparent Budget" from 11.02.2016 №92. [Electronic resource] – Retrieved from: <http://zakon5.rada.gov.ua/laws/show/92-2016-%D1%80>

To optimize processes of transparency in the state finance sphere, it is necessary to consider the possibility of automatic data entry to the portal "E-date" from accounting systems of the Treasury, because the data are already collected there. Independent data entry by administrators of budget money creates an additional burden for accountants of the public finance sector. Within the framework of the project "Transparent budget", data integration of "E-date" and ProZorro is promising, because it gives the possibility to see the appropriate procurement of goods, works and services along with the transaction of budget spending. It is important for people to observe the results of implementing the budget programs: expenses, product, efficiency and quality (so-called KPI). In order to ensure efficient and targeted usage of budgetary funds and strengthen budget discipline, it is advisable to encourage public authorities and society make greater use of the portal of transparent public finances "E-date";

- improving the efficiency of the state financial control. From 2012 to 2014, the authorities of the State financial inspection of Ukraine has annually taken the control of the average 735.5 billion UAH of financial and material resources. In 2015, this figure slightly increased – the use of resources in the amount of 754.3 billion UAH was tested. Corresponding figure increased almost in 3.9 times – from 53.8 million in 2012 to 208.8 million UAH in 2015 per one tested object [<sup>122</sup>]. During the first quarter of 2016, 673 control measures, including the 448 planned, were conducted. Particularly, in 548 companies, institutions and organizations there were detected violations that had led to the loss of financial and material resources, in the total amount of 623.5 million UAH, including the use of state resources – 418.2 million UAH and communal resources – in the amount of 184.8 million UAH. An important requirement of building a unified system of state financial control is the creation of a corresponding automated information and analytical system on the basis of modern technology and taking into account European standards.

It is also important for budget and tax instruments, which stabilize the financial system and restore economic development to be systematically coordinated with other tools of reforms. Successful reforms will definitely have a beneficial effect on the performance of the budget.

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<sup>122</sup> Report on the results of work of the State Financial Inspection of Ukraine and its territorial bodies for 2015 [Electronic resource]. – Retrieved from: <http://www.dkrs.gov.ua/kru/uk/publish/article/122325>

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## **EXTERNAL ECONOMIC SECURITY OF COOPERATION IN THE REAL SECTOR OF THE ECONOMY OF THE REGIONS OF UKRAINE AND THE PEOPLE'S REPUBLIC OF CHINA**

**Abstract.** *The article provides the external economic security analysis according to the integral index in the context of development of Ukrainian coastal regions trade with the People's Republic of China. The basic factors of the foreign trade security on the regional level have been analyzed; measures of its reinforcement in conditions of more intensive interregional cooperation have been proposed, the ways of development of the integral index evaluation methods in combination with evaluation of security of the cooperation with a particular foreign trade partner have been proposed.*

**Introduction.** In the processes of global economic integration of the external economic component trans-regional, trans-border and interregional cooperation is an important factor of development and economic security of the country and its regions. An active implementation of interregional cooperation as a spatial-structural form of international economic relations is necessary for overcoming interregional disproportions and access of domestic manufacturers to foreign markets, strengthening competitiveness as the basis for economic security of the country. Acceleration of the integration processes requires providing conceptual background to the existing forms of trans-border and interregional cooperation with not only the countries of the European Union and Western Europe, but also with Eastern partners, in the first place with the leader of this region, the People's Republic of China. Further increase in the role of the external economic component of the regional economic security highlights the need of improvement the methods of assessment and identifying the areas of strengthening.

The purpose of the article is the assessment of the external economic security level of the coastal regions of Ukraine in the context of interregional cooperation of

the coastal regions of Ukraine and China, identification of measures to expand this cooperation and substantiation of the necessity to upgrade the forms and methods of cooperation on the basis of the coastal regions. In the course of this research a number of the regional external economic security indicators have been used, their characteristic meanings and weight ratios have been established, assessment of the external economic security level of the coastal regions of Ukraine in accordance with the integral index has been provided and the ways to improve the methods of evaluation of security of the cooperation with a particular foreign trade partner have been proposed on the basis of cooperation with China.

Regional comparative studies and design of interregional communication patterns at different levels of contemporary international relations is a promising direction of research in the world economic science and political science. Theoretical and conceptual foundations of the interregionality have been researched by such European and American scientists as J. Gibson, B. Hettne, R. Roloff, J. Rüländ, H. Hänggi. Asian, in particular, Chinese researchers, who dealt with this issue, are Zhou Yuijyuan, Chen Zhimin, Sun Vei Sin, Hen-sok Jui. The relations between geopolitics, geoeconomics and interregional cooperation development or interspatial confrontation were researched by a Ukrainian scholar T. Starobud-Pidberezna. General theoretic aspects of interregional cooperation as a factor of economic security are the subject of research of I. Babets, while the influence of interregional collaboration on the security of cooperation of Ukraine with particular foreign economic partners was researched by V. Voloshyn, T. Vasylytsiv, A. Mikula, B. Borshchevskiy, V. Zasadko, Yu. Mishchenko, Yu. Makohon. Economic security of the country or its individual regions, its connection with the foreign economic constituent was researched by A. Mokiy, V. Velychko, V. Levkivskiy, R. Enverov, Ya. Zhalilo.

This increased interest in the issues of regional cooperation and interregional cooperation proves prospectiveness of the research of the topics related to this aspect of foreign economic and political development of Ukraine and meets its strategic course to join the interregional economic and political structures. Despite the considerable number of works on this subject, interregional cooperation of Ukraine, particularly in the context of cooperation with the countries of Southeast Asia, is still insufficiently covered, especially in terms of its impact on the economic security of the state and its individual regions.

China is the leading trade partner of Ukraine in Asia, one of the undisputed global economic and political leaders and active participant in global networks, the impact of which will continue to grow. In 2014 the total turnover between Ukraine and China (excluding services) reached the amount of 8.08 bn. US doll., which makes up 27.75 % of the total trade of Ukraine with Asian countries (15.02 % of Ukrainian exports to Asia, 47.73 % of the imports from Asia to Ukraine). This is 60% more than the total turnover with Turkey (4.86 bn. US doll. in 2014.), which goes the second among Asian partners of Ukraine. The amounts of trade between Ukraine and China are constantly increasing with definite tendency to expansion of the total turnover. During the period from 2001 to 2014, the amount of the overall trade of Ukraine and China (services excluded) increased from 0.68 to 8.08 bn. US doll. (the average annual growth of the external commodities turnover being 25.1 %), exports increased from 0.48 to 2.67 bn. US doll. (the average exports growth being 22.43 %) and imports increased from 0.2 to 5.41 bn. US doll. (the average imports growth being 39,17 %) <sup>123 124</sup>.

The dynamics of development of trade relations between Ukraine and China have not only positive consequences, there are trends threatening the security of the domestic economy. These trends include: (1) negative balance of the foreign trade with China, which is faster than the imports from China; (2) threatening changes in the commodity nomenclature of foreign trade, China actively exports to Ukraine the products the import of which was important for the country before; (3) the competition in the steel market and the market of weapons – traditional Ukrainian markets; (4) the increase in the share of exports to China of food products whose production is harmful to the environment, and economic security of Ukraine <sup>125 126</sup>.

Under such circumstances, the priority for the Ukrainian side should be overcoming the existing negative aspects of cooperation with China, avoiding fierce competition and developing mutually beneficial areas of cooperation. The coastal regions which are called "gate of the nation to the outside world" are of particular

<sup>123</sup> State Statistics Service of Ukraine. [Electronic resource]. - Access: <http://www.ukrstat.gov.ua>.

<sup>124</sup> Trade statistics for international business development [Electronic resource]. - Access: <http://www.trademap.org>.

<sup>125</sup> Mokij, A.I. & Fleychuk, M. I. & Yaremko, L. A. (2006). People's Republic of China partnership with Ukraine in context of intensification of European integration process]. Lviv Academy of Commerce, Lviv.

<sup>126</sup> Levkivsky, M.V. (2013). Economic cooperation between Ukraine and China in the international economic security context. Herald of Khmelnytskyi national University: collection of scientific works. Economic science, vol. 2, 95-103.

importance in this context. Due to their geographical location and developed transport infrastructure they are close to important economic flows: export, import and transit. The significant length of the coastline of China, the export orientation of the Chinese economy and its growing dependence on foreign trade, primarily importing raw materials, active development of industries related to marine activities: all these circumstances determine the importance of the "marine" factor among the factors of the rise of China as a great power<sup>127</sup>. Thus, the major components of domestic development policy in cooperation with China have to be such activities that use the potential of coastal regions.

The coastal regions include the units of the administrative structure of Ukraine, which have direct access to the sea and the sea ports. They include: the Autonomous Republic of Crimea; the special status city of Sevastopol; Donetsk Region; Zaporizhia Region; Mykolayiv Region; Odessa Region; Kherson Region.

The existing state of interaction between these regions and China can be analysed, having examined the dynamics of absolute indicators of the foreign trade (Tables. 1-3).

Table 1. Absolute indicators of the foreign trade between the coastal regions of Ukraine and China in 2006–2014, bn. US doll.

Indicator/years	2006	2007	2008	2009	2010	2011	2012	2013	2014
Export	0.1	0.06	0.05	0.69	0.14	0.09	0.12	0.24	0.15
Import	1.01	1.31	2.48	1.09	1.84	2.18	2.65	2.41	0.88
Foreign trade turnover	1.11	1.37	2.53	1.78	1.98	2.27	2.77	2.65	1.03
Balance	-0,91	-1,25	-2,43	-0,4	-1,7	-2,09	-2,53	-2,17	-0,73

Source: Based on the data: <sup>128</sup>

Table 2. Share of individual regional groups of Ukraine in the export of the goods to China, 2006–2014, %

Region name	Years								
	2006	2007	2008	2009	2010	2011	2012	2013	2014
Border	53.37	33.5	12.06	14.19	10.29	12.14	10.68	23.94	28.71
Continental (internal)	28.07	52.52	78.73	31.29	78.75	83.68	82.35	67.42	65.59

<sup>127</sup> Li Guanqun (2011). Strategija «nitki žemčuga» v kontekste morskoj politiki KNR [“String of pearl” strategy in the context of PLC sea policy]. Herald of Moscow national University: Foreign relations and international policy, vol. 4, 162-174.

<sup>128</sup> State Statistics Service of Ukraine. [Electronic resource]. – Retrieved from: <http://www.ukrstat.gov.ua>.

Coastal*	18.55	13.98	9.21	54.52	10.97	4.18	6.98	8.64	5.7
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\* – indicators of 2014 have been compiled excluding unavailable data from the Autonomous Republic of Crimea and Sevastopol.

Source: Based on the data: <sup>129</sup>

The analysis of the data shown in the tables, suggests that coastal regions do not have the proper degree of importance in cooperation with China. Thus, in 2014, the amount of trade of the coastal regions with China comprised only 0.15 bn. US doll. (5.7 % of the total commodity exports amount) and 0.88 bn. US doll. (16.43 % of commodity imports). For the recent couple of years, the dynamics of foreign trade has been constantly changing in different ways, while the trade balance remains negative. Taken the comprehensive potential of coastal regions and growing need of China to import resources, the volume of such trade cannot be considered satisfactory.

Table 3. Share of individual regional groups of Ukraine in the import of the goods to China, 2006–2014, %

Region name	Years								
	2006	2007	2008	2009	2010	2011	2012	2013	2014
Border	43.5	84.3	41.89	47.84	48.24	49.94	54.07	57.56	69.63
Continental (internal)	12.8	4.13	13.37	11.89	12.1	15.09	12.14	11.83	13.94
Coastal *	43.71	11.57	44.74	40.27	39.66	34.96	33.79	30.61	16.43

Indicators of 2014 have been compiled excluding unavailable data from the Autonomous Republic of Crimea and Sevastopol.

Source: Based on the data: <sup>130</sup>

The analysis of the system of Ukrainian-Chinese economic cooperation on the regional level must be implemented first of all taking into account hazards to foreign economic security. Being aware of the hazards and development of measures for their minimization allows increasing the efficiency of cooperation with this partner, improving international competitiveness of domestic producers and strengthening foreign economic security of both specific administrative units and the country as a whole.

In accordance with the order of the Ministry of Economic Development and Trade of Ukraine "On approval of methodology for calculation of economic security

<sup>129</sup> See 128.

<sup>130</sup> See 128



of Ukraine" the integral index of the external economic safety of the country includes a number of macroeconomic, trade indices and indicators<sup>131</sup>. At the same time the officially confirmed methods do not provide for the assessment of the external economic security level of individual regions. Another drawback is employment of exclusively quantitative characteristics, with no consideration of qualitative parameters of foreign trade<sup>132</sup>. On this basis, to determine the level of the external economic security of the region, the following indicators of the Ministry of Economic Development should be used: (1) ratio of the export coverage with import; (2) share of high-tech products in the total exports (imports) of the region; (3) proportion of raw materials and low level of processing industrial exports in the total commodity exports. In order to determine the efficiency and security of economic relations with a particular trade partner (in our case with China) the integral index should also include the indicators, which display the degree of trade links with this partner alone, specifically, the index of foreign trade complementarities, the returning index of complementarity and the index of exports similarity<sup>133</sup>.

The marginal index of the said indicators as well as their weight coefficient of the integral index calculation, have been determined by the author, with the view of the Ministry of Economic Development recommendations, the experience of the previous research, expert assessments as well as taking into account the average meanings of these indicators, determined with one's own calculations.

Table 4. Threshold values and weighing coefficients of the regional external economic security indicators

No.	Indicator	Quality of influence on the level of security	Threshold value, $X_{opt}$	Weighing coefficient, $ai$
1	Ratio of the export coverage with import, times	incentive	at least 1	0.129

<sup>131</sup> Ministry of economic development and trade decree №1277 (10.29.2013) "Concerning the assertion of methods of Ukraine's economic security level estimation". [Electronic resource]. - Access: <http://www.me.gov.ua/Documents/List?lang=uk-UA&tag=MetodichniRekomendatsii>.

<sup>132</sup> Babets, I. G. (2011). Evaluating the level of external economic security of Ukraine's regions]. Journal "Ekonomika ta derzhava" a special journal in Ukraine on economy, 4, 24-26.

<sup>133</sup> Mikic M.& Gilbert J. (2007). "Trade Statistics In Policymaking - A Handbook Of Commonly Used Trade Indices And Indicators" : Studies in trade and investment, United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) [Electronic resource]. - Access: [http://artnet.unescap.org/artnet\\_app/Handbook2.pdf](http://artnet.unescap.org/artnet_app/Handbook2.pdf).

2	Share of high-tech products in commodity exports, %	incentive	at least 15%	0.148
3	Share of high-tech products in commodity imports, %	disincentive	not more than 20%	0.169
4	Proportion of raw materials and low level of processing industrial exports in the total commodity exports, %	disincentive	not more than 20%	0.091
5	Index of exports complementarity, times	incentive	at least 45	0.136
6	Index of imports complementarity, times	disincentive	not more than 50	0.168
7	Index of exports similarity, times	disincentive	not more than 40	0,159

Source: Based on the data: <sup>134</sup>, <sup>135</sup>, <sup>136</sup>, <sup>137</sup>.

These indicators are calculated in accordance with the data of international organizations, state and regional offices of statistics on foreign trade and innovation, with their normalization afterwards, i.e. conversion to the scale of measurements, where the "best" indicator corresponds to 1, and the "worst" one corresponds to 0. At the same time, with the purpose of providing a similar informational focus of indicators, we shall distribute them into incentive and disincentive ones. The normalized values of incentive indicators are calculated as the ratio of the static indicator value and the marginal one.

$$z_i = \frac{x_i}{x_{opt}}, \quad (1)$$

where  $x_i$  means the indicator value, calculated in accordance with the regional statistic data;  $x_{opt}$  means the marginal indicator value.

The opposite ratio is used for disincentive indicators: the marginal meaning of an indicator shall be divided by the static meaning of this indicator. In both cases the normalized indicator shall be accepted as being equal to 1, if the static indicator meaning equals to the optimal one.

<sup>134</sup> State Statistics Service of Ukraine. [Electronic resource]. - Access: <http://www.ukrstat.gov.ua>.

<sup>135</sup> Babets, I. G. (2011). Evaluating the level of external economic security of Ukraine's regions]. Journal "Ekonomika ta derzhava" a special journal in Ukraine on economy, 4, 24-26.

<sup>136</sup> Mikic M.& Gilbert J. (2007). "Trade Statistics In Policymaking - A Handbook Of Commonly Used Trade Indices And Indicators" : Studies in trade and investment, United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) [Electronic resource]. - Access: [http://artnet.unescap.org/artnet\\_app/Handbook2.pdf](http://artnet.unescap.org/artnet_app/Handbook2.pdf).

<sup>137</sup> Ministry of economic development and trade decree №1277 (10.29.2013) "Concerning the assertion of methods of Ukraine's economic security level estimation". [Electronic resource]. - Access: <http://www.me.gov.ua/Documents/List?lang=uk-UA&tag=MetodichniRekomendatsii>.

The integral index of regional external economic security shall be calculated as:

$$I_{EEsec} = \sum_{i=1}^b a_i \times z_i, \quad (2)$$

where  $a_i$  means weight coefficients, which determine the degree of the input of  $i$ -indicator into the integral index of regional external economic security;  $z_i$  means normalized values of all input indicators  $x_i$ .

The results of calculation of the integral index of regional external economic security of the coastal regions of Ukraine with the view of the trade links with a particular economic partner, as exemplified by China, for the period from 2012 to 2013 are represented in Table 5.

The indicators of the integral index of regional external economic security of the trade of the coastal regions of Ukraine and China from 2012 to 2014 mean that there is a considerable discrepancy between the security levels of particular regions. Thus, the highest level of security is observed in Zaporizhia and Donetsk regions. The low security level of Kherson, Mykolayiv and Odessa regions proves the presence of considerable hazards to economic security in the trade with China. Thus, these three regions have a rather high proportion of the raw materials exports and a low index of trade complementarity with China. The most troubling indicators, common to all coastal regions include the low ratio of the export coverage with import, an excessively high share of high-tech products in the importing regions, an insufficient level of complementarity of Ukrainian exports to China. The positive trends include the low degree of Ukrainian exports similarity to the Chinese ones, which evidences that these countries, move away from direct competition on foreign markets and their export portfolios are becoming less similar.

Table 5. Normalized indicator values and integral index of external economic security of the trade of coastal regions of Ukraine and China, from 2012 to 2014

No.	Indicator/region	Coastal (5 regions)			Donetsk			Zaporizhia			Mykolayiv			Odesa			Kherson		
		2012	2013	2014	2012	2013	2014	2012	2013	2014	2012	2013	2014	2012	2013	2014	2012	2013	2014
1	Ratio of the export coverage with import, times	0.039	0.102	0.172	1	0.045	0.044	0.205	1	0.592	0.123	0.046	1	0.011	0.026	0.03	0.001	0	0
2	Share of high-tech products in the exports of goods, %	1	1	1	0.97	0.84	0.4	1	1	1	1	1	1	1	1	1	1	1	0.66
3	Share of high-tech products in the imports of goods, %	0,67	1	1	0.86	1	1	0.59	0.6	0.79	0.5	0.47	0.7	0.63	1	1	0.45	0.47	0.78
4	Proportion of raw materials and low degree of processing industrial exports in the total exports of goods, %	1	1	1	1	1	1	1	1	1	0.34	0.35	0.34	0.5	0.45	0.35	0.31	0.33	0.26
5	Index of the exports complementarity, times	0.97	0.98	0,83	0.87	0.81	0.58	1	1	1	0.69	0.63	0.67	0.86	0.75	0.67	0.9	0.78	0.55
6	Index of the imports complementarity, times	0.82	1	1	1	1	1	0.92	0.92	1	0.96	0.95	1	0.7	1	0.99	0.74	0.74	1
7	Index of the exports similarity, times	1	1	1	1	1	1	0.78	0.74	0.92	1	1	1	1	1	1	1	1	1
8	Integral index of external economic security ( $I_{EEsec}$ )	0.786	0.881	0.87	0.954	0.827	0.731	0.78	0.878	0.899	0.693	0.669	0.844	0.695	0.79	0.769	0.658	0.647	0.655

Source: Calculated by the authors based on the data: <sup>138</sup><sup>138</sup> State Statistics Service of Ukraine. [Electronic resource]. – Retrieved from: <http://www.ukrstat.gov.ua>.

**Conclusions.** The analysis of the foreign trade of the coastal regions of Ukraine and China proves the necessity of upgrading the existing forms of interregional cooperation and counteraction to hazards for economic security. The assessment of the external economic security degree of the coastal regions of Ukraine helped to identify the regions with insecure and normal state of the external economic security in the trade with China. Intensification of the critical state of the external economic security in particular regions is conditioned by the growth of technological dependency and worsening of the export structure as a result of the growth of the raw material proportion and the low degree of processing goods, the decrease of the high-tech products share and the low level of the exports complementarities. Under these circumstances, it is advisable for the governmental bodies to review both the existing forms and priorities for cooperation with China and their own regional development concepts. In the process of planning the development of regions and their participation in international cooperation they must take into account the criteria of economic security. The improvement of institutional support of interregional cooperation will favor this process. The formation of the regional system of economic security as well as its further improvement should take into account the specific characteristics of each region, which impact on its economic development. The regional economic security aspect must be considered in terms of achieving the goals and objectives of the state regional policy, which reflects the role and place of certain regions in ensuring national interests. The state of the foreign trade as well as the level of security of the coastal regions of China need further research and comparison of the obtained indicators with the Ukrainian ones. The measures, which the countries with coastal regions take to improve their external economic security, are of great interest, too.

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## **ENSURING FOREIGN TRADE SECURITY OF UKRAINE ON THE STEEL MARKET**

**Abstract.** *The condition and capacity of the Ukrainian steel industry, including foreign economic activity in this segment are analyzed. Main problems of Ukraine's foreign trade on the metal market are discussed. An analytic review of the internal and external metal market is conducted. The impact of the Association Agreement between Ukraine and the EU signing on the steel industry is outlined. The influence of the foreign economic situation on the industry is characterized. The influence of ATO on metallurgy development is estimated. The priorities of the development of the steel industry and enhancing its export potential and strengthening foreign economic security state policy are determined.*

**Introduction.** A strategic sector of the economy securing is a guide of state's sustainable growth. The development of metallurgy in Ukraine is a strategic point in recent years because of its potential as an important sector of domestic production, budget forming-sector and as one of the most powerful export-oriented sectors of the economy.

The essential prerequisites for metallurgy enterprises modernization have been formed in Ukraine in recent years. In addition, there were the risks caused by the world market conjuncture, lowering of costs production, rising energy costs, high energy consumption by domestic enterprises, increasing protectionism on the international market. Therefore, the issue of foreign security for the steel market is one of the key to Ukraine.

The problems of the metallurgy and, particularly, the foreign security strengthening were researched by a number of Ukrainian and foreign scientists. V.Tochylin, V.Venher proved that the leading position in the global steel market Ukraine gained, primarily, due to the fact that Ukrainian steel sector historically had been formed as a part of the Soviet Union metallurgical sector, supplying products for the entire country. Thus, the domestic steel sector has a production capacity that greatly exceeds the domestic needs of the national economy, which was the basis of large-scale exports of ferrous metals<sup>139</sup>. V. Volkov, L. Horoshkova defined the economic security determinants of the steel industry as the real economy: parameters of production factors and infrastructure, conditions and parameters of

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<sup>139</sup> Tochilin, V. & Venger, V. (2013) Vertically integrated structure of mining and metallurgical complex of Ukraine: state and development trends. Herald of Odessa I.I.Mechnikov national University, vol. 18, edition 1/3, 64-67.

market products industry demand; providing technology and related industries, which are among the most important factors of economic security, as they provide the manufacturers production factors; the strategy, structure and competitive situation in the market, which determines the field of profit possibilities<sup>140</sup>.

The potential of Ukrainian metallurgy is formed due to not only the infrastructure, steel plants, significant amounts of natural reserves of raw materials, but also opportunities to improve its functioning. According to the estimations by Razumkov Center experts<sup>1</sup>, the largest reserves of energy efficiency are in the steel industry in the production of pig iron (reduced unit costs by about 25%, or 5 million tce at year production volumes at the level of 2013) and steel production (reducing unit costs about 70%, or 1.5 million tce at year production volumes at the level of 2013). The prospects of investing only in reducing the energy effectiveness field are 200 million hrn<sup>141</sup>.

L.Horoshkova pointed at the urgency of solving the problem of scientific and technological development of the steel industry due to its export-oriented vector and the loss by Ukrainian metallurgy the position of domestic producers on global markets because of a low technological way<sup>142</sup>.

The Ministry of Economic Development and Trade determined that a significant problem of the industry was the reduction in value of products due to the global competition, currency regulation, VAT refund and, accordingly, the lack of funding for the promotion of exports [<sup>143</sup>].

However, despite a number of publications on the subject of the economic security of the steel industry, the foreign security of the metal market is poorly researched.

The metallurgy is one of the leading budget-forming sectors of Ukrainian economy, providing a significant portion of foreign exchange earnings through the developed export potential - the share of metal industry in the structure of

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<sup>140</sup> Volkov, V.& Horoshkova, L. (2013) Simulation parameters of steel industry economic security. Economics and Management - 2013: Prospects Innovatively integration and development, vol.2 (Metallurgy in Ukraine) [Electronic resource]. – Retrieved from: <http://metallurg.in.ua/news/company>.

<sup>141</sup> New Energy Strategy of Ukraine till 2020: security, energy, competition / issue for discussions with the public] (2015). Kyiv: Razumkov Centre [Electronic resource]. – Retrieved from: [http://www.razumkov.org.ua/upload/Draft%20Strategy\\_00%20\(7\).pdf](http://www.razumkov.org.ua/upload/Draft%20Strategy_00%20(7).pdf).

<sup>142</sup> Horoshkova, L. (2012) State of the structure of steel industry economic security. Economics and management of national economy, issue 1, vol.1, 191-196.

<sup>143</sup> Natalia Mykolska: Our goal is to increase exports of mining and metallurgical. Press release from 04/01/2016 [Electronic resource]. – Retrieved from: <http://www.me.gov.ua/News/Print?lang=uk-UA&id=58beaf61-bb34-40ce-b6b2-55f77d77dd71>.

Ukrainian exports of goods in 2015 was the highest among all industries (24, 8%). Ukraine exported 63.0% of the total sales in the metallurgy market. Among the top 10 Ukrainian exporters (version by Forbes), six out of ten companies represent the metal industry.

Ukraine is a net-exporter of steel products - during 2008-2015, the foreign trade balance remained positive. However, the analysis of the dynamics of the foreign trade of steel products indicates a catastrophic loss of the export potential – the export of steel products decreased by 2, 9 times in 2008-2015 (Table. 1).

Table 1. The dynamics of the foreign trade on the metal market, 2008-2015\*

Indicator	2008	2009	2010	2011	2012	2013	2014	2015
Exports, million \$	27594	12816	17272	22032	18825	17525	15229	9470
Imports, million \$	6390	2676	4090	5588	5179	4953	3324	2004
Balance, million \$	21203	10140	13182	16443	13645	12572	11904	7466
The coverage ratio of export import	4,3	4,8	4,2	3,9	3,6	3,5	4,6	4,7

\* Data for 2010-2014. - Excluding the temporarily occupied territory of Crimea and Sevastopol, Data for 2015 - excluding the temporarily occupied territory of Crimea, Sevastopol, and the zone of ATO.

Source: Calculated by the authors based on the data:<sup>144</sup>

Thus, in 2015, the exports fell by 1,6 times compared to the previous year. Imports in 2008-2015 decreased by 3,2 times. A higher rate of the import decline led to the growth of the ratio of import coverage by export (from the minimum indicator 3.5 during 2013 to 4,7 in 2015) .

The reduction of exports in 2015 was caused by the unprecedented decreasing of the metallurgy production during the crisis of 2008-2009 (16,1% per year). Pig iron production decreased by 11,9% to 21861,0 ths. tons; semi-manufactured items – by 20,4% to 11762,5 ths. tons; flat rolled products - by 17,1% to 11945,3 ths. tons.

Steel products traditionally predominate in the structure of exports: the share of ferrous metals increased from 83,2% in 2008 to 85,3% in 2015 (Table. 2), which, amid a substantial decline in the share of ferrous metals from 12,8 to 9,7%, shows the continuing trend towards raw materials orientation of the Ukrainian metallurgical exports and its primitivism.

<sup>144</sup> The official website of the State Statistics Service of Ukraine [Electronic resource]. – Retrieved from: <http://www.ukrstat.gov.ua>.



Table 2. The structure of Ukrainian exports of metal products, percent.

Indicator	2008	2009	2010	2011	2012	2013	2014	2015
Metal products total, <i>Including</i>	100	100	100	100	100	100	100	100
ferrous metals	83,2	80,0	84,6	83,7	81,4	81,7	84,7	85,3
Products from ferrous metals	12,8	15,2	11,4	12,8	14,9	14,6	11,1	9,7
Copper and copper wares	1,1	1,4	1,5	1,1	0,9	0,9	1,1	1,2
nickel and nickel wares	0,1	0,1	0,1	0,1	0,1	0,1	0,1	0,1
aluminum and aluminum wares	1,6	1,6	0,9	0,8	0,8	0,8	0,8	1,2
Plumbum and plumbum wares	0,1	0,2	0,1	0,1	0,1	0,2	0,2	0,2
Zinc and zinc wares	0,0	0,0	0,0	0,1	0,1	0,0	0,1	0,0
Tin and tin wares	0,1	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Other non-precious metals	0,5	0,5	0,6	0,6	0,8	0,7	0,9	1,0
instruments, knives	0,2	0,3	0,2	0,1	0,2	0,2	0,2	0,2
Other wares from non-precious metals	0,3	0,7	0,6	0,6	0,7	0,8	0,8	1,1

Source: Calculated by the authors based on the data: <sup>145</sup>

In addition, in the exports of ferrous metals for three years the volume of rolled metal products have been reduced – the products with relatively high added value. Overall, in 2015 the exports of rolled metal in bulk declined to 21,2% from 6,1 million tonnes in 2012 to 4,8 million tons in 2015. However, the exports of waste and scrap steel in 2015 amounted to 1,2 million tons, increased in 1.3 times the previous year and 3,6 times compared to 2012.

The commodity structure of metal imports is more diversified. The share of ferrous metals was gradually reduced: in 2008 – 74,0%, in 2015 – 60,2% (Table. 3).

In the commodity structure of import, the share of non-ferrous metals is growing. If in the structure of Ukrainian exports of metallurgical products the share of nonferrous metal products does not exceed 3,7%, the import share of non-ferrous metals is much greater - in 2015 it was 26,0% compared to 2008.

Thus, in the structure of import, the part of aluminium grew substantially - from 7,5% in 2008 to 12,7% in 2015 while the volumes of import in natural expression were reduced from 107,0 thousand tons to 76,3% thousand tons accordingly. The considerable volumes of aluminium and aluminium wares import were determined, among other things, by stopping in July 2014 the productions of aluminium flat rolled products at the leading enterprise of the industry PJSC

<sup>145</sup> The official website of the State Statistics Service of Ukraine [Electronic resource]. – Retrieved from: <http://www.ukrstat.gov.ua>.

"Zaporizhzhya aluminium plant". Another leading enterprise of the industry - LTD "Mykolaiv alumina refinery plant" - is under the control of the Russian holding "RUSAL" and works on the imported raw material.

Table 3. The commodity structure of the metal products import to Ukraine, percent.

Indicator	2008	2009	2010	2011	2012	2013	2014	2015
Metal products total, <i>Including</i>	100	100	100	100	100	100	100	100
ferrous metals	51,6	41,8	46,7	49,3	44,1	44,7	39,1	34,2
Products from ferrous metals	22,4	23,2	21,4	20,0	24,3	24,0	25,3	26,0
Copper and copper wares	4,0	3,9	3,6	3,8	3,2	3,0	2,4	2,4
nickel and nickel wares	2,0	3,9	4,3	4,5	4,2	4,7	5,3	5,4
aluminum and aluminum wares	7,5	10,4	8,9	8,6	9,3	9,4	10,9	12,7
Plumbum and plumbum wares	0,7	0,9	1,4	1,3	1,1	0,7	0,3	0,3
Zinc and zinc wares	1,0	1,3	1,3	0,9	1,0	0,9	1,2	1,8
Tin and tin wares	0,2	0,2	0,2	0,3	0,2	0,2	0,2	0,2
Other non-precious metals	1,8	2,8	2,2	2,2	2,1	2,0	3,0	3,2
instruments, knives	3,9	5,6	4,7	4,5	4,9	5,0	5,8	6,7
Other wares from non-precious metals	4,9	6,0	5,3	4,6	5,6	5,4	6,5	7,1

Source: Calculated by the authors based on: <sup>146</sup>

The analysis of the regional pattern of the Ukraine's foreign trade of metallurgical products in 2008 and 2015 testified that the list of main countries-partners of Ukraine remained unchanged: the key partners in an export are Turkey, the Russian Federation and Italy, in an import - the Russian Federation, China and Poland (table. 4).

However, the shares of these countries in the regional pattern of the foreign trade by metal products were changed – the share of the Russian Federation in an export decreased a little: from 14,2 to 12,4% but, the shares of Turkey and Italy grew from 11,0 and 6,5 % to 14,7 and 10,9% respectively. Important partners in an export became Egypt (the share of this country grew from 3,8 to 10,3 %) and the Asian countries Iraq and Saudi Arabia with the share of 3,5 and 2,9% respectively.

<sup>146</sup> The official website of the State Statistics Service of Ukraine [Electronic resource]. – Retrieved from: <http://www.ukrstat.gov.ua>.

Table 4. The regional pattern of foreign trade products, percent.

Export				Import			
2008		2015		2008		2015	
Country	share	Country	share	Country	share	country	share
Russia	14,2	Turkey	14,7	Russia	43,6	Russia	23,7
Turkey	11,0	Russia	12,4	China	10,3	China	17,7
Italy	6,5	Italy	10,9	Poland	7,5	Poland	9,8
USA	4,9	Egypt	10,3	Germany	7,3	Germany	8,8
Egypt	3,8	Poland	4,7	Kazakhstan	5,1	Italy	3,9
United Arab Emirates	3,0	Bulgaria	3,5	Turkey	2,6	Turkey	3,4
Jordan	2,8	Iraq	3,5	Italy	2,6	Slovakia	2,7
Poland	2,7	Saud. Arabia	2,9	Belarus	2,0	Kazakhstan	2,2
Syria	2,6	USA	2,7	Other countries	19,0	USA	2,1
Bulgaria	2,6	Netherlands	2,3			Other countries	25,7
Belarus	2,6	Germany	2,1				
Kazakhstan	2,3	Other countries	30,0				
Other countries	41,0						

The countries, the shares of which in an export or import of Ukraine are 2 and more percents.

Source: Calculated by the authors based on the data: <sup>147</sup>

Changes that are more significant took place in the structure of the metal products import. Thus, the share of the Russian Federation in 2008-2015 decreased from 43,6 to 23,7%. But, the shares of China and Poland grew – from 10,3 and 7,5% to 17,7 and 9,8 % respectively. The summarized share of key suppliers of metallurgical products to Ukraine from the countries of the EU (Poland, Germany, Italy, Slovakia) in 2015 was 25,2 %.

The analysis of the internal market. In the domestic market of Ukraine, the consumption of Ukrainian metal product prevails – in 2015 the share of sales of the basic metals of the domestic production in the structure of the wholesale trade was

<sup>147</sup> Rejtyng Forbes: top-10 ukrajins'kyh exporteriv [Rating Forbes: Top 10 of Ukrainian exporters] [Electronic resource]. – Retrieved from: <http://forbes.ua/business/1410419-rejting-forbes-top-10-ukrainskih-eksporterov>.

83,3%, including ferroalloys – 85,9%, flat steel hot-rolled – 86,3%, flat steel cold-rolled – 73,3%, iron ore – 97,5 %. However, the share of steel and nonferrous metals of the domestic production was lower (30,7 and 49,9% respectively). These data confirm a significant degree of import depending in the domestic consumption of these products.

Despite the considerable degree of the domestic market saturation with domestic products, its capacity is low, as evidenced by the export orientation of most leading producers of the metal products in Ukraine (they export 40-90% of its total production (Table. 5). However, the capacity of enterprises production potential was incomplete.

Today, the existing capacity of the internal market of metal is estimated by experts at maximum of 10-11 million tons, which is almost three times less compared to the volume of its exports. In the structure of the domestic consumption of rolled metals, the biggest share belongs to the metallurgy (35 %), engineering enterprises – 20 %, metalservice centers, small construction enterprises and private customers of the metalworking industry - more than 18 %, construction enterprises – 5 %, automobile manufacturing – 2 %, the manufacturers of building materials – 1 %.

Low demand on the internal market can be explained by the falling of the volume of production in industries of economy that form the basic demand for metal wares. The deepest falling was fixed in mechanic engineering (in 2015 – by 14,1 %). The demand for metal wares in building industry decreased a little because of its lasting reduction of construction volumes (in 2015 the index of building production was 87,7 % compared to 2014), which influenced the volumes of internal consumption of metal wares.

Table 5. Characteristics of the main producers of the metallurgical complex of Ukraine.

Company's name	Basic Product	Sales *, mln. UAH	share of exports in sales,%	Net profit / loss mln. UAH		Depreciation of fixed assets %
		2015	2015	2014	2015	2015
PJSC «Azovstal iron & steel works»	Iron, steel, ferroalloys, coke, coke products	23843,2	64,4	915,9	- 1835,5	н/д
PJSC “ Mariupol Iron and Steel Works by Ilyich ”	Iron, steel and ferroalloys	29498,5	43,0	453,6	- 1585,9	н/д
PJSC “Yenakieve Iron and	Iron, steel and	12129,6	41,7	- 390,6	- 544,5	13,6

Steel Works"	ferroalloys						
PJSC "Khartsyzsk pipe plant"	Pipes, hollow profiles, fittings, steel	714,4	89,0	434,8	- 394,4	12,0	
PJSC «Zaporizhzhya Iron and Steel Works «Zaporizhstal»	Iron, steel and ferroalloys	28498,1	н/д	1120,6	1805,0	н/д	
PJSC «Alchevsk Zaporizhzhya Iron and Steel Works»	Iron, steel and ferroalloys	7863,6	н/д	- 20201,0	- 23448,9	н/д	
PJSC «Dniprovskyy Zaporizhzhya Iron and Steel Works be Dzerzhynskyy»	Iron, steel and ferroalloys	16596,6	91,4	- 1868,3	- 1389,5	н/д	
PJSC «ArcelorMittal Kryvyi Rih»	Iron, steel, ferroalloys, coke products	42952,1	н/д	- 1180,5	1384,7	44,4	
PJSC "Dneprospeysstal"	Iron, steel and ferroalloys	6850,3	55,9	- 880,6	- 706,6	н/д	

The main products, the supply of which is more than 5% of the total production of a company in monetary terms are indicated

Source: Calculated by the authors based on the data:<sup>148</sup>

The situation on the internal market got worse as a result of intensification in 2014-2015 of the armed conflict in Donbas, where the majority of production companies of metallurgy were concentrated. The consequences of the railway ways and transport infrastructure damages in the zone of ATO were the complication of basic raw material supplies (of coking coals, coke, iron-ore raw material) and problems of ready product supplement at all the metallurgical and coke-chemic enterprises of Donbas. The volumes of the realized products of metallurgical industry in 2015 decreased, if to compare with 2014: in Luhansk area by 62,6% in Donetsk – increased by 8,0 %. The falling of volumes of sales in Luhansk region is explained by the loss of most industrial capacities – the industrial giants, such as PJSC "Alchevsk metallurgical combine", PJSC "Alchevsk coke – chemic plant", PJSC "Stakhanov plant of ferroalloys" remained on the occupied territory of Ukraine.

However, the increase of sales volumes in Donetsk region is conditioned by the fact that 70% of metal products were produced by two metallurgical combines – PJSC «Azovstal iron & steel works» and PJSC "Ilyich Iron and Steel Works of Mariupol" that continue to work on the territory controlled by Ukraine. Only two

<sup>148</sup> The official website of the State Statistics Service of Ukraine [Electronic resource]. – Retrieved from: <http://www.ukrstat.gov.ua>.

metallurgical plants out of eight - LTD "Kramatorsk metal-rolling plant" and LTD "Kostyantyniv metallurgical plant" - are situated on the territory controlled by Ukraine.

The critical worsening of the financial state of most enterprises of the industry became the consequence of such a situation. If in 2014, some enterprises of "Metinvest" holding (PJSC «Azovstal iron & steel works», PJSC "Ilyich Iron and Steel Works of Mariupol", PJSC "Khartsyzk pipe plant", PJSC «Zaporizzhya Iron and Steel Works «Zaporizhstal») had an income, then in 2015, only two of the biggest metal producers - PJSC «Zaporizzhya Iron and Steel Works «Zaporizhstal» and PJSC «ArcelorMittal Kryvyi Rih» - succeeded to remain profitable, while the majority of enterprises got a net loss.

The prospects of development of import replacement in the metallurgical industry first of all depend on whether Ukraine can return the control over the occupied territories of Donbas, where key metallurgical capacities are concentrated, because without the enterprises of Donbas Ukraine risks to lose leading positions on the international market very quickly.

In addition, the resumption of appropriate work of the existing metallurgical enterprises must be accompanied by the shift of emphasis on the production of goods with a higher added value that will allow shortening metallurgical import of deep processing products to Ukraine. Thus, the market of metal products keeps on growing annually by 7 %<sup>149</sup>. The insufficient nomenclature of production of the metal products with the deep processing by domestic metallurgical companies causes dependence of enterprises on its import. First of all it concerns machine-building enterprises that consumes about fourth of the general volumes of the Ukrainian import of metallurgical products. Experts calculate that because of an insufficient nomenclature, the metallurgical combines receive 3 billion dollars less than their due annually.

The considerable prospects of import replacement on the market of steel are related to the development of electrometallurgy – mini-factories that work with the use of scrap-metal and need relatively small volumes of investments. In the USA, the half of all volumes of steel is produced exactly on such plants; moreover, while using

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<sup>149</sup> Vladimir Vlasjuk: "Today industrial politics in Ukraine almost absent" [Electronic resource]. – Retrieved from: <http://uaprom.info/article/6052-vladimir-vlasjuk-segodnya-promyshlennaya-politika-ukraine-prakticheski-otsutstvuet.html>.

such a method of production the prime cost of steel is lower than when it is produced at combines with a complete cycle<sup>150</sup>.

Consequences of signing the Association Agreement between Ukraine and the EU. In spite of the fact that the EU is not the main consumer of products of Ukrainian metallurgical industry, in the structure of the Ukrainian commodity export to the EU the share of black metals remains the biggest – in 2015 it was 23,5 %. Ukraine is a netto-exporter of metallurgical products in the foreign trade with the EU - in 2015 the volumes of Ukrainian export in 3,9% times exceeded the volumes of import. The products of a low degree of processing (ready-to-cook foods) are mainly exported. Metallurgy also remains one of most investment attractive for the EU industries of Ukrainian economy – in 2015, the share of the EU countries in the general volume of DII, involved in the industry, amounted to 98,2%. The abolition of the import duty for the Ukrainian metallurgical products by the EU will not have considerable consequences for metallurgical industry of Ukraine, because most of the tariff limitations were cancelled after Ukraine had entered WTO. Besides, the excess capacity of metallurgy in the EU is currently estimated by experts at 50-80 million tons per year, which, with a reduction in recent years of the steel production both in the EU and in the world in general, will become an additional deterrent against the increase of Ukrainian exports.

For Ukrainian producers, a reduction in the number of anti-dumping measures applied by the EU on Ukrainian products can become a possible result of signing the Association Agreement with the EU. However, real positive changes in this direction have not occurred yet.

As of 14.07.2016, there are two anti-dumping measures on the part of the EU concerning Ukrainian steel products such as harnesses, ropes, cables of black metals and seamless pipe. Moreover, 07.07.2016 in the Official Journal of the EU, the notification about the beginning of the anti-dumping investigation on imports of hot rolled steel origin, including from Ukraine was published<sup>151</sup>

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<sup>150</sup> Oleksiy Smirnov: export metal waste is impossible [electronic resource]. – Retrieved from: <http://www.minprom.com.ua/articles/198358.html>.

<sup>151</sup> Notification of violations of the anti-dumping investigation on imports of hot-rolled products origin, including from Ukraine to the European Union] [electronic resource]. – Retrieved from: <http://www.me.gov.ua/Documents/Detail?lang=uk-UA&id=d7d9a183-be9e-48a1-b091-ea88cfbb4055&title=PovidomlenniaProPorushenniaAntidempingovogoRozsliduvanniaSchodoImportuGariachekatanoiProduksiiPokhodzhenniam-UTomuChisli-ZUkrainiDovropeiskogoSoiuzu>.

The biggest risks for the development of the steel industry of Ukraine are connected with the need to harmonize legislation on environmental protection concerning industrial pollution and industrial threats, because all metallurgical enterprises of Ukraine are one of the largest industrial polluters of the environment. Art. 363 of the Agreement states that Ukraine agrees to gradually harmonize its legislation according to the EU legislation and policies in the field of environmental protection. Appendix XXX of Section V of the Agreement provided such measures to improve air quality as setting upper and lower limit estimates, target and limit values and the aim to reduce the impact of sulfur dioxide, nitrogen dioxide and oxides of nitrogen, lead, benzene and nitric carbon, ozone, suspended particulate matter PM 10 and PM 2.5. for 3 years from the date the Agreement comes into force ; installation of air quality assessment regarding air pollutants; implementation of the plans for air quality zones and agglomerations, where pollution levels exceed the limit/ target value for 5 years from the date the Agreement comes into force.

This will require a significant investment in modernization of production facilities, and, according to Art. 262 of the Agreement, the state aid for investment to ensure compliance with mandatory standards set by the EU Directives stated in Appendix XXX Chapter 6 of Part V of the Agreement, for the period of implementation specified therein, including adjusting plants and equipment to the new requirements may be allowed in the quantity of up to 40% of acceptable costs<sup>152</sup>.

The impact of external economic conditions on the industry development. On the world market of metal products there is further deterioration in external economic conditions caused by the increased competition on the markets of Europe and Asia against the background of excess production capacity in the world and the dominance on the market of Chinese cheap rolled steel. Today Chinese manufacturers provide about 50% of world steel production and its exports from China in 2015 increased by 20% <sup>153</sup>.

The main restrictions for Ukrainian steel products on the markets of developed countries consist in the lack of demand for Ukrainian finished steel products. Developed countries prefer to purchase semi-finished products for further processing into highquality-finished products. The governments of several foreign

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<sup>152</sup> Sobkevych O.V. & Shevchenko A.V. & Sukhorukov A.I. & Belashov E.V.(2014) Priorities for investment support structural reforms in industry of Ukraine., Kyiv , NISS.

<sup>153</sup> Expert counsil: Will metal producer possible to increase production in 2016? [Electronic resource]. – Retrieved from: <http://www.minprom.com.ua/articles/201745.html>.



countries have announced plans for a significant increase in the steel production in the coming years. Thus, Iran plans to increase the steel production until 2025 in four times - up to 55 million tons and furthermore 10 million tons of them will be exported. The government of India announced its intention to increase state support for the steel industry and due to that, it is planned to increase the production capacity until 2025 from the current 81,2 million tons to 300 million tones.

The main competitors of Ukrainian steel companies on the world market are Chinese manufacturers, who in recent years have intensified expansion on traditional Ukrainian steel markets - Europe, North Africa and the Middle East. This aggressive foreign trade policy of China has led to a wave of anti-dumping investigations against Chinese steel products. Thus, the US domestic market is almost closed for the majority of types of Chinese rolled steel<sup>154</sup>. The consequence of such actions was the gradual re-orientation of Chinese producers to the domestic market.

However, the share of Chinese producers in the Ukrainian import of metallurgical products substantially grew from 10,3 % 2008 to 17,7% in 2015.

From the beginning of 2016, the Ukrainian metallurgists ended up in unequal competition conditions with the producers of the Russian Federation that remains one of biggest partners of Ukraine in foreign trade of metallurgical products. After coming into force of the Decree of the President of the Russian Federation published on 06.12.2015 «On termination of the Agreement by the Russian Federation on a free trade zone towards Ukraine” № 628, the Ukrainian metallurgical enterprises are forced to pay an import duty in the amount of 5% while exporting their products to the Russian Federation that considerably reduces their competitiveness in conditions of an existing fall in prices on metallurgical products on world markets. Nevertheless, the Russian producers bring in most types of metal products to Ukraine with a zero duty, which complies with the obligation accepted by Ukraine after entering WTO.

In addition, the negative consequences for the steel industry development will be the introduction by the Eurasian Economic Commission 06.02.2016 for 5 years of anti-dumping duties in the amount of 26,35% on imports for ferro-silicomanganese by Ukrainian production and the continuation of anti-dumping

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<sup>154</sup> China does not want to decrease volume of metallurgy production. [Electronic resource]. – Retrieved from: <http://www.minprom.com.ua/news/212463.html>.

duties in the amount of 18,9-37,8% on imports of Ukrainian steel pipe to the countries of the Eurasian economic Union.

The main problems of Ukrainian metallurgy are diversified. Metallurgy is a basic sector of Ukraine's economy; its modernization and elimination of structural deformations are important prerequisites for ensuring economic security and economic growth. In Ukraine, for a long time, persistent negative trends in the functioning of the industry, which worsened against the background of deterioration of the socio-economic situation in the eastern regions of Ukraine, have remained. In particular, the most important problems of the industry include the following points:

1. Technical and technological backwardness, a high level of energy and resource consumption in metallurgy. Only a third of the technologic schemes of metallurgy processes satisfy the international demands of energy effectiveness. The manufacturing of metal products in Ukraine in comparison with the developed countries is 5-7% more material- and 25-30% more energy intensive. Martin steel production is the most energy intensive, because while using it, energy consumption is almost 5 times larger, and natural gas consumption is 15 times larger than with the BOF production<sup>155</sup>.

Every year the domestic steel industry consumes 6,7 billion cubic meters of gas, while most of world manufacturers have abandoned the use of this energy long ago by introducing the technology of pulverized coal fuel.

In addition, the consumption of coke per ton of smelted pig iron in Ukraine is 500550 kg, while the average rate in the world is 270-300 kg<sup>156</sup>. According to the data of the World Steel Association in 2015, by the open-hearth method in Ukraine 22,6% of steel was melted, which is the highest indicator among all producers in the world (for comparison, in Russia the share of open-hearth production was only 2,4%, in Europe this technology is not used at all). However, the proportion of an oxygen-converter method was 71,8%, an electric method - only 5,6%<sup>157</sup>.

2. Lack of raw materials supplement for metallurgical enterprises. A significant negative impact on the work of the metallurgy industry was made by the emergence of shortages of raw materials due to the violation of industrial relations with the

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<sup>155</sup> Importreplacement policy priorities in the strategy of industrial modernization of Ukraine (2012). K., NISS.

<sup>156</sup> World Steel in Figures (2016) [Electronic resource]. – Retrieved from: <https://www.worldsteel.org/dms/internetDocumentList/bookshop/2016/World-Steel-in-Figures-2016/document/World%20Steel%20in%20Figures%202016.pdf>

<sup>157</sup> See 156.

companies located on the occupied territories in the east, as well as by a significant increase in scrap exports from Ukraine. The deficit of raw materials for industry in 2015 amounted to 854,4 ths. tons or 21,7% of the metallurgical companies needs<sup>158</sup>. In particular, the lack of scrap hinders the development in Ukraine of electrometallurgy– fastpayback minifactories with an incomplete cycle, which operate on scrap.

The Law of Ukraine, adopted 21.04.2016 "On Amendments to Some Laws of Ukraine on reducing the deficit of scrap in the domestic primary market to meet the needs of the defense industry and reconstruction of infrastructure", which raises export duty on scrap for a year, in some way will contribute to the reduction of the scrap deficit in the domestic market. But solving the problem requires a simultaneous review and approval of related bills aimed at the abolition of import duties on scrap metal, the creation of a mechanism of auction sale of scrap metal and limiting the volume of its exports.

3. Poor intra and inter-sectoral cooperation, which leads to the imbalance in production, the cost increase and reduction of quality of raw materials (iron ore, coke) due to the dominance of several companies on commodity markets; also it causes an insufficient use of the potential of the domestic market consumption of metal products, significantly slowing and reducing the efficiency of investment processes in the industry.

In Ukraine, large holdings, members of the local business groups - "SCM", "Privat", "EastOne", "Industrial Union of Donbass" traditionally dominate on the metallurgical market.

The high level of competition between these groups in different areas of business and the struggle for the influence on the markets entail active use by these companies of non-market methods – the abuse of monopoly position on the markets of raw materials and semi-finished products by artificially raising tariffs for competing companies, forcing the latter to resort to import of the necessary raw materials; hostile takeovers; aggressive lobbying their own interests in the government. Despite the fact that most steel companies belong to diversified FIG, the inter-sectoral cooperation of steel companies with major industrial consumers of steel products remains underdeveloped.

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<sup>158</sup> Protocol of the meeting "Problems and prospects of the domestic market MMC Ukraine", March 24, 2016, m. Kyiv.

4. The absence of systemic government support and lack of mechanisms to protect domestic producers. The governments of most industrialized countries of the world in conditions of a protracted recession on the world market of steel products take systemic measures to support the metallurgical industry as a strategic sector of the economy. Particularly, the postponement of environmental charges, reduced rent for mining, introduction of special tax regimes, active use of mechanisms of anti-dumping investigations, etc are meant.

However, the problems in Ukraine steel industry have not been systematically addressed. In addition, individual administrative decisions of the government hinder the development of the industry. Thus, improving state-regulated tariffs for rail freight transportation significantly increases the transportation component of the production prime cost. In 2015, the average growth of tariffs was 37,7%, including: the transportation of coal – 32,4%, and the transportation of iron ore, steel, chemical and mineral fertilizers, chemical cargoes, coke - 37,7%. Under the order of the Ministry of Infrastructure "On amendments to some legislative acts of the Ministry of Transport and Communication of Ukraine", on April 30, 2016 another increase of tariffs on the rail freight transportation by 15% took place.

5. The destruction of production capacity, because of the warfare in Donbass, which will require significant time and considerable investment to restore. In Donbass, significant capacities of the metallurgical industry of Ukraine are concentrated: even without the part of the area of ATO, the share of Donetsk region in sales volumes of steel products in 2014 amounted to 34,6% (in the total volume of industrial production of the region - 42.4%), Luhansk region 5,7% (36,2% respectively). The military actions led to a significant deterioration of basic financial and economic indicators of the industry.

The estimation of prospects of the industry development. Experts predict that in the coming years on world markets an unfavorable foreign economic situation for increasing Ukrainian exports of steel products will persist. Under such conditions, the prospects of the metallurgy industry development in Ukraine are largely associated with the expansion of the domestic market by reorienting steel plants to meet domestic needs and reduce the dependence on conjuncture changes on global markets. The prospects for completion of the antiterrorist operation in eastern Ukraine will give the task to the country to do restoration work, which will require a significant amount of steel products that will increase its production with a focus on the domestic market.

Today, over 70% of the steel fund of Ukraine needs modernization - only the production of facilities to upgrade the technological base requires about 200 million tons of Ukrainian rolled steel. In the medium term, the expansion of the domestic consumption of steel is possible due to the replacement of the worn-out oil-and-gas pipelines and pipelines in the HPU. In future, with the implementation of the balanced policy of modernization and restructuring of the Ukrainian economy, active consumers of Ukrainian metal products can be aircraft building enterprises, agricultural machinery and shipbuilding factories.

**Conclusions.** The priorities of the state policy on the development of the steel industry and enhancing its export potential and strengthening foreign economic security are as follows:

- stabilization and gradual expansion of niches on world markets for traditional (semi-finished products) and high-tech range of products, including diversification of markets for steel products giving priority to deliveries to North Africa and the Middle East, strengthening ties with the EU (within the Association Agreement), the USA and Latin American countries;
- strengthening the state's role as a systemic coordinator of the import-replacement by coordinating programs of metal consuming sectors of the economy with opportunities of the industry to balance the structure of the domestic demand and steel production;
- development of the Program to modernize the infrastructure of the real sector of the economy, in which, particularly, should be measures to replace and upgrade worn metal fund with a critical degree of exhaustion - rolling stock and railways of "Ukrzaliznytsya", heating systems etc. with placing orders for the domestic steel industry;
- development and approval of "State program of development and reform of mining and metallurgical complex of Ukraine till 2025", which must provide mechanisms for the creation of import substitution enterprises through the development of innovative infrastructure and scientific and technical support of the industry, commercialization of scientific developments, establishing effective cooperation between government, business and science in the sphere of creation of complete technological cycles of production, better attraction of private investment;
- organization of a system cooperation with the international institutions engaged in the development of the industry (for example, the EU Commission and created by Ukraine together with it Working group on steel,

- OECD and OECD Committee on Steel, etc.) for implementation in the industrial complex of Ukraine the European standards and control systems, systems of product safety REACH, the new technological requirements, evaluation criteria of energy efficiency and energy saving, etc.;
- ensuring investigation and combating cases of anti-competitive behavior of companies regarding abuses of a monopoly position on the market of steel products and raw materials in the form of artificially inflating rates, hostile takeovers and so on.
  - adoption of a package of laws to stimulate the development of the steel industry (the restriction in exports of scrap, the abolition of duties on its imports, the introduction of a mechanism of an auction sale of scrap metal);
  - creation of an effective internal market of recycling and use of recycled materials (metal, plastic, paper, food waste and wood industry) to build environmental resource-efficient industry based on the circular economy principles;
  - conducting a comprehensive analysis of the efficiency improvement in recent years in tariffs for railway freight transportation and acceptance on that basis the decisions on the economic feasibility of their improvement in future or the introduction of alternative practices to bind tariffs with the sectoral indices calculated on the basis of price quotations for commodities on the world's leading exchanges;
  - improvement of the infrastructure of the Ukrainian steel products realization on the domestic market by creating a virtual marketplaces for industrial companies and introducing the systems of monitoring and forecasting of the internal market conjuncture;
  - initiating investment projects to build compact factories (mini-steel plants) that use scrap or operate on the technology of direct reduction of iron ore pellets from metallic, the main advantage of which is flexibility and production of a high added value in small quantities (e.g. the production of special steels alloys, titanium alloys and rolled products, aluminum foil, creating new zirconium products of high demand, the calibrated hire, curved profiles) that are not profitable for large metallurgical enterprises from an economic point of view.

## **Part 4**

# **New realities and opportunities to reform the regional policy under the influence of the change in the internal proportions in the national economic system**

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## **REFORMING THE STRUCTURAL FUNDS: CHALLENGES FOR THE EU REGIONAL POLICY**

**Abstract.** *The paper presents the results characterizing the current stage of regional policy in the EU (since 2014), analysis of the results and changes in regulation of regional priorities. Since 2014 at the EU supranational regional policy a new phase, connected with the adoption of the next financial plan for 2014-2020, has formally begun. The regional policy in the countries, different in type and level of development, is considered in the article. Those countries are chosen for analysis, whose experience to some extent is interesting to Ukraine. Such countries are Poland, Germany, Italy, and Spain. In addition, a new stage of the EU regional policy is studied. The special attention is paid to such questions as reasons of regional policy, its legislative and organizational framework and instruments. The relationships between regional policy and other directions of economy state regulation including inter-budgetary relations, regional (territorial) planning and various terms of structural policy are considered. Features and role of decentralization processes in different countries are shown. Statistical data illustrating processes of regions convergence/divergence are provided for the analyzed countries. Problems of received results interpretation are considered.*

*According to the experience of the EU, the following features should characterize regional policy: existence of conscious and formulated vision of objectives in regional development (in the form of common objectives, strategic plans); presence of the authorities responsible for changing of proportions of territorial development; availability of tools, aimed at the development of problem areas.*

**Introduction.** Significant number of publications are dedicated to issues of studying European experience of development and implementation of regional policy, which are relevant and suitable to be used in Ukraine. However, the actual state of affairs is quite reverse. Nowadays Ukraine does not have coherent regulatory and program framework of the regional policy. Consequently, there is no clearly defined goals, objectives, principles and tools. Approved State Strategy of Regional Development 2020 also does not answer the main question of the regional policy concerning the choice of the vector. This refers to the choice between reduction of interregional disparities at the level of socio-economic development and support areas with the greatest potential for economic growth or looking for their optimal combination.



Features of mutual inter-regional processes and uneven socio-economic development are studied in works of R. Barro, B. Lavrovskyy, I. Lopez-Baso, O. Lugovyy, D. Lukyanenko, A. Revenko, A. Rodriguez-Pose, H. Sala-and-Martin, D. Skulli, B. Finhleton, V. Chuzhykov, F. Shlitte. An important contribution to the formation of ideas about approaches to the management of regions of the country, regional development, principles of creation and implementation of the regional policy, identifying features of the state regional policy and development policy of individual regions, the definition of their subjects and objects were made by such leading scientists as E. Alayev, O. Amosha, G. Balabanov, P. Bubenko, Z. Varnaliy, S. Galuza, Z. Gerasymchuk, A. Golikov, G. Guberna, M. Dolishniy, L. Zaitseva, B. Kliyanenko, V. Kravtsiv, O. Kraynyk, N. Kuznetsov, A. Mazur, T. Maksymova, S. Melnyk, I. Mykhasyuk, N. Mikula, A. Mokiy, O. Novoselov, W. Nudelman, V. Popovkin, S. Romaniuk, U. Sadova, L. Semiv, V. Symonenko, D. Stechenko, I. Storonianska, L. Tarangul, M. Chumachenko, L. Shevchuk, B. Shtulberh, S. Schultz, M. Yankiv and others.

In current situation, it can be useful to look at the international experience of the regional policy to find out possible solutions for issues, relevant for modern Ukraine.

The purpose of the article is to identify the characteristics of the current stage of the regional policy in the EU (since 2014), analysis of the results and changes in regulation of regional priorities.

Since 2014 at the EU supranational regional policy a new phase, connected with the adoption of the next financial plan for 2014-2020, has formally begun. Differentiation of two instead of three groups of regions for allocation of appropriations from structural EU funds, responsible for a cohesion policy - the European regional development fund (ERDF) and European social fund (ESF) - according to the level of socio-economic development has become the most notable innovation at supranational regional policy since 2014.

According to the area of the EU regional policy "Investment for Growth and Employment" the largest volume of funding is appointed for less developed regions - GDP per capita considering purchasing power parity rates (PPP) is less than 75% of the average EU level. These regions are located mainly in Central and Eastern and Southern Europe. However, some amount of appropriations is received by transition regions (GDP per capita from 75% to 90% of the average EU level) and more

developed regions (GDP per capita is 90% of the average EU level) [<sup>159</sup>].

Table 1. The main recipient countries of the cohesion policy funding in 2007-2013 and 2014-2020\*

Country	2007-2013		2014-2020	
	Billion euros	%	Billion euros	%
The entire EU	347,4	100	351,8	100
Poland	67,3	19,4	77,6	22,1
Italy	28,8	8,3	32,8	9,3
Spain	35,2	10,1	28,6	8,1
Romania	19,7	5,7	23	6,5
Czech Republic	26,7	7,7	22	6,3
Hungary	25,3	7,3	21,9	6,2
Portugal	21,5	6,2	21,5	6,1
Germany	26,3	7,6	19,2	5,5
France	14,3	4,1	15,9	4,5
Greece	20,4	5,9	15,5	4,4
Other countries	61,9	17,8	73,8	21

Source: Calculated by the authors based on materials of the European Commission with regard to the allocation of funds in the area of "European territorial cooperation» (<https://cohesiondata.ec.europa.eu/>)

In our opinion, the second most important innovation, based on two years of negotiations on the reform of the cohesion policy, was the selection of four key priorities out of 11 priorities for allocations of the EU structural funds in the area of "Investing for growth and employment": support for research and development, information and communication technology (ICT), small entrepreneurship and low carbon economy.

There have been tangible improvements in terms of allocation of the cohesion policy between individual EU Member States, although the composition of the top ten leaders in terms of received allocations did not change (Table. 1). 10 countries of PRs Cohesion policy accounts for almost 4/5 of funds and allocations to Poland (which significantly increased its share) is higher than the total for the 18 countries with relatively little funding from the supranational EU regional policy. Romania also increased its stake, rising from 9th to 4th place [<sup>160</sup>].

It is considered that these priorities are the most crucial for realization of the "Strategy 2020" adopted by the EU to achieve "smart, sustainable and inclusive" growth.

<sup>159</sup> The European Union explained: Regional policy. – Luxembourg: European Commission, 2014. - P. 3

<sup>160</sup> Investment for jobs and growth: Sixth report on economic, social and territorial cohesion. –Brussels: European Commission, 2014. - P. 182.

Formal requirements for the cohesion policy measures are impressive - at least 80% of ERDF allocations should be directed at these four priorities at more developed regions, a minimum of 60% at transition regions and at least 50% at less developed regions.

During 2014-2020 we can observe a significant (7%) increase in the share of expenditures for the first four priorities in comparison with 2007-2013. However, it is unclear whether it will be achieved primarily through retraining some other measures (e.g. by transfer support adaptation to climate change and environmental measures to support low-carbon economy) or by strengthening the role of real investment in innovative growth. In long term, there is no trend of steady transition to "modern" priorities of the supranational EU regional policy, including more substantial contribution to investment in infrastructure in less developed "new" member states.

The effectiveness of the supranational EU regional policy can be assessed in different ways. First of all, there are data on the quantity of working places at enterprises, created through the cohesion policy investment, on total length of constructed highways, etc. Hence, in 2007-2012 using financial resources of the cohesion policy, 594 thousand working places (including 262 thousand at small and medium firms) were created in the EU, 77.8 thousand startups and 61 thousand research projects were supported, 1208 km of roads and 1,495 km of railways within the Trans-European transport network (TEN-T) were constructed, about 5 million people received access to the Internet, and 3.2 million people received upgraded water system <sup>[161]</sup>. However, this means, for example, that employment through the regional policy increased only by 2%, and measures to ensure access to quality information and communication technologies affected only 1% of the integration group.

Of course, some improvements could be achieved without any financial help of the EU structural funds. However, most of the results of the cohesion policy are observed in the backward regions of the EU, which would not be able to attract large-scale investment in such projects alone. Thus, in 2007-2013, Lithuania annual allocation under cohesion policy amounted to 3% of GDP in Estonia - 2.8%, Latvia - 2.5%, Hungary - 2.3%, Poland - 2%, Portugal - 1.9%, Greece - 1.6%, Slovakia - 1.5%, Czech Republic - 1.4%, Bulgaria - 1.2%, etc. In the EU average figure was 0.3% of GDP

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<sup>161</sup> The world in 2013 (Tables of world development) // Year of the planet: Yearbook / IWEIR RAS - M.: Idea-Press, 2014. - P. 411-449.

and 12 member states was even lower. For example, only with the help of the ERDF and the Cohesion Fund ring road around the Portuguese capital Lisbon was finished, and in the Bulgarian capital Sofia a second subway line was built. We should emphasize that in 2000-2006 the role of assignments of the supranational EU regional policy was quite less - maximum figures were in Portugal (1.8% GDP), Greece (1.4%), Spain (0.9%) and three Baltic States (0.6%) [<sup>162</sup>].

In some less developed countries of the EU, more than a half of state investment is needed for allocations for ERDF, ESF, Cohesion Fund and necessary national co-financing for their programs. For example, in 2011-2013 in Slovakia the share of those investments was 85% of public investment, in Lithuania - 80%, Hungary - about 75%, Bulgaria - 71%, Latvia - 70%, Portugal - 62%, etc. (comparing with the EU average - 11%). As a result, in some even very large countries, including Poland, the whole-state regional policy was subordinated to the logic of a supranational cohesion policy.

Finally, we should not forget that in a severe economic crisis on the euro area during hard budget restrictions for problematic countries they could use flexible mechanisms of redistribution of their Structural Funds, introduced in the EU [<sup>163</sup>]. These co-financing ratios were reduced. The largest benefit received Ireland (about 44% of funds, directed to diverse scope and size of national co-financing was reduced by more than 45%). In 2007 – 2013, the volume of the national co-financing in Latvia, Portugal, Italy, Greece, Spain and Lithuania was reduced by 20 – 25%

Thus, a positive effect of the EU regional policy clearly takes place. However, the question is whether the cohesion policy has achieved long-term goal that was set before - leveling inter-territorial contrasts in levels of economic development. The most popular are two approaches to evaluating this result - econometric models that take into account the contribution of the regional policy to the changing dynamics of macroeconomic parameters, especially in backward areas and comparing the classification of regions by GDP per capita, or other economic or social parameters before and after the period of implementation of the regional policy. In the second case, scholars have identified the so-called  $\beta$ -convergence (according to the coefficient in the model of economic growth, which means accelerated growth rate of GDP per capita in backward areas) and  $\sigma$ -convergence

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<sup>162</sup> Investment for jobs and growth: Sixth report on economic, social and territorial cohesion. – Brussels: European Commission, 2014. - P. 182.

<sup>163</sup> Kuznetsov A. V. Regional policy in Poland // ME and MO. - 2009. №11. - P. 68-77.

(means falling of the value of regions dispersion by GDP per capita). The problem is that it is not always clear whether there was convergence due to the positive impact of the regional policy or, for example, because of European integration (through the elimination of barriers of movement of goods, services, people and capital) [<sup>164</sup>].

For example, a quarter of a century ago, an analysis of 73 regions of NUTS-2 for the founding members of the EU and members of the first expansion in 1973 (but not Ireland and Luxembourg, which did not have an appropriate regional level) was made. This analysis showed that the value of  $\sigma$  decreased from 0.28 in 1950 (on the eve of the establishment of the European Coal and Steel Community by the inner six - the predecessor of the EU) to 0.18 in 1985, when modern formation system of the EU regional policy was just launched.  $\beta$ -convergence could be observed in the EU even before the start of the full-scale supranational regional policy.

According to all facts, mentioned above, the success of certain backward regions of the EU in 1990-2000 can be attributed largely to the cohesion policy. A good example is Ireland, which has transformed from a poor Western country on the eve of joining the EU to the state with a level of GDP per capita greater the average in the EU, gaining a very long-term substantial allocation for implementation of the regional policy. The investments from the EU structural funds certainly contributed to the economic success of Ireland, but they were among the other addition to the widespread knowledge of English by the local population, which attracted investors from the United States and certain other countries, seeking to enter the EU common market across the country with low labor costs but with a comfortable business environment.

Another example serves Masovian Voivodship in Poland with its center in Warsaw. GDP per capita in PPP in the region increased from 76% of the EU average in 2003 (on the eve of joining the EU) to 107% in 2011 [<sup>165</sup>]. Most likely, it was cursed by the concentration of economic growth in the metropolitan area in conditions of total overtaking development of other regions of post-socialist countries, which joined the big domestic market of developed countries.

In addition, convergence mathematical calculations do not take into account the specificity of demarcation of borders between regions. Unfortunately, sometimes contrasts move from the level NUTS -2, which is the net of Cohesion Policy, to NUTS-

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<sup>164</sup> Storonyanska I. Z. Regions of Ukraine: Search of convergent model of development [monograph] / I. Z. Storonyanska. - Lviv: IRD NASU, 2008. – 144p. (Series "Problems of regional development")

<sup>165</sup> Regional gross domestic product (PPS per inhabitant in % of the EU28 average) by NUTS 2 regions (<http://ec.europa.eu/eurostat/>).

3 level by strengthening the local center-peripheral contrasts. As an illustration we can use an example of the largest recipient of the cohesion policy funds - Poland, which specially conducted reforms of administrative and territorial structure to meet the needs of the supranational EU regional policy, comparing data on GDP per capita at current exchange rates in 2003 (on the eve of joining the EU) and in 2011. While preparing for the EU accession, Poland was enlarged by 16 provinces (which ideally match the level NUTS-2), which include 66 regions of NUTS-3. Almost all new provinces were created taking into account the "nodal zoning" (except saving a few small provinces as concessions for local political elites). This means that many provinces were formed by combining the largest cities or mono / polycentric metropolitan areas (where GDP per capita grew faster or middle national rate) and peripheral problem regions (NUTS-level 3). A good example serves Podkarpackie voivodship, where difference of GDP per capita between "central" Rzeszow district and one of the most backward for the whole Poland Przemyśl district grew in the calculation of the current exchange rate from 1.27 to 1.55 times. The gap between Łódź and Sieradz County in Łódź Province rose from 1.67 to 1.88 times. In Lower Silesia Province Lehnitsko-głogów county overtaken Wrocław, as a result the difference between it and most backward province in Valbzhyskym county increased from 1.84 to 2.54 times. In Silesia province, as well as in Dolnośląskie, because of the large number of industrial areas the leader has changed - Tyhskyy County overtaken Katowice, as a result the rupture of an outsider (Bytomskym county) increased from 1.85 to 2 times. Only in 6 provinces we can notice the gap reducing, but little - among Warsaw, Poznan and Szczecin and the most backward districts under Mazovia, Wielkopolska and Western provinces, as well as Podlaski, Kujawsko-Pomorskie and Warmia-Mazury voivodship. Comparing the regions due to GDP per capita in PPP, the total backlog in Poland to the EU average decline (for 2003 more than doubled, to 2011 - 1.7 times) [<sup>166</sup>]. However, domestic contrasts remain.

Another problem – is the stability of convergence results. The example of Greece demonstrated that rapid GDP growth can be achieved by quite artificial means (for example, through excessive inflation of the public sector). As a result of the lack of the long-term framework for the regional economy development in case of the economic crisis hauls back the process of convergence of regions due to formal

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<sup>166</sup> Regional gross domestic product (PPS per inhabitant in % of the EU28 average) by NUTS 2 regions (<http://ec.europa.eu/eurostat/>).

criteria arises. Thus, in general, GDP per capita in Greece increased from 2000 to 2009 in relation to the EU average of 67% when calculating the current rate and 84% when calculating the PPP to 87 and 94%, and for two years fell to respectively 74 and 80% [<sup>167</sup>]. Measures of some Greek regions fell to a level of 90's XX century, even when calculating the current rate of exchange (examples are Thessaly, central Greece, the Peloponnese, Central Macedonia, and Crete). Faster growth to the EU average when calculating the total PPP for 2011 compared to 2000 showed only two regions - the most developed western Macedonia and Attica.

Therefore, for the next decade in the cohesion policy agenda the task of aligning the EU regions in terms of GDP per capita takes an important place. Moreover, the continued expansion on the basis of underdeveloped countries only sharpens contrasts with the overall convergence. Thus, in 2011 in the most developed regions of the EU - the inner part of the Greater London - GDP per capita considering PPP was 321% comparing with the EU average-28 level (taking into account Croatia - united in 2013) [<sup>168</sup>]. It was 11 times more than in the most backward region of integration groups - the North-East region of Romania, which joined the EU only in 2007.

Another problem, connected with GDP, is the need for constant "pull" of the most backward regions, which due to absence of their own resources for development, the peripheral position, constant migration of skilled employees to major cities, an inefficient local government or other reasons do not participate in convergence at all. Thus, for the regions of 15 "old" Member States changes in GDP per capita in PPP for the period 1995-2005 were calculated. The results show the absence of tendency of the gap reducing for all territories with the starting index below 60% of the EU average. The solution cannot be achieved through only increasing investments from the ERDF and other EU funds - it requires serious institutional changes, the nature of which has not been determined. In particular, we still have not got proposals of universal mechanisms for transferring peripheral areas into the innovative way of development, in terms of increased competition from large EU condemns developed countries in the areas of low GDP growth. On the one hand, in 2011 the share of R & D expenditure in GDP was in Walloon Brabant (Belgium) 8.9%, in Brunswick (Germany) - 7.8%, Stuttgart (Germany) - 6.6%, Cheshire (UK) - 6.3%,

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<sup>167</sup> Eurostat Regional Yearbook 2014. – Luxembourg: Publications Office of the European Union, 2014. - P. 120

<sup>168</sup> See 160



Moscow region of Denmark - 5.1%, South Pyrenees (France) - 5.1% and in East Anglia (UK) - 5.0%. On the other hand, the Spanish Ceuta figure was 0.08%, the Greek Ionian islands - 0,09%, in the South East of Romania - 0.11%, in North-Western Bulgaria - 0,13%, etc. [<sup>169</sup>].

The situation with unemployment, the reduction of which under the cohesion policy meets the first ESF, remains quite acute. In 2013, in the EU co-existed regions with an almost complete absence of unemployed (Upper Bavaria - 2.6%, German Freiburg and Austrian Salzburg - 2.9%) and regions, where every third able-bodied resident was looking for work (Spanish Andalusia - 36, 3%, Ceuta - 35.6%, Melilla - 34.4%, Canary Islands - 34.1%, Extremadura - 33.7%, Greek West Macedonia - 31.8%, etc.). In general, in 49 regions of NUTS-2 (23 in Germany, 8 in Austria and UK, 3 in the Czech Republic and Romania, two in Bulgaria and 1 in Italy and the Netherlands) the unemployment rate was not higher than 5.4%, while as in the EU-28 was 10.8%. However, in 27 regions unemployment exceeded the 21.6% that was twice higher than the average for the EU-28 (13 regions of Spain, 10 regions of Greece, 3 French overseas departments and 1 region of Italy). Youth unemployment, which is a factor of political destabilization, which prevents sustainable socio-economic development, situation is worse in the EU. At one extreme are German Tübingen and Upper Bavaria (4.4%) and Freiburg (4.7%), Swabia (4.8%) and Middle Franconia (5.0%), while at quite different extreme settled Ceuta (72.7%), Greek Western Macedonia (70.6%) and Epirus (67.0%), the Spanish Andalusia (66.1%) and the Canary Islands (65.3%) [<sup>170</sup>].

**Conclusions.** Even fewer responses the EU experts have to the questions of regional development that only arise under the influence of globalization and other fundamental processes. Although they are formally included into the priorities of the cohesion policy and several analytical publications of relevant Directorate of the European Commission are dedicated to them, in practice there is no complex solution of such problems as preventing droughts, floods and other natural disasters (mainly it is used to eliminate consequences at the EU) or, for example, integration of migrants into the local society. The same issues are relevant for Ukraine and, that is why, it is essential to continue monitoring the successes and mistakes of the

<sup>169</sup> Unemployment in the EU28 regions in 2013. Regional unemployment rates ranged from 2.6% in Oberbayern to 36.3% in Andalucía // Eurostat Newsrelease. 2014. №60 (15 April).

<sup>170</sup> Unemployment in the EU28 regions in 2013. Regional unemployment rates ranged from 2.6% in Oberbayern to 36.3% in Andalucía // Eurostat Newsrelease. 2014. №60 (15 April).



supranational EU regional policy, system of which is much more adapted than in our country.

According to the experience of the EU, the following features should characterize regional policy:

- existence of conscious and formulated vision of objectives in regional development (in the form of common objectives, strategic plans)
- presence of the authorities responsible for changing of proportions of territorial development,
- availability of tools, aimed at the development of problem areas.

These characteristics should be the criterion while determining the future direction of the regional policy of Ukraine.

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## **PROPERTY RIGHT – AN INSTITUTIONAL DETERMINANT OF STATE'S ECONOMIC SECURITY**

**Abstract.** *The property right as a basis of state economic and its security is analyzed. Transformation of world institute of property right is overviewed. The risks of public property right protection decrease and privatization of the world are discussed. The reasons of modern wars such as fighting for resources, transformation of war forms (hybrid, trade, financial) are determined. The lack of property right protection effectiveness in Ukraine is characterized. The dangers for Ukrainian economy because of inefficiency of property right institute are shown. Priorities for public legitimization of property right institute for economic security of Ukraine strengthening are proposed.*

**Introduction.** The transformation of the security systems of national economies is conducted in XXI century. Obviously, inequality is increasing in the world due to the change of global property structure.

Equality of people and justice in the world are impossible because of people's limited access to the natural resources. With acquiring the status of a citizen, a man gets the possibility to purchase and realize property right on public resources. To the citizens of other states, people without citizenship, the state gives a right to use own public resources only at the consent of direct proprietors of these resources. For example, a permission of entrance in a country (visa) gives a right to be on the territory of the country (to use public space of the state that gave a visa), and to carry out certain activity on its territory.

Letting refugees to come in - is the goodwill of the state, citizens of which are divided with refugees, who lost public resources of development, the right to use their public resources only with their humanitarian motives. But people may not share these resources with others. Some countries tightly control the flow of illegal immigrants and have deported them (like the deportation of gypsies from France in 2010 -2016) <sup>[171]</sup>. The increased inflow of migrants to the EU changed tolerant attitude of many European nations to refugees. In 2016 Sweden, Finland and other

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<sup>171</sup> Asimetaj, A, (2016) Europe's Roma Dilemma: Deportation and Exclusion / NATO Association of Canada [Electronic resource]. – Retrieved from: <http://natoassociation.ca/europes-roma-dilemma-deportation-and-exclusion/>.

EU countries plan to send out off the country hundreds of thousands of refugees<sup>172</sup>. Thus, these states have shown reluctance to share public space with non-citizens of these countries. Moreover, no one can force a state to allow others to the use its public resources. Thus, in recent years' the escalation of war in different parts of the world has been caused by the redistribution of public resources.

A war – is a conflict for the public resources that one state does not allow other people to use, certain social group or private owner who tries to seize them. Thus a person who has not received the desired resource, try to receive it in another way. The development of a law system and scientific progress leads to a departure from the traditional form of war (armed conflict), to its modern forms: commercial, financial, hybrid wars, when public resources are gained from one state without physical struggle through an institutional change of public resources ownership.

An intensive globalization, privatization of the world and a significant reduction of volume of public ownership with a sharp increase of world population create a further escalation of the war threat and the need to ensure reviewing strategies of economic security and strengthen the protection of public property.

Therefore, the economic security of the state - is its condition, while between citizens an effective cooperation on self-reproduction of a nation, an efficient use of public resources, the storage of resources development and potential to live for future generations are established and the ability to protect the lives and resources of the nation against external and internal threats are formed.

The formation of the property right institution as an important component of economic security systems, and determining the criteria for its effective functioning are the basis for economic security effectiveness.

A state – an entity of people for the purpose of public resource management. The attributes of the state are (Figure.1).

The purpose of the state as a system is to ensure the self-reproduction of the people. A nation must ensure its effective functioning and reservation of resources for future generations. With the achievement of these goals, people can care for obtaining benefits for current generations. This model allows achieving sustainable development. Private property belongs to a man and public property belongs to the

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<sup>172</sup> Solomon, L.( 2016) Europe is planning to deport hundreds of thousands of Muslims [Electronic resource]. – Retrieved from: <http://news.nationalpost.com/full-comment/lawrence-solomon-europe-is-planning-to-deport-hundreds-of-thousands-of-muslims>.

nation of the state. The public nation's ownership on resources, especially on the territory, natural resources has been institutionalized at the state level.

Figure. 1. Conceptual model of a state

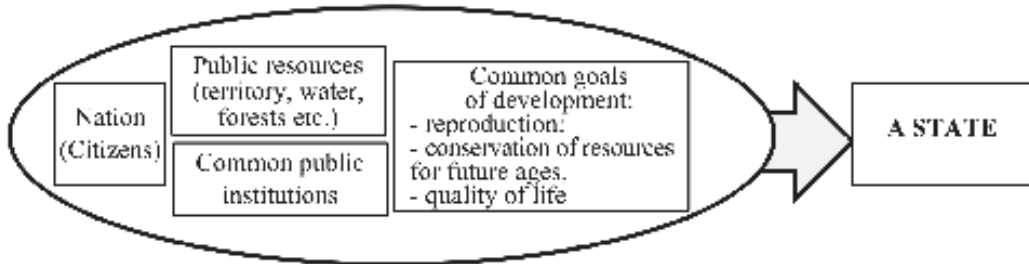


Fig. 1. Conceptual model of state

Source: Proposed by the authors.

With recognition of another countries, global community recognizes the ownership of the nation of natural resources, and people recognize institutionalized associations (a legal entity), which is an independent state. Management, use and disposal of common resources determine the need for the formation of the economic system of the state and ensure economic security of the state.

The constant growth of the world population, the limited resources of the planet exacerbate the risks of fighting for resources between the states. These situations lead to the escalation of military conflicts and hybrid wars in the past years.

From Paleolithic times, the redistribution of resources was held by physical struggle between different social groups. In order to avoid massive bloodshed at the global level there was introduced a system of law, which made a transparent fixing of ownership, including the public property. The protection of property rights needs not only physical, but also economic, political supplement.

Despite the fact that the modern world is trying to maintain a certain stability, securing ownership of public resources after post-war division of the world (World War II), introducing a system of international law, states are trying to ensure civilized protection of public property, focusing primarily on the need to respect the common rules of the game – the global institutional environment. The institute of ownership is the part of this system.

Every state in accordance with international law must settle the Institute of ownership and provide a clear definition by:

- objects of public property (especially limited natural resources);
- subjects of property right (individuals and entities identified by the owners of objects);
- system of property rights protection (complex of political, organizational, economic, information mechanisms to ensure s of property rights implementation by subjects, combating encroachment by others on this law);
- a justice of this system (the division of ownership between the subjects, which allows fully realize the target aim of state).

According to E. de Soto, the most important institution of economy is the right of property. Emphasizing the relationship between the efficiency of operation of this right and the level of economic development, the scientist is in dysfunction institution of private property is an explanation, "... why capitalism triumphs in the West and fails the" non-Western "countries. The lack of legal registration - the main reason why people are able to learn all Western inventions of clerical clip to the nuclear reactor, not able to create enough capital for their own functioning capitalism. This is the mystery of capital. Understanding how the West assets proper registration of ownership, which turns into a source of capital" [173].

In 2014, the World Economic Forum in Davos stated the growth of inequality: the world's 85 richest people in the world have the same capital as the poorest half of the world population. If no action is taken to deregulate the rule of property right in a few years the richest people will own a greater share of global wealth that confirmed Oxfam International experts' forecasts: in 2016 the size of assets of 1% of the richest people in the world will exceed the size of the assets of 99% of the rest of the world's population<sup>174</sup>. We make prognosis based on data of Oxfam International about global ownership structures between 1% of the richest people and the rest of the world (Figure. 2).

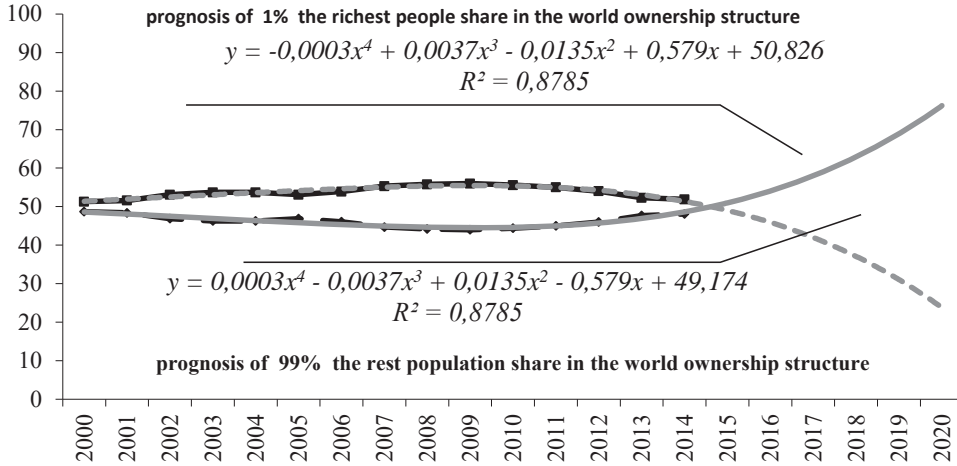
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<sup>173</sup> De Soto, H. (2003) *The Mystery of Capital: Why Capitalism Triumphs in the West and Fails Everywhere Else*. Basic Books; Reprint edition.

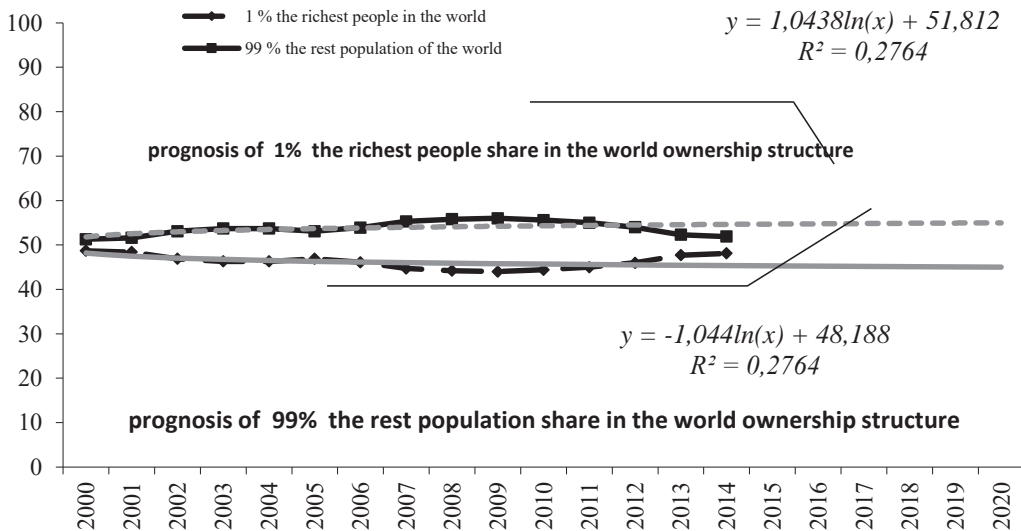
<sup>174</sup> Wealth: having it all and wanting more (2015) Oxfam issue briefing January 2015. [Internet resource] – Retrieved from: [www.oxfam.org](http://www.oxfam.org).

Figure.2. The structure of the world property and prognosis of its change 2000-2014 pp. (2016-2020 pp. – prognosis), %.

a) forecast of structural changes of the world ownership without a change of the institute of property right regulation



b) forecast of structural changes of the world ownership with a change and settle limits of world monopolization



Source: Based on the data:<sup>[175]</sup>

<sup>175</sup> Wealth: having it all and wanting more (2015) Oxfam issue briefing January 2015. [Internet resource] – Retrieved from: [www.oxfam.org](http://www.oxfam.org).

With a high level of confidence (R), we forecast the scenario of further concentration of capital by the richest people and impoverishment of the general population (Figure. 2, a). The excessive concentration of the capital by a limited number of people leads to a social unrest, revolutions and a redistribution of property. The prognosis of the world ownership structure actualizes reducing the possibility of the Earth population majority to receive income from property (including municipal and state), because it does not have a sufficient number of private resources for capitalization.

Preservation of the existing ownership structure will lead to impossibility of physical survival of more than half of the world population, which will cause social riots, unrests and wars.

The prognosis of structural changes ownership, shown in Figure. 2, would be less likely ( $R = 0,2764$ ) and its implementation is possible only as a result of an institutional change to equalize the distribution of property.

The researcher Karl Schwab stressed the need for a global transformation that had to begin with the restoration of social justice in the world<sup>176</sup>. The basis of the latter should be the reform of a global institute of property rights to guarantee an equal access to the needed resources of development.

In our view, each state must establish a minimum amount of public resources, which are co-owned by every citizen, and thus it is a basic standard of economic security, because the beneficiaries of state are its citizens. In addition, the main point of the state economic security is determination and protection of property right.

The IMF and the World Bank classified 10 recommendations of the so-called Washington Consensus. According to it the state must provide preconditions for economic development, one of which is the protection of property rights.

Inadequate protection of property rights in underdeveloped countries makes the loss of basic development resources by the nations of those countries without armed conflicts. For example, state and municipal governments of Sudan, Mozambique, Liberia and others transfer agricultural lands to other countries, despite the fact that much of their population is starving. Land grabbed in the 24

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<sup>176</sup> Occupy Davos? Leaders greeted by doubts about capitalism (2012) *CBC/Radio-Canada* [Internet resource]. – Retrieved from : <http://www.cbc.ca/news/politics/occupy-davos-leaders-greeted-by-doubts-about-capitalism-1.1199286>.

most grabbed countries, which altogether account for about 90% of the global grabbed land (Table 1).

Land grabbing in a significant proportion of the population that is undernourished or hungry, confirms the assumption of improper protection abuses by governments of public property rights that threatens the existence of states. That is, the modern governments of these countries are deprived of resources not only for current but also for future generations.

Table 1. The global grabbed land.

Grabbed country	Grabbed land			
	Grabbed area (A <sub>g</sub> ) (10 <sup>5</sup> ha)	% of total global grabbed land	% of country's cultivated land	% of country area
Argentina	6,31	1,34	1,97	2,26
Australia	46,45	9,90	9,78	0,60
Brazil	22,55	4,80	3,29	0,26
Cameroon	2,95	0,63	4,01	0,62
Republic of Congo	6,64	1,41	8,91	0,28
Ethiopia	10,01	2,13	6,68	0,91
Gabon	4,07	0,87	85,75	1,52
Indonesia	71,39	15,21	16,76	3,75
Liberia	6,50	1,38	106,52	5,83
Madagascar	3,69	0,79	10,40	0,63
Morocco	7,00	1,49	7,73	1,57
Mozambique	14,97	3,19	28,24	1,87
Nigeria	3,62	0,77	0,98	0,39
Pakistan	3,34	0,71	1,57	0,42
Papua New Guinea	3,14	0,67	32,75	0,68
Philippines	51,71	11,02	49,48	17,24
Democratic Republic of Congo	80,50	17,15	1,08	3,43
Russia	28,31	6,03	2,29	0,17
Sierra Leone	4,94	1,05	40,62	6,88
Sudan	46,90	9,99	23,00	1,87
Tanzania	20,27	4,32	17,63	2,14
Uganda	8,59	1,83	9,70	3,56
Ukraine	12,08	2,57	35,53	2,00
Uruguay	3,46	0,74	18,08	19,61

Source: Based on the data : [177].

Another example of an inefficient management of public property is the credit policy of governments of some countries that enter into agreements with foreign

<sup>177</sup> Rulli, M. & Saviori, A. & D'Odoricob, P. (2016) *The global farmland grab in 2016: how big, how bad?* [Electronic resource]. – Retrieved from: <https://www.grain.org/article/entries/5492-the-global-farmland-grab-in-2016-how-big-how-bad..>



borrowings institutions but they fail to return these loans. As a result, it caused the increase of their debts to the critical dimensions (Table 2)

Despite the substantial amount of debt, some countries hold high positions in the ranking of global competitiveness (2015-2016) certifying that they have large amounts of public resources and effective management that allows them to avoid default.

Table 2. Countries with the highest public debt in relation to the GDP and its level of competitiveness

State	Rank in Global competitiveness rating, 2015-2016	Public debt in relation to the GDP, %
Japan	6	249.34
Lebanon	101	142.57
Italy	43	133.03
Portugal	38	127.94
Eritrea	Not estimated	125.56
Jamaica	86	123.09
Bhutan	105	122.01
Cabo Verde	Not estimated	121.67
United States	3	107.49
Belgium	19	106.76

Source: Based on the data : [<sup>178</sup>]

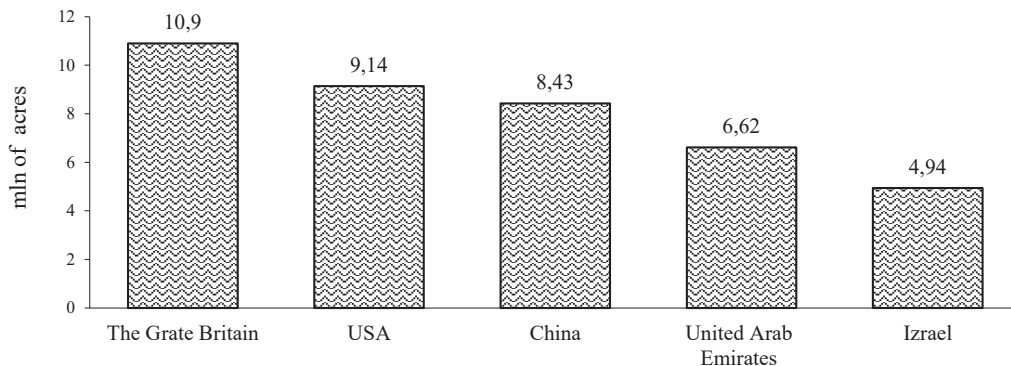
The US, despite the significant amount of external loans, actively buy up the territory of other states, thereby forming a resource base of their future generations. A redistribution of public resources has led to the emergence of so-called "new colonialism" in the world, carried out mainly without armed struggle, simply by buying natural resources of poor countries (Figure. 2).

The agricultural lands of poor countries are often exploited by economic agents of other states. Mainly these are the lands of African countries (Mozambique, Democratic Republic of Congo, Tanzania, Sudan) and also post-soviet countries (Ukraine, Russia).

Due to an inefficient management of public resources, a number of states faced the default threat. So in recent years, the threat of default is faced by a number of countries: that led to the threat of loss of their sovereignty: Greece (2015), Argentina (2012), Ukraine (1998-2000) and others.

<sup>178</sup> Global competitiveness report 2015-2016 [Internet resource]. – Retrieved from: <http://www.weforum.org/issues/global-competitiveness>.

Figure 2. Agricultural land of poor countries, which have been bought by developed countries, mln acres



Source: Based on the data: [179].

The information agency "USA Today" published a list of countries that, according to the international rating Moody's Investors Service agency, are facing bankruptcy. Ukraine took the first place in the list, with index "Ca" (pre-default). Also Greece, Venezuela, Belize, Jamaica, Argentina, Belarus faced the threat of the bankruptcy of the country [180].

Predominantly, the countries, which faced bankruptcy, have significant natural resources and economic potential. Often economic bankruptcy becomes a result of an inefficient economic government, a high level of shadow economy and corruption that lead to the theft of public resources, and therefore – the financial failure of the state. As a result of the inefficient public management, these countries become objects, not subjects of international relations.

Ukraine in the global process, unfortunately, plays the role of the object, not the subject of a new world order. Briefly, we will list some of the competitive advantages of the country's economy before the war in 2014:

1. *Population.* The population Ukraine ranks fifth in Europe (after Germany, Italy, the UK, France) and about 21st in the world. It accounts for 7,3% of European and 0,5% of the world population. It ranks fourth in the world in the list of countries with the percentage of citizens with higher education, ahead of the average in the EU.

<sup>179</sup> Land Grabs – The Facts (2013). *New Internationalist*, May, P.16-19.

<sup>180</sup> Seven countries in the world before default. Ukraine is in the top of the rank (2015) [Internet resource]. – Retrieved from: <http://ua.112.ua/statji/sim-krain-svitu-shcho-stoiat-na-mezhi-defoltu-251574.html>.

2. *Territory*. The largest country in Europe, which holds 0.41% of the world land area.

3. *Climate*. Most of Ukraine is known to be located within the moderately continental climate, but the southern coast of Crimea has the typical subtropical climate.

4. *Minerals*. Ukraine possesses 5% of the world mineral potential. On the territory of Ukraine, 20 thousand of deposits are explored (111 kinds of minerals), among which 7,8 thousand of deposits (94 minerals) have the commercial importance. The greatest economic importance is attached to coal, iron ore, native sulfur, rock salt, potassium salt, non-metallic building materials, and mineral waters. With the proven reserves of some minerals, Ukraine is ahead of Russia, the USA, Britain, France, Germany and Canada. The deposits of manganese ore in Ukraine are the largest in the world (2,3 bn. tons, or 11% of world reserves).

5. *Land resources*. Different estimates confirm that Ukraine possesses from 6 to 20% of all of Earth humus. The soils occupy about 44% of the territory, although at this stage there is a significant degradation of soils.

6. *Water Resources*. From the total length of the river Dnipro (2201 km) in Ukraine 981 km are situated. The Dnipro is known as the third longest river and the river square of its basin in Europe (after The Volga and The Danube). The length of the sea border is 1,3 thousand km (between the Black and Azov Sea, Kerch Strait - 49 km), 7% of the country covered by waters.

7. *The energy potential*. The energy sector of Ukraine is the twelfth largest in the world. The largest nuclear power plant in Europe – Zaporizhzhia nuclear station. 46,4% of Ukrainian electricity comes from nuclear power plants, according to the IAEA, corresponding to fifth in the world.

8. *Agricultural Products*. Ukraine is one of the largest grain producers in the world, one of the three largest suppliers of barley in the world, with France, Germany and the USA, Ukraine belongs to the largest producers of sugar beet. Also Ukraine is among the seven most powerful producers of vegetable oil, pork, sugar, potatoes, and among five countries – the largest producers of honey in the world. Overall, Ukraine belongs to the five countries that will ensure global food security to the world over the next 50 years.

9. *Transit potential*. The territory of Ukraine is been crossed by ten European transport corridors.

10. *The scope of aviation.* Antonov Design Bureau developed the aircraft with the world's largest capacity - the AN-225 "Mriya". Originally it was designed to transport the spacecraft. Currently, "Mriya" takes commercial freight.

11. *Space exploration.* Ukrainian SE "PA Yuzhnyi Machine-Building Plant named after A. Makarov" produces the most environmentally friendly vehicles in the world. These vehicles are used in commercial cargo space in the international project "Sea Launch". Ukraine holds the fourth place after the United States, Russia and France among 100 countries, which develop space industry, is among the five leading countries with the number of space launches. In the Strategy of space development activities, among European countries looking for cooperation with the EU, Ukraine ranks third after the US and Russia. The structure of Ukraine's space industry includes about 30 companies, design bureaus and institutes.

Ukrainian carrier rockets since 1991 made 69 starts and launched into orbit more than 130 spacecraft. It is believed that one dollar invested in the aerospace industry in Ukraine gives ten dollars profit. Every year NCA concludes nearly 400 contracts, receiving about 700 mln \$. profits.

12. *The scope of production military-industry trade.* According to the data of the Stockholm International Peace Research Institute, in 2012 Ukraine ranked fourth among the largest exporters of weapons. The largest volume of production military-industry trade weapons was supplied to Azerbaijan, Georgia and China, to Africa (South Sudan, Republic of Congo).

13. *Telecommunications.* According to the International Telecommunication Union, Ukraine is on the 58<sup>th</sup> place in the world in terms of information and communication technologies. At the beginning of 2012 in Ukraine, there are nearly 17 million Internet network users, representing 37% of the total population and 3,2% of all European Internet users (9<sup>th</sup> place in Europe).

Despite such a huge socio-economic and military potential and the Budapest Memorandum "On security assurances in connection with Ukraine's accession to the Treaty on Nonproliferation of Nuclear Weapons' in 1994", this potential is not capitalized. Ukraine, Belarus and Kazakhstan - the only countries that voluntarily renounced nuclear weapons. Ukraine, unfortunately, has not received the desired security guarantees and support from the strategic partners during the war in Donbas and the Crimea annexation.

In the case of Ukraine, which has significant growth potential, pre-default state of the country is largely due to the institutional crisis of the state, by which

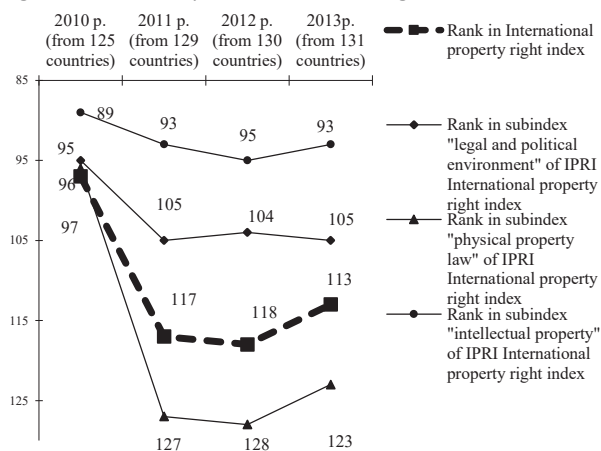
ownership is not defined properly and is not protected. In order to effectively manage this potential, the right to property objects must be identified and protected.

In 2004, E. de Soto founded the International Alliance of property rights, which estimated International Annual International Property Rights Index. This index measures the achievement of the country on the status and effectiveness of three main components of property rights protection:

- the legal and political environment, judicial independence and impartiality of the courts, the rule of law, political stability,
- corruption;
- physical property law, protection of property rights, registering property, access to loans;
- intellectual property rights, intellectual property rights, protection of patent right, the level of "piracy."

According to the ratings of recent years, Ukraine is among the countries where the institution ownership operates the worst (Figure. 3)

Figure. 3. Ukraine's position in the ranking of the International Index of property right index (2010-2013).



International property right Index and subindexes

Indicator Years	IPRI	LP	PPR	IPR
2010	4,1	3,7	4,8	3,9
2011	4,0	3,5	4,4	4,2
2012	4,0	3,6	4,3	4,2
2013	4,2	3,6	4,8	4,2

Evaluation of a 10-point scale, where 0 - the least secure property rights, 10 - best protected ownership.

IPRI - International index of property rights; LP - subindex "legal and political environment"; PPR - subindex "physical property law"; IPR subindex "intellectual property"

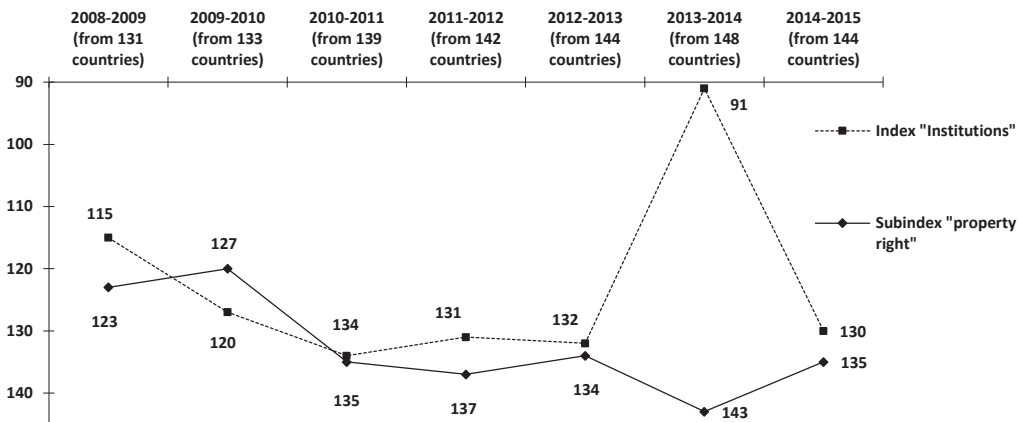
Source: Based on the data :<sup>[181]</sup>.

<sup>181</sup> Meinzen, D. R.(2014) *Property Rights for Poverty Reduction* . DESA Working Paper № 96, New York: UN Department of Economic and Social Affairs. [Electronic resource]. – Retrieved from: [http://www.un.org/esa/desa/papers/2009/wp91\\_2009.pdf](http://www.un.org/esa/desa/papers/2009/wp91_2009.pdf).

Ukraine has the lowest rating positions in terms of effective protection of physical property rights steadily entering the list of countries where this right is most vulnerable. The indicators of legal and political environment and protection of intellectual property are low, all of which leads to the conclusion that indeterminate and unprotected property right in Ukraine is at the critical level.

The same trends are confirmed by the indicators of the Global Competitiveness Index, Ukraine, in terms of institutions and property rights in recent years has one of the lowest indicators in the world (Figure. 4).

Figure. 3. Ukraine's position in the ranking of the Global competitiveness index (2010-2013).



Source: Based on the data <sup>[182]</sup>.

Such an ineffective institute of property right disables the whole Ukrainian economy and shows its low level of economic security.

The position in the rank by the Index "Institutions to 91 place in 2013-2014 was reached rather like expectance due to the introduction of the new Tax Code than really institution development. Obviously, that the real reform of institutions were not conducted. However, in reforming the system of property right protection, Ukraine did not take any effective steps, which is displayed in the extremely low rating of these indicators of Ukraine. The index of "property rights" is generally critically low ranking positions and in recent years, our country is among the top ten

<sup>182</sup> Global competitiveness report [Electronic resource]. – Retrieved from: <http://www.weforum.org/issues/global-competitiveness>

countries in the world, along with Chad, Burundi, and Zimbabwe.

Ownership (public and private) is not registered properly in Ukraine. However, there is no comprehensive system of research that would explain the dysfunction of the ownership Institute.

According to Ukrainian legislation norms, an owner can be only a person (man or legal entity). Property right of the state or local community is registered. Thus, in developed countries the state and local communities have the status of a legal entity (public corporation). In Ukraine, according to the Constitution, a local community must be a legal entity, because it is the subject of rule. In fact, the status of an owner and a legal entity got local councils and local administrations, which destroyed legal system of property right at the local level and caused an institutional gap for the whole Ukrainian economy.

Today, the right of the state ownership of property and non-property items that according to law belongs to the people of Ukraine, is assigned to the institutions, most of which are fictitious legal entities, as established in an unauthorized manner (particularly their founders are individuals, they are private entities, and in some cases - nonexistent entities). For example, the founder of public enterprises NJSC "Naftogaz of Ukraine", the state concern "Ukroboronprom", NJSC "Energy Company of Ukraine" were founded by a non-existent entity the "Cabinet of Ministers of Ukraine" with EDRPOU 00031101 (the registration of such a legal entity is absent in the Unified State Register of Legal Entities and Individuals - entrepreneurs).

However, if the founder of these companies and, accordingly, the owner, is a non-existent person, who is not related to the people of Ukraine – one can say that legally the people of Ukraine have no connection with these companies, so we can assume that there was a raider seizure of strategically important state objects.

Similarly, most government services and agencies, including agencies that provide oversight of legality (Department of Justice, the executive office, the courts and others) are registered in an incorrect way. Due to the founder, who has delegated authority from the people of Ukraine, many of which are created without an administrative act of the founder. Most of agencies and services are registered as legal entities and they are fixed as owners of public property in documents.

A lot of public property objects are not identified, especially natural resources. The Constitution of Ukraine stipulates that land is the main national wealth and is under special state protection. The Prime Minister of Ukraine

announced in 2015 that the state and local authority had no information about 90 % of agricultural land, which were not registered in cadastral map. Moreover, they had no information about the users of these lands.

Many citizens of Ukraine did not privatize lands, which they used for a long time, because of substantial institutional and financial barriers. In the country, states and municipal lands are not properly demarcated. Even borders of Ukraine are not demarked in some places.

Only one complete inventory of the land in Ukraine had been held in 1998 with significant violations and carried out only with informational purposes. The information about the owners and lands was introduced with the user's words without the regulations for the use, ownership documents and the border of the land plots checking. Thus, the inventory of the land in 1998 contained unverified information and nowadays Ukraine as a state has no true information about the lands characteristics and their owners of 80 % of the total territory of the country. If the information about lands is not in the cadastral map of Ukraine, the State Land Agency (or Derzhheokadastr) has information about the status of the landowner and land resources just from the inventory data in 1998, and has no relevant data about the majority of lands.

The government estimates losses from the uncontrolled use of land at 1 billion UAH annually. In August 2015, a technical default of Ukraine was announced, while the most valuable domestic resource is in shadow circulation, and the government officials do not use organizational and economic measures for legalization of land turnover and income rent from its use. Also massive deforestation in Ukraine in 2015-2016 has characteristics of ecocide. However, due to the improper accounting and protection of the rights of public property right of these resources, there was a large-scale economic loss for Ukraine.

There is no public information about the biggest part of public resources and the access to the information for citizens is mainly closed. In spite of the legislation, which gives public access to this information, as well as the management of these resources, not properly inventory (water, forest resources) leads to its excluding from the public property without public control.

The most systematic and massive violations of the registration and protection of property rights mechanisms relating to municipal property, which led to a threat to economic security of communities due to the violation of their fundamental economic rights:



- Ownership of local commons belongs to local authorities (legal entities). In fact, members of local communities are not legal owners of municipal property;
- Citizens are not beneficiaries of public property managing, which is redistributed in a narrow circle of people.

Without legitimization of the property right, to build market economy and to develop Ukraine is impossible. In addition, there are many problems with returning public property from occupied territories of Donbas and Crimea, because of incorrect registering of the property right of Ukraine.

The most of the richest people from post-Soviet countries had formed their capitals through redistribution, illegal privatization or excessively low value of public assets through the courts.

In particular, in Ukraine, most oligarchs received their capital not due to the inheritance or results of work, but through redistribution of existing resources, removing them from public use (public or state ownership), primarily on the basis of privatization at reduced prices or free, and the accumulation of capital through shady circulation of money in the form of "kickbacks", bribes.

B. Danylyshyn proved that a rapid and excessive enrichment of Ukrainian oligarchs is linked to the illegal alienation of the state and municipal property, excessive exploitation of natural resources, the actual appropriation of natural rent. According to the expert estimates, as of 2012 one hundred richest Ukrainian assets amounted to about 130 billion dollars, approaching the volume of Ukraine's GDP this year<sup>183</sup>.

Thus, we conclude that there is the biggest lack of an institutional basis of Ukraine – the institute of property rights dysfunctions.

There is the need to complement the Washington consensus and Post Washington consensuses in the part of settling additional rules of the economy, without the occurrence of which the global economic crisis is inevitable:

- Limiting the volume of natural resources, which can be consolidated of one-person ownership in the state and on a global scale;
- Total personal identification of final beneficiaries' intellectual and proprietary rights;

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<sup>183</sup> B. Danylyshyn: In Europe people ask about the origin of Ukrainian oligarchs. (2012) UNIAN [Internet resource]. – Retrieved from: <http://www.unian.ua/politics/697066-danilishin-u-evropi-pitayut-zvidki-groshi-v-ukrajinskih-oligarhiv>.

- full inventory and accounting of public resources, legislative strengthening citizens' rights, publicity information about these resources, establishing basic standards of minimum volume at the state and local community, which can't be excluded;
- strengthening the personal responsibility of individuals and legal entities for efficient use of public resources, especially natural;
- development of social business based on public property;
- strengthening social responsibility.

**Conclusions.** 1. The institute of ownership is a basic economic institution, the formation of which is an important duty of the state.

2. Nowadays, the global institution of property right has been transforming, which requires from the state to review their security policies, and to strengthen the protection of property rights on public resources.

3. The main problem of the poor or developing countries, including Ukraine is a lack of legitimacy of the property right institute that leads to dysfunction of the economy and causes a threat of bankruptcy to the whole state.

4. The inventory of public resources, securing property rights for the respective owner (the state, local communities) and developing a system of protection of this right taking into account the innovation and hybridity of modern wars for resources on a global scale.

5. Legitimizing of the public property institution needs complete and accurate identification of public property objects, especially natural resources, determination of the subjects of ownership, transparency of ownership and the ability to control the institute of property rights by the direct owner of public benefit recipient state – a citizen.

6. The reform of the education system, which in most underdeveloped countries does not give even basic knowledge about property right, public property and public ownership administration control mechanisms, is critically needed; noneffective education system can lead to complete monopolization of the institute of public property and management by politic elites. That ultimately causes the illegal privatization of public resources, thus, depriving the present and future generation of development resources.

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## **THEORETICAL ASPECTS OF THE RESEARCH ON UKRAINIAN DOMESTIC MARKET IN THE CONTEXT OF THE NATIONAL ECONOMY GLOBALIZATION**

**Abstract.** *In the article, different approaches of scientists to globalization in the world economy were analyzed. The theoretical nature of the internal market was revealed, and its basic functions were described. The typology of the subjects of the internal market regulation was pointed out. The basic stages and trends in the domestic market development in a globalized national economy were determined. The essence of the mechanism to regulate the domestic market and its elements was proven. The instruments of the internal market development were suggested. The necessity of the government regulation of the domestic market was justified.*

**Introduction.** The functioning of the internal market of Ukraine is influenced by globalization and integration processes and the increase of cyclicity of financial crises in the national economy. This has led to the fact that the domestic market of Ukraine is highly dependent on changes in conjuncture of the world market, which brings new risks and threats to the national economy of Ukraine.

In the context of uncertainty, there are constant changes of the environment, changes in supply and demand, competition between enterprises, price fluctuations, dynamic inflation, and currency fluctuations and so on. These factors influence the strategy and tactic of the development of Ukrainian internal market.

Many scientists in their researches express critical attitude towards the globalization processes that affect the development of the internal market. Thus, a Nobel Prize winner J. Stiglitz emphasizes that the development of globalization "not only fails to promote the growth, but also it will continue to give rise to instability and poverty" [<sup>184</sup>].

Pakhomov in his study describes global processes as follows: "they function not only outside but inside, because they interact with the internal factors of development – with the potential of the country, structural changes, and economic policy". Through such interactions of global regulations, each gets his or her "due": someone goes up and someone goes down" [<sup>185</sup>].

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<sup>184</sup> Stiglitz G. Globalization. Disturbing tendencies [Text]: scientific edition/ G. Stiglitz [translated from English]. M.: Mysl, 2003. – 304 p.

<sup>185</sup> National economies in the global competitive environment/ Yu. M. Pahonov, D. H. Lukianenko, B. V. Hubsnyi. – K.: Ukraine, 1997.

Globalization – is a major and multifaceted phenomenon, which consists in the fact that due to the wide exchange of goods, services, financial resources, technology, and information the world becomes more interconnected [186]. Globalization processes have two extremes – on the one hand, they bring national economies together, and thus increase their chances to develop [187,188]. On the other hand, national boundaries are erased, transnational organizations make a great impact on the legal framework of countries and laws that threaten the country's sovereignty and its national manufacturer, etc. can be passed [189].

In various parts of the world, there are free trade zones, economic, financial and customs unions and association. In fact, new regional integration unities around such centers as the USA, the EU, Russia and Japan are forming. At the same time, Ukraine is in the center of gravity of the EU and Russia [190]. The principal objective of the integration processes of the Ukrainian domestic market development is to expand trade and economic processes. Therefore, it is important to analyze the problems and prospects of the Ukrainian domestic market development under conditions of globalization.

The aim of the research is to study the theoretical and methodological principles of Ukrainian domestic market functioning and practical recommendations concerning the prospects of its development in the context of globalization and integration processes.

It is the development of commodity and money relations that led to the emergence of exchange. Then the exchange gave rise to turnover, and hence the turnover promoted the emergence of market as a specific form of commodity

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<sup>186</sup> Apopii V. V. Globalization processes and new tendencies of the development of the domestic trade of Ukraine/ V. V. Apopii, O. R. Protsyshyn// Trade, commerce, entrepreneurship: collection of scientific papers/ [edit. team: Apopii V.V., Kutsyk P. O., Shevchuk V. O. and others]. – L.: Lviv Academy of Commerce, 2014. – vol. 16. – p. 7-14.

<sup>187</sup> International strategies of economic development: textbook/ under the editorship of Yu. H. Kozak, Yu. I. Yekhanurov, V.V. Kovalevskiy. K.: Centre of educational literature, 2005.

<sup>188</sup> Vovkanych S. Y. Axiological approach to the assessment of spiritual and innovation potential of regional social systems/ S. Y. Vovkanych, Kh. R. Kopystianska, S. O. Tsapok// Regional economics. – 2005. - № 2 (36). – p. 15-29.

<sup>189</sup> Free thought – XXI, 2000. - № 12.

<sup>190</sup> Apopii V. V. Globalization processes and new tendencies of the development of the domestic trade of Ukraine/ V. V. Apopii, O. R. Protsyshyn// Trade, commerce, entrepreneurship: collection of scientific papers/ [edit. team: Apopii V.V., Kutsyk P. O., Shevchuk V. O. and others]. – L.: Lviv Academy of Commerce, 2014. – vol. 16. – p. 7-14.

turnover. The market presupposes the availability of money; it is performed according to the formula: Commodity - Money - Commodity [<sup>191</sup>].

The market belongs to a special class of social and economic systems that tend to "spontaneous order." The market is mainly defined either as the exchange sphere, where there is buying and selling of goods or services or as a set of social and economic relations in the exchange sphere, with the help of which the sale of goods and services is carried out [<sup>192</sup>]. As noted by Adam Smith, the market – is a form of an economic activity of people and the market is controlled by an "invisible hand"; he meant by this invisible hand the state, which guides market participants (that is obeying laws, regulations and rules of interaction), but does not directly interfere in their activities. Most scientists consider the market from the following perspectives: a place where purchase and sale of goods and works take place; a form of commodity and money turnover; an element to reproduce gross national product; a mechanism to regulate the economy [<sup>193,194</sup>].

In his monographic study of domestic market, V. Lahutin regards the internal market, as a system of social and economic relations and a totality of commodity turnover institutions that mediate the relationship between producers and consumers, sellers and buyers on the domestic territory of the country [<sup>195</sup>].

O. Pustovoit defines the internal market "as a sphere of commodity turnover of a separate national economy, where at a certain price level the distribution of limited production resources, investment and consumer goods and services takes place according to the demand of households for them and for the money in the form of assets" [<sup>196</sup>].

The domestic market can be also understood as: a territorial and institutional arrangement; a sphere of commodity turnover, which functions within the state borders and is regulated by the authorities of that country; a part of the macroeconomic system of society, which is represented by commodity, monetary and financial flows of the national capital and where at a certain price level the

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<sup>191</sup> See 143.

<sup>192</sup> See 143.

<sup>193</sup> Zhehus O. V. Marketing study of the market: monograph/ O. V. Zhehus, L. O. Popova, T. M. Partysyna. – Kharkiv: Kharkiv State University of Food Technology and Trade, 2010. – 176 p.

<sup>194</sup> Makarenko P. M. Theoretical aspects of the market nature and its types [electronic resource]/ P. M. Makarenko, O. V. Sen. – Retrieved from: <http://www.pdaa.edu.ua/sites/default/files/nppdaa/4.2/003.pdf>

<sup>195</sup> Lahutin V. D. Domestic market of consumer goods: theory of development and regulation: monograph/ V. D. Lahutin. – K.: Kyiv National Trade and Economics University, 2008. – 327 p.

<sup>196</sup> Pustovoit O. Domestic market of Ukraine: potential and real possibilities to influence economic growth/ O. Pustovoit// Economics of Ukraine. – 2007 - № 3. – p. 50-58.

distribution of limited production resources, investment and consumer goods and services takes place [<sup>197</sup>].

A group of authors defines the domestic market as a system of socio-economic relations and interrelated institutions in the sphere of commodity and money turnover, which mediate the relationship between national producers-sellers and consumers-buyers on the territory of a given country [<sup>198</sup>].

We think that the domestic market – is a sector of economic relations, where such things take place: the formation of institutional relationships between producers-sellers and buyers-consumers within the internal market of a country; the distribution of limited production, investment, financial and consumer resources according the needs of the market, which are regulated by state authorities.

In order to understand the nature of the internal market of Ukraine better, we suggest considering its main components (Figure 1).

The consumer market satisfies material and spiritual needs of an ultimate customer, mainly needs for goods and services of population. The consumer market is extremely spacious and diverse; it forms the supply and demand for goods. The market of production goods offers such main items as machinery, equipment, buildings, etc., and objects of labor – raw materials, semi-finished products, materials and so on. The labor market mediates between an employer and employee. The real estate market consists in providing services for individuals and legal entities concerning the lease, purchase or sale of houses, flats, offices, industrial premises, warehouses and so on. The land and natural resources market is more developed in metropolises and areas that are rich in minerals, natural resources; a peculiarity of this market is its high cost and limitedness. On the financial market, the purchase and sale of financial assets (money in the national and foreign currency, securities (equity and debt), insurance certificates, deposits, precious metals and precious gems) take place. Attracting financial investment in the economy will enable the internal market subjects to introduce in their work technological, financial, communication, and information innovations, which in their

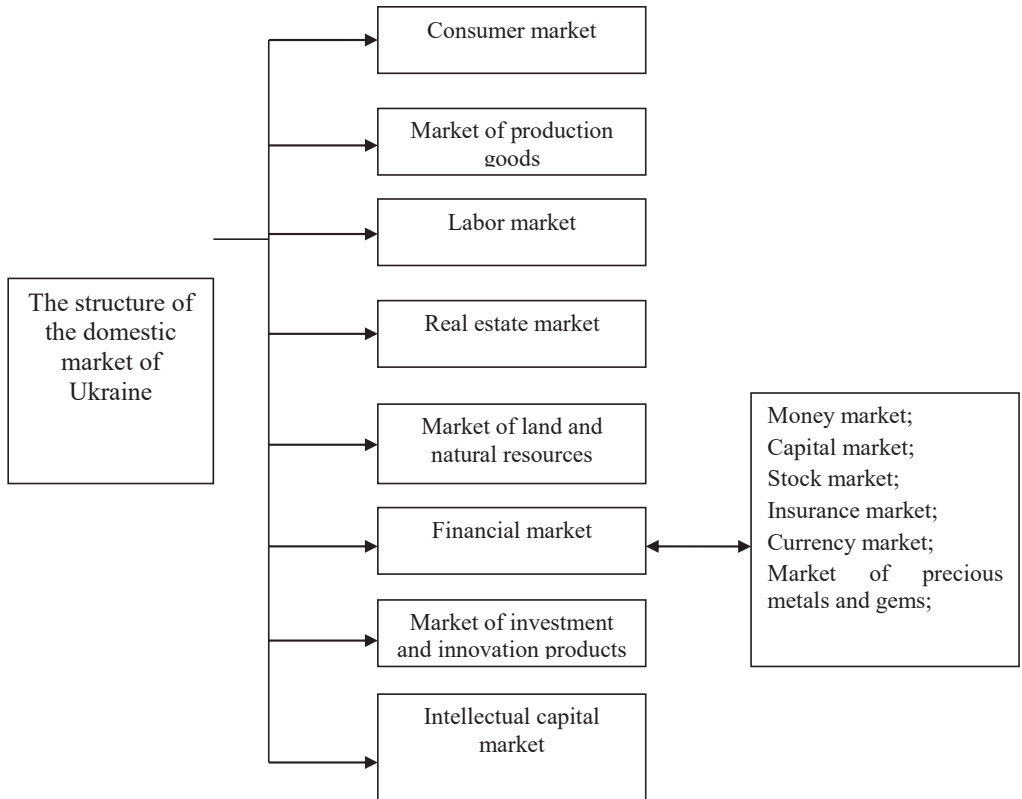
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<sup>197</sup> Popadynets N. M. Domestic market of Ukrainian forest industry goods: approaches to assessment and directions for development [Electronic resource]/ N. M. Popadynets// Regional economics. – 2013. - № 1. – p. 201-210. – Retrieved from: [http://nbuv.gov.ua/j-pdf/regek\\_2013\\_1\\_27.pdf](http://nbuv.gov.ua/j-pdf/regek_2013_1_27.pdf).

<sup>198</sup> Domestic market of Ukraine: theory and strategy of post-crisis development: scientific and methodological elaboration/ V. H. Bodrov, N. I. Baldych, V. O. Husiev and others; under the general editorship of V. H. Bodrov. – K. NAPA, 2011. – 80p.

turn will accelerate the processes of expanded reproduction of national manufacturing.

Figure 1. The main components of the domestic market of Ukraine



Source: Proposed by the author.

The future belongs to the intellectual capital market; only intellectual capital with the help of its creativity can develop new ideas, then implement them and in that way it can get modern mechanisms to influence and react to risks and threats that arise. Each employee has some knowledge and this is not enough – they must also be able to use it, be prepared for a job and difficulties that may happen during the work and be willing to work in a team.

Key competencies of each employee can produce a synergistic effect of using the intellectual capital of a household entity that will lead to the success of its operations.

In the scientific study, [<sup>199</sup>] there are five basic stages of the development of the internal market theory:

The first stage (the end of XVIII – the beginning of XIX century) is the emergence of the theory of market analysis based on market relations: competition, demand, supply and oligopoly. Theoretical researches on a firm behavior have been forming (A. Smith, A. Marshall et al.).

At the second stage (the end of the XIX century – the beginning of the XX century) two directions to form the theories of the internal market have been developing – a theoretical and deductive direction (F. Knight, D. Clark et al.) and an empirical direction (A. Bailey, J. Allen et al.).

The third stage (20-40s of XX century) is the emergence of the theory of monopolistic and imperfect competition (P. Sraffa, E. Chamberlain et al.).

At the fourth stage (40-70s of XX century), Harvard and Chicago schools singled out market theory (J. Bain, E. Mason, R. Coase, Schumpeter and others).

At the fifth stage (the end of the 70s of XX century – onwards) modern development of the internal market includes government regulation, researches into the problems of centralized management, product differentiation, technological and innovation development of economy, globalization and internationalization of the global economic system, growth of cyclicity of financial crises.

Scientists emphasize that, depending on socio-economic and political conditions, internal and external factors, the development of the internal market can be both extensive and intensive. A characteristic feature of an extensive development is an increase in volumes of activity, which is proportional to resource potential; an intensive development can be achieved through the usage of modern management techniques, new technologies, intellectual and innovative potential, marketing strategies and an integrated vision of future development [<sup>200</sup>]. The development of Ukrainian domestic market is currently affected by a difficult political situation in the country, the instability of the national currency, frantic rates of inflation, the lack of available financial resources, expensive credit resources and dependence on commodity exports to Russia. In order to avoid stagnation of the domestic market of Ukraine, it is necessary to use complex modern management

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<sup>199</sup> Domestic market of Ukraine: theory and strategy of post-crisis development: scientific and methodological elaboration/ V. H. Bodrov, N. I. Baldych, V. O. Husiev and others; under the general editorship of V. H. Bodrov. – K. NAPA, 2011. – 80p.

<sup>200</sup> The system to regulate the internal trade of Ukraine: monograph/ [V. V. Apopii, I. M. Kopych, O. H. Bila and others]; under the editorship of V. V. Apopii and I. M. Kopych. – K.: Akademydav, 2012. – 424 p.



techniques and new technologies, improve the quality of goods and services, comply with international standards of production; also, companies must invest in their intellectual, resource and innovation potential. Only then, the intensive development of the domestic market of Ukraine will provide large capital inflows in the country.

The study of theoretical and applied aspects to regulate the domestic market of Ukraine needs a system approach and taking into account the interests of all the subjects of the citizens' market in terms of households; subjects of business activity in trade, industry and logistics, in financial and credit sphere, marketing and insurance spheres; non-governmental organizations; state control and regulation; civil society organizations. The system of the internal market regulation should be based on the principles of interaction of these institutions, their functions and tasks, which they set themselves (Figure 2). The main functions of the internal market are regulatory, distributive, incentive, information, integration, pricing, controlling, etc. [201]. The essence of the regulatory function is to ensure a continuous process of reproduction and to level out territorial disproportions of the internal market development;

- the distributive function of the market concerns redistribution of the means of production, consumer goods and public revenue among the state, enterprises and citizens;
- the stimulating function of the internal market consists in the fact that we need to make better use of available financial resources, apply the latest technologies of production that require less expenditure of time, resources and work and have a higher rate of returns. Thus, the following actions will increase the competitiveness of the internal market;
- the engine of progress is the information collected by market entities, so the role of the information function of the domestic market in the context of globalization is extremely important. In the times when equipment and technology quickly become obsolete and new threats to functioning of the internal market constantly appear, it is vital to have information that enables to immediately confront risks and threats in a given situation;

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<sup>201</sup> Pavliuk L. I. Theoretical and methodological basis to form and implement the mechanisms of the regulatory policy on the development of the regional internal market [Electronic resource]/ L. I. Pavliuk// Global and national problems of economy. – 2014. – vol. 2. – p. 854-859. Retrieved from: <http://global-national.in.ua/>

- the integration function provides the development of inter-branch, inter-functional and inter-sectoral economic relations;
- the pricing function should more fully reflect the value of goods and services, ensure healthy competition, prevent the emergence of monopolies and so on [202].
- the controlling function consists in punishment of unfair competition, corruption conspiracies of oligopolistic market.

In our opinion, the objective conclusion can be the following: to characterize the domestic market Ukraine it is reasonable to adopt an integrated methodological approach that involves the use of methods and tools aimed at ensuring sustainable economic growth in the domestic market.

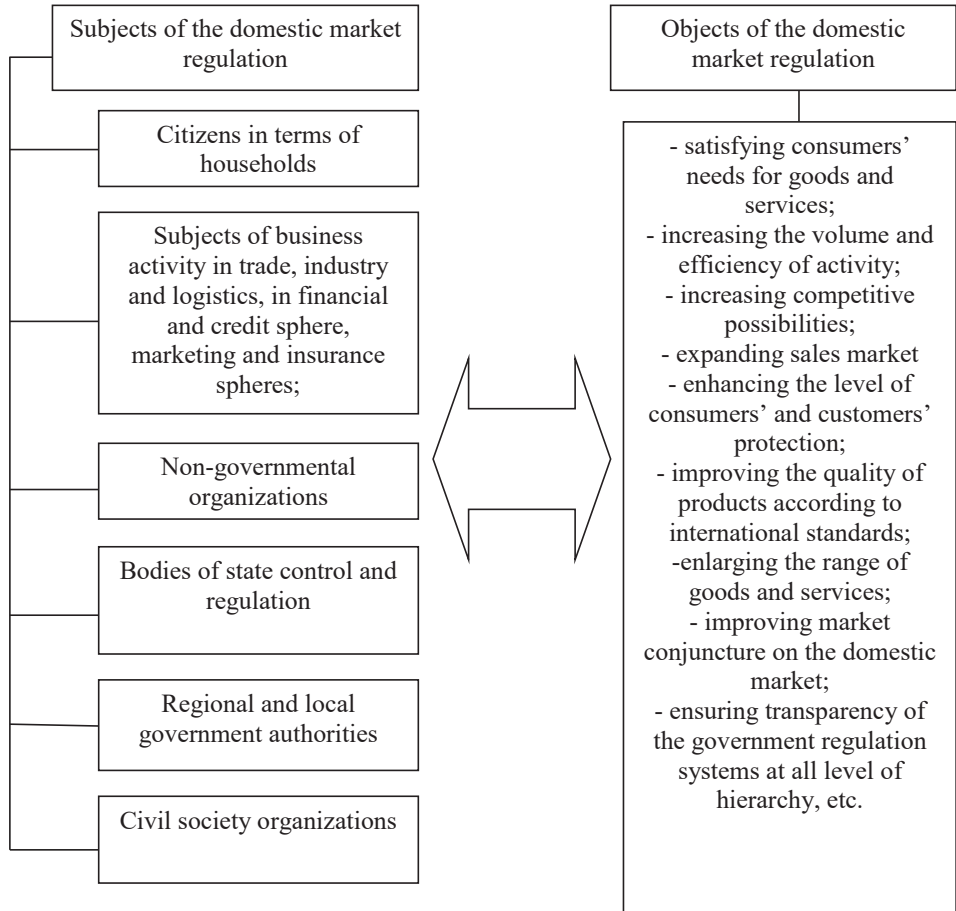
Many scientific researches are dedicated to the study of the nature of mechanism. L. Kokovskii defines mechanism as a set of methods (economic, socio-economic, organizational, etc.) and tools (targeted programs, diagnostics) to ensure the implementation of the strategy. He also notes that an organizational system of the mechanism is formed by legislative, executive and judicial authorities, economic agents, civil organizations and associations, as well as legislation, which regulates the relationship between them [203].

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<sup>202</sup> See 179.

<sup>203</sup> Kokovskyi L. O. Geographical dimension of economic security of Ukraine: syn. of a thesis of a candidate of Geographic Sciences: spec. 11.00.02 "Economic and social geography"/ Liubomyr Oleksiiovych Kokovskyi; [Taras Shevchenko National University of Kyiv]. – K., 2008. – 18p.

Figure 2. The typology of the subjects to regulate the domestic market and their economic interests



Source: Proposed by the author.

The mechanism is a complex and system phenomenon, which involves the usage of a set of methods, tools and measures in well-defined proportions and consistency to strengthen and provide sustainable competitive advantages [204].

The mechanism of state policy – is a sequence of actions of its agents and a complex of functions, principles, methods and instruments, used by them to implement the conception, strategy and targeted complex programs [205].

<sup>204</sup> Vasylytsiv T. H. Financial and economic mechanism to ensure competitiveness of the retail trade enterprises: theoretical and practical aspects: monograph/ T. H. Vasylytsiv, N. V. Mahas, N. O. Marhita. – Lviv: Publisher Badikova N. O., 2014. – 218 p.

Thus, the mechanism of regulation of the internal market consists in the usage of integrated methods of management, functions, tools and measures aimed at implementing strategic programs of development. Conceptually the mechanism of the domestic market regulation can be displayed in Figure 3.

Particularly important in regulating the internal market is government control. L. I. Didkivska and L. S. Holovko in their studies regard government regulation as a system or tool of management, in which the state apparatus does not respond to any random phenomenon in the national economy by specifically defined means with known aims, but it uses a totality of incentives and shows them an appropriate direction [206]. The team of scientists [207] argues that the government regulation of the economy is aimed at its streamlining and increasing efficiency through organizing, planning, monitoring and staffing.

The government regulation of the internal market in developed countries includes such components as consumer protection, support of competition, control of prices and trade allowances and domestic trade management. In Ukraine, the main means of the state regulation of the domestic market is licensing, introduction of quotas, setting norms and rules of business subjects' behavior, government service delivery, etc. [208].

The government regulation of the internal market should include targeted usage of financial, economic, tax, political, legal and other methods to influence the parameters in order to form the basis for functioning and development of the domestic market [209].

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<sup>205</sup> Herasymchuk Z. V. Economic security of the region: diagnostics and mechanism to ensure: monograph/ Z. V. Herasymchuk, N. S. Vavdiuk. – Lutsk: Nadstyrya, 2006. – 244 p.

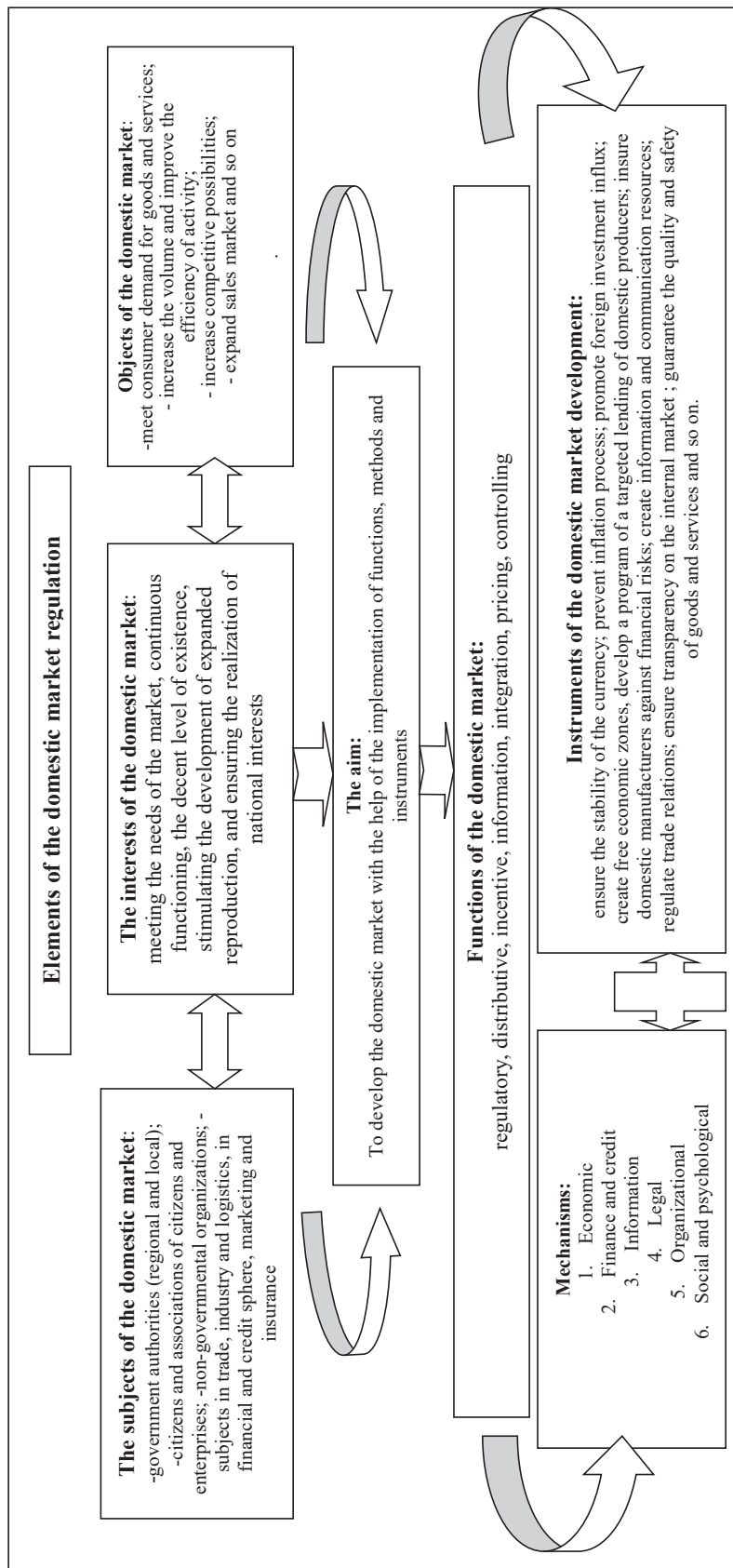
<sup>206</sup> Didivska L. I. Government regulation of economy/ L. I. Didivska, L.S. Holovko. – K.: Znanntia-Pres, 2000. – 209p.

<sup>207</sup> Chystov S. M. Government regulation of economy/ S. M. Chystov, A. Ye. Nykyforov, T. F. Kutsenko. – K., 2000.

<sup>208</sup> Improving the mechanisms of state regulation of Ukrainian domestic market under conditions of economic cyclicity: scien. elab./ V. H. Bodrov, N, I, Baldych, S. A. Diachenko and others; under the general editorship of V. H. Bodrov. – K.: NASA, 2013. - 52 p.

<sup>209</sup> The system to regulate the internal trade of Ukraine: monograph/ [V. V. Apopii, I. M. Kopych, O. H. Bila and others]; under the editorship of V. V. Apopii and I. M. Kopych. – K.: Akademvydav, 2012. – 424 p.

Figure 3. Mechanisms and instruments to regulate the domestic market of Ukraine.



Source: Proposed by the author based on: [210, 211]

<sup>210</sup> The system to regulate the internal trade of Ukraine: monograph/ [V. V. Apopii, I. M. Kopych, O. H. Bila and others]; under the editorship of V. V. Apopii and I. M. Kopych. – K.: Akademydav, 2012. – 424 p.

<sup>211</sup> Vasylytsiv T. H. Financial and economic mechanism to ensure competitiveness of the retail trade enterprises: theoretical and practical aspects: monograph/ T. H. Vasylytsiv, N. V. Mahas, N. O. Marhita. – Lviv: Publisher Badikova N. O., 2014. – 218 p.

**Conclusions.** Under difficult political and economic conditions in Ukraine, the domestic market is in a constant state of danger, the risks in the country and threats to the environment are increasing. In such circumstances, the government regulation of the domestic market is crucial, because the process of formation and implementation of the measures aimed at the internal market development depends on whether the state will carry out the following tasks:

- Ensure the stability of the currency;
- Prevent inflation processes;
- Promote foreign investment influx;
- Create free economic zones;
- Develop a program of a targeted lending of domestic producers;
- Insure domestic manufacturers against financial risks;
- Create information and communication resources;
- Regulate trade relations;
- Ensure transparency on the internal market;
- Guarantee the quality and safety of goods and services and so on.

The competitiveness of the national economy, the reduction of the dependence on external borrowings from transnational organizations, the growth of the potential of the national producer development and the success of national strategies implementation depend on the efficient government regulation of the domestic market of Ukraine.

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## **INFLUENCE OF STANDARDIZATION ON REFORMING THE NATIONAL ECONOMIC SYSTEM**

**Abstract.** *In the paper the features of forming the national standardization system and its impact on macroeconomic indicators in Ukraine are considered. It is proved that the competitiveness of the national economy and providing the environmental safety is determined by the ability of country's effective production control with the help of legislative and regulatory documents. In the article it is proved that the standards in the national economy and society have an important environmental and social value and also have humanitarian, social, economic and political aspects. With the help of system analysis of the indicators of Ukraine's economy external sector and the geographical structure of products export it is determined that the products export has a decrease tendency and undergoes a significant variations in the light of global economic processes. It is substantiated that the standardization system works on the national economy and leads to network effects. Interlinked standards of different types allow to get the synergistic social and environmental and economic effects for the country and its people. The feasibility of using the newest standards and ISO developments and certification of management systems as an instrument of national economic competitiveness is proved.*

**Introduction.** Quality, as a category, is the paradigm of the 21st century and the national idea of all developed countries. These high requirements for product quality and its compliance ensure the dominance of developed countries products in the world market; ensure its safety and competitiveness. These trends are presented in Ukraine, but its implementation is very slow, even in spite of country's accession to the WTO and the adaptation of EU directives.

In contrast to European countries, the main criterion for business and private consumers there isn't a quality of products in general and foodstuff in particular, but is the price. Therefore, the importance of standardization in Ukraine has a national economic, social, environmental and security value. State control can't stop as the issue of domestic low-quality products, and imported to Ukraine products of dubious quality. This is primarily relates to food products and semi-finished products. All this is happening against the background of existing advanced system

of standardization, metrology and certification and the availability of staff. This may lead to significant health deterioration, increasing social tension, reduction of domestic production.

In this sense, it is necessary to say that the Ukrainian standardization system still doesn't correspond to international standards system. In Ukraine is extremely difficult, almost impossible, to control the food products at all possible pollutants.

A significant contribution to the problems of standardization, certification at different levels and in different sectors of the economy made: Grebenyuk M.<sup>[212]</sup>, Bozhenko L.<sup>[213]</sup>, Parkhomenko N.<sup>[214]</sup>, Shapoval M.<sup>[215]</sup>, Lutsyshyn P.<sup>[216]</sup>, Manie F.<sup>[217]</sup>, Kirichenko L.<sup>[218]</sup>, Skrypchuk P.<sup>[219]</sup>, Blind K.<sup>[220]</sup>,<sup>[221]</sup>, Schumpeter J.<sup>[222]</sup>, Jungmittag A., Schmid O.<sup>[223]</sup>

Creation of an effective monitoring system should be based on preventive tools, such as the certification of the product life cycle and (or) quality management system ISO 9000, HACCP, ISO 14000 and others. It is important to noticed that in some EU countries, such as the UK, the company hasn't right to participate in state order if it is not certified, and in the most EU countries to certification the national organization is joined.

<sup>212</sup> Grebenyuk M. et al. The regulation of food safety in legislation of European Union and Ukraine. Kyiv.: Ministry of Justice of Ukraine.- 2012.- 301p..

<sup>213</sup> Bozhenko L.I. Metrology, Standardization and Accreditation / L.I. Bozhenko. - Lviv: Affiche, 2004. - 324 p.

<sup>214</sup> Parkhomenko N.M. Harmonization of Ukraine's legislation with European and international law: methods, stages and types. [electronic resource] kul.kiev.ua/images/chasop/2012\_1/338.pdf

<sup>215</sup> Shapoval M.I. Fundamentals of standardization, quality management and certification / M.I. Shapoval. - K: European University, 2006. - 174 p.

<sup>216</sup> Lutsyshyn P.V. European integration process: the formation of unified market: monograph / P.V.Lutsyshyn, S.V. Fedonyuk. - Luck: "Tower", 2004. - 200 p.

<sup>217</sup> Manie F. Technical regulations and standards in the EU:tutorial. / F. Mani, A. Chuvpylo. - K: IMB Kyiv National University named by Taras Shevchenko, 2004. - 135 p.

<sup>218</sup> Kyrychenko L. Fundamentals of standardization, metrology, quality management / L.S. Kyrychenko. - K., KNTEU, 2007. - 446 p.

<sup>219</sup> Skrypchuk P.M. Organizational and economic principles of environmental certification system of environmental management. [Monograph] / P.M. Skrypchuk. - Rivne: NUWMNRRU, 2012. - 336 p.

<sup>220</sup> Blind, K. (2009). Standardization: A Catalyst for Innovation. Inaugural Addresses Research inManagement Series, 30 - 31.

<sup>221</sup> Swann, P. (2010). International Standards and Trade: A Review of the Empirical Literature. OECD Trade Policy Working Papers(97)

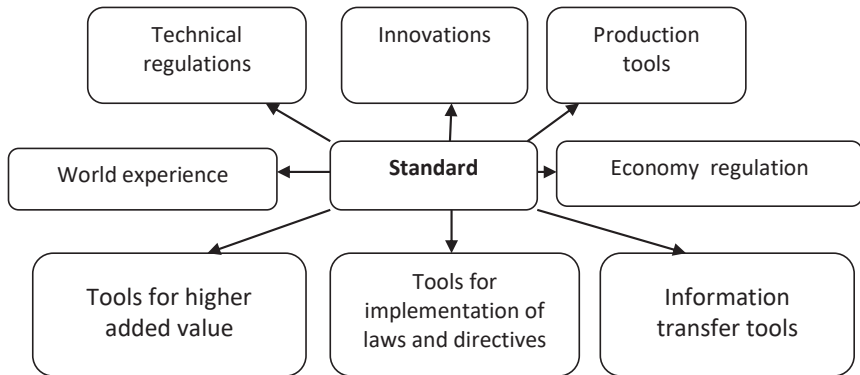
<sup>222</sup> Schumpeter, Joseph Alois (1980): Kapitalismus, Sozialismus und Demokratie, (Capitalism, Socialism and Democracy). Munich: Francke, 5th ed.

<sup>223</sup> Schmid, O. (2007). Development of Standards for Organic Farming. In: Organic farming: an international history. p.152-174, Ed. W. Lockeretz. Wallingford, Cambridge: CABI. Schröder, M.J.A. (2003).



The success of national economies and the components of the economic and environmental security of each state are determined by country's ability to effective control of production with the help of legislative and regulatory documents. Thus, the standards in the national economy and society are extremely important environmental and social value.

Figure.1. Theoretical and methodological significance of standards for national economies



Source: Compiled by the authors

In the world and EU the quality control and competitiveness of products is performed with the help of rules, recommendations and other specific requirements aimed at ensuring the safety of food products. Such rules are the Resolutions of European Parliament and Council 178/2002, 852/2004, 853/2004, 854/2004 and 882/2004 that contain all the regulatory norms. European course chosen by Ukraine is an adequate response to the deployment of globalization processes and the evolution of relations between countries in Europe. Deployment of social and economic transformation in Ukraine, the rapid growth of the economy's openness and strengthening of competitive struggle at national and international markets have created conditions in which adaptation, harmonization and implementation of standards is a requirement of EU integration.

However, efforts to achieve convergence with the European standards in the economic, environmental, social and legal spheres often encounters considerable difficulties in their full implementation that appeared from the incompleteness of economic reforms in Ukraine and aborted of the appropriate economic and legal environment. According to statistics, the share of mutual trade within the EU

association is more than 60% of their total turnover. So it can be stated the low level of Ukraine's involvement into the European division of labor. Strengthening the transparency of Ukrainian economy did not help to its practical integration with European economy. Despite the fact that economic dynamism is largely shaped by the export factors, the European export vector was not decisive in this process. Trading partnership remains fragmented, and the entire capacity of the European market is virtually untapped by Ukrainian exporters (Table. 1 and 2).

Table 1. Dynamics of indicators of Ukraine's external sector development

Indexes	Years											
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Export of goods and services, % of GDP	63,6	51,5	46,6	44,8	46,9	46,4	46,5	49,4	47,4	42,9	48,6	52,8
Import of goods and services, % of GDP	56,0	50,6	49,4	50,5	54,9	48,1	49,3	55,4	55,2	51,1	52,1	54,7
Growth rates,% to previous year												
Export of goods and services	142,6	107,5	113,2	127,4	133,8	63,4	126,0	127,5	103,4	94,5	80,1	73,0
Import of goods and services	131,3	120,4	122,0	135,4	138,5	56,2	128,8	134,8	107,5	96,5	71,9	70,7
The coverage ratio of goods import by export,%	112,6	96,9	88,2	82,5	80,8	90,4	83,1	77,6	74,7	72,8	87,6	91,5
Foreign direct investment (balance) mln. USD	1711	7533	5737	9218	9903	4654	5759	7015	7195	4079	308	3012
Foreign direct investment (balance), % of GDP	2,6	8,7	5,3	6,5	5,4	4,0	4,6	4,3	4,6	2,4	0,3	3,3

Source: Based on the data [<sup>224</sup>]

Thus commodity structure of Ukrainian export to the EU suggests Ukraine's participation in international division of labor in European territory, primarily as a supplier of raw materials with low added value. In the commodity structure of import to Ukraine from the EU, by contrast, is a predominant share of products with high added value (Table. 1 and 2, Fig. 2 and 3).

Table 2. Dynamics of indicators of the external sector development

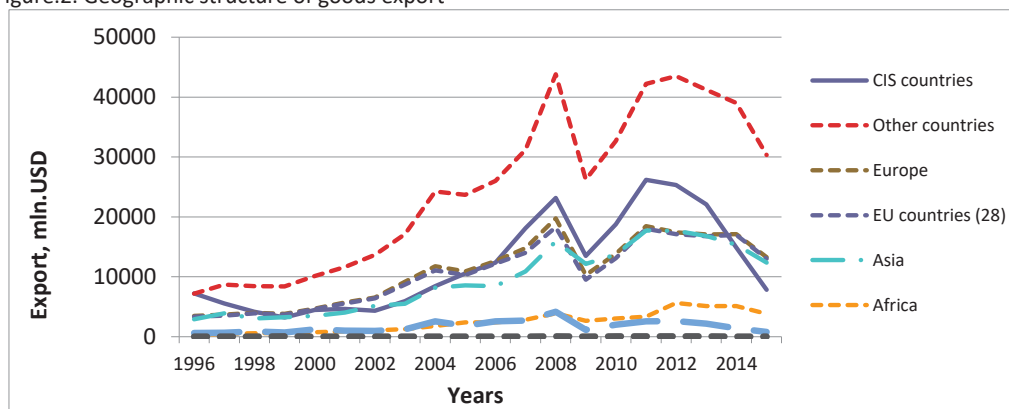
Indexes	2010	2011	2012	2013	2014	2015
The balance of current account, bln. USD	-3,02	-10,23	-14,34	-16,52	-4,6	-0,18
Current account balance, % of GDP	-2,1	-6,0	-7,9	-8,7	-3,4	-0,2
The economy openness	95,7	104,8	102,6	94,0	100,7	107,5
Export of goods and services, % of GDP	46,5	49,4	47,4	42,9	48,6	52,8
Import of goods and services, % of GDP	49,3	55,4	55,2	51,1	52,1	54,7

<sup>224</sup> National Bank of Ukraine :[Electronic resource]. – Retrieved from: [https://bank.gov.ua/control/uk/publish/article?art\\_id=65162&cat\\_id=36674](https://bank.gov.ua/control/uk/publish/article?art_id=65162&cat_id=36674)

Growth rates, % to previous year						
export of goods and services	126,0	127,5	103,4	94,5	80,1	73,0
import of goods and services	128,8	134,8	107,5	96,5	71,9	70,7
The coverage ratio of goods import by export, %	83,1	77,6	74,7	72,8	87,6	91,5
Foreign direct investment (balance), mln USD	5759	7015	7195	4079	308	3012
Foreign direct investment (balance), % of GDP	4,6	4,3	4,6	2,4	0,3	3,3
Foreign direct investment in Ukraine, the amount at end of period, bln. USD	58,0	66,7	75,2	79,1	64,3	62,2
Foreign direct investment in Ukraine, the amount at end of period,% of GDP	41,0	39,4	41,2	41,5	47,8	68,7
Foreign direct investment in Ukraine, the amount at the end of the period, USD at 1 person	1 267	1 461	1 651	1 740	1 498	1 454
Gross external debt, bln. USD	117,3	126,2	134,6	142,1	126,3	118,7
Gross external debt,% of GDP	83,1	74,6	73,7	74,6	93,9	131,3
Gross external debt,% of goods and services export	178,8	150,9	155,6	173,9	193,0	248,4
Short-term external debt by residual maturity bln. USD	50,9	60,2	65,9	59,3	56,6	51,4
International reserves, bln. USD	34,6	31,8	24,5	20,4	7,5	13,3
International reserves in months of import at coming period	4,4	3,8	3,0	3,5	1,8	3,5
International reserves, % of short-term external debt by residual maturity	68,0	52,8	37,3	34,4	13,3	25,9

Source: Based on the data [<sup>225</sup>]

Figure.2. Geographic structure of goods export



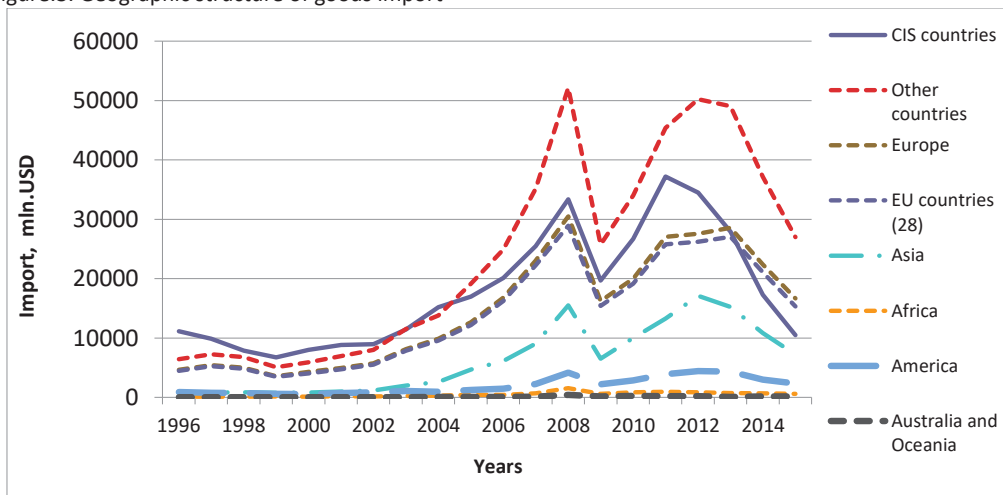
Source: Based on the data [<sup>226</sup>]

<sup>225</sup> National Bank of Ukraine :[Electronic resource]. – Retrieved from:  
[https://bank.gov.ua/control/uk/publish/article?art\\_id=65162&cat\\_id=36674](https://bank.gov.ua/control/uk/publish/article?art_id=65162&cat_id=36674)

<sup>226</sup> State Statistics Service of Ukraine International Organization for Standardization  
[https://ukrstat.org/uk/operativ/operativ2005/zd/zd\\_rik/zd\\_u/g\\_s\\_u.html](https://ukrstat.org/uk/operativ/operativ2005/zd/zd_rik/zd_u/g_s_u.html)

During 1995 – 2015 years the most goods were exported to CIS countries, Europe, Asia and Africa. The highest export potential has seen in 2011 – 2013 years. Today, goods export has significantly felt in all countries, because of the political crisis in Ukraine and conducting the anti-terrorist operation at the east.

Figure.3. Geographic structure of goods import



Source: Based on the data [227]

A similar trend is observed for import of products. In 2015, an import is decreased by 2 times to other countries, by 5 times to CIS countries and by 1,7 times to the EU and others.

Thus, the priority for Ukraine in European integration for standardization are: substantial deepening of economic nature of relations between Ukraine and the EU; adaptation and harmonization of legislation and regulations in the field; implementation of clean technologies; creation of consortia and alliances of Ukrainian venture with the EU; dissemination of information on investment needs and opportunities in Ukrainian agricultural production; providing the informational and methodical and legal support of investments from the EU; implementation of international co-financing modern forms of strategic investment projects; resource and energy conservation; development of alternative energy; forming a system of

<sup>227</sup> State Statistics Service of Ukraine [Electronic resource] : [https://ukrstat.org/uk/operativ/operativ2005/zd/zd\\_rik/zd\\_u/g\\_s\\_u.html](https://ukrstat.org/uk/operativ/operativ2005/zd/zd_rik/zd_u/g_s_u.html)

mutual investments protection and combating unfair competition of partner countries and third countries.

Asymmetry commodity structure of trade between Ukraine and the EU lead to actual outflow a potential value added from Ukraine. These forms are basis for deepening the negative balance of trade between Ukraine and the EU. For example, despite the EU priority in direct foreign investment in Ukrainian economy, the structure of investments isn't enough improves the economic integration of Ukraine and the EU. The European choice of Ukraine as a part of the objective process requires a pragmatic approach to implementation of the announced European integration guidelines. Such approaches involve determining the sequence of "steps" that Ukraine needs to overcome to actually qualify for entry into equal membership in the EU. So, in our opinion, and scientists opinion it is necessary to consider a factors of Ukraine's European integration [<sup>228</sup>].

One of them is the implementation in Ukraine an innovative technologies through standards and favorable investment policies of the state. It is known that economic growth depends not only on a large number of traditional inputs such as capital and labor, but also depends on the productivity with which these inputs are used to generate valuable results. Therefore, a key component of this performance is the development of innovative technologies and its distribution in the economy through the development of practices in standardization. That's why the standards play a central role in the economy, the social sphere, security, environmental protection in many countries.

The standards are public good because they are available at low prices for all producers and consumers. The information contained in these standards is a technological benchmark for innovation, safety, interoperability and for development of balanced committees of technical experts to improve the national and international practice. Precisely because the standards are a key mechanism for the dissemination of technological knowledge, the standards are a key component of productivity. In particular, standards show a positive correlation with GDP. So the increase of standards production by 1% is associated with an increase of GDP at 0.17%, which corresponds to approximately 2,78 billion dollars in 2009. According to

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<sup>228</sup> E. Haserovski-Denis. Review of system management. Bulletin of international standardization. №4. - 2013. - P. 92-114

Australia's scientists increasing the inventories by 1% leads to an increasing the total productivity of production factors in an average of 0.057% [<sup>229</sup>, <sup>230</sup>].

The presence in the country of the standardization system that works on the national economy leads to network effects. Interlinked standards of different types allow to get the synergistic social and environmental and economic effects for the country and its people. Many of the effects from the new standards can be seen only at the aggregate level and eventually can be transformed into improved performance target economy. Economic growth (GDP or GDP per capita over time) depends on how different factors of production (land, labor, capital) and the efficiency of these factors are used. Growth will increase if we use more labor, more land and more capital. But in any economy, there is a limit of increasing these factors. So, the productivity increase, the efficiency of using the production factors is very important. No doubt such problems can be solved with the help of standardization.

ISO statistics confirm facts of increasing the management systems at production as indicators of developed economies. Also, a significant number of management system as manifestations of the most effective management of enterprises, is observed in the countries that develop science, technology, innovation through the development and implementation of standards, such as ISO (Table 3, Fig. 4).

Table 3. Growth of ISO standards at management system in the world

Standards	The number of certificates in 2011	The number of certificates in 2012	The number of certificates in 2013	The number of certificates in 2014	Growth, units	Growth, %
ISO 9001	1079228	1096987	1126460	1138155	58927	5%
ISO 14001	261926	284654	301622	324148	62222	24%
ISO 50001	459	2236	4826	6778	6319	1377%
ISO 27001	17355	19620	22349	23972	6617	38%
ISO 22000	19351	23278	26847	30500	11149	58%

<sup>229</sup> Centre for International Economics. (2006). Standards and the Economy, Standards Australia, Sydney.

<sup>230</sup> Blind, K., Jungmittag, A. (2008). The impact of patents and standards on macroeconomic growth: a panel approach to covering four countries and 12 sectors. Journal of Productivity Analysis, 29, 51-60

ISO/TS 16949	47512	50071	53723	57950	10438	22%
ISO 13485	19849	22317	25655	27791	7942	40%
ISO 22301	-	-	-	1757	1757	-
Всего:	1445680	1499163	1561482	1611051	165371	11%

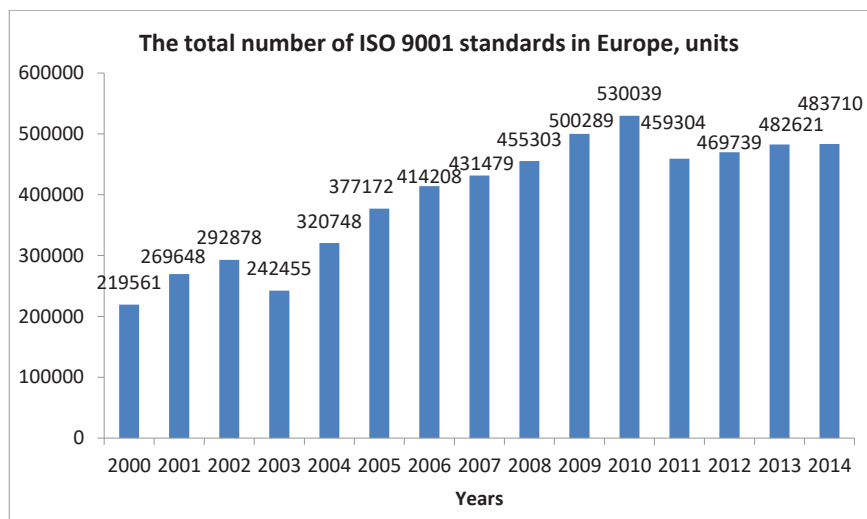
Source: Based on the data :<sup>[231]</sup>

Adaptation of national normative documents with EU envisages the coordinated activity of all subjects and should be conducted in the following stages:

1. System analysis of priority to adaptation directives and standards. Development and harmonization of national standards. Definition of harmonization criteria in different areas of integration cooperation according to the contracts. Adaptation of terminology and outline the problems of legal regulation in this area. Translation of relevant branch documents.

2. Expertise and comparative and legal analysis of national laws and standards. Determination of its compliance with the international agreements and documents in related areas.

Figure. 4. Number of ISO 9001 standards in the world by region



Source: Based on the data :<sup>[232]</sup>

<sup>231</sup> International Organization for Standardization :[Electronic resource]. – Retrieved from: <http://www.iso.org/iso/ru/home/standards/certification/iso-survey.htm>

3. Adaptation of regulatory documents, coordination with existing norms of its action time and the period of cancellation. Determination of the optimal forms and tools, levels and limits of harmonization with international documents and corporations (Ukraine's business partners).

4. Implementation of new regulatory documents. Recognition of innovative practices and principles of law and its consolidation at the national law. In the future it is necessary to pursue a policy of integration interaction of innovation in the field of ISO standardization.

For innovation, technology, global trade, competitiveness, environmental security the international standards are the favorable factor. The double level of consensus that provides ISO among the nations and stakeholders is a key element of significance and value added. Sets of international standards and guides provide a sequence, spread good practices and facilitate the adoption of research findings of certification in different countries.

Considering the ecologization of development and adaptation procedures of regulatory documents, directives, laws it should be noted that the main trends of work development in the field of safety and control products through standardization and certification in the world practice include:

- transition to the state consumers' right protection at the products safety, environmental protection and the establishment of effective systems of safety control of imported products;
- adaptation of national legislation in the field of safety to cover all legislation potentially dangerous products for people and environment;
- harmonization of legislative and regulatory documents;
- intensive development of works at all levels in the field of establishing the rules and requirements of safety in the standards, technical regulations and other documents at products and use the certification as an effective tool of verification of compliance with the standards and others.

UN cooperation, Economic Commission for Europe and international systems of metrology, standardization and certification is perspective as at the world scale and from the applied point of view (economic, environmental, social and other spheres of society). This coordination, development of standards and technical

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<sup>232</sup> International Organization for Standardization: [Electronic resource]. – Retrieved from: <http://www.iso.org/iso/ru/home/standards/certification/iso-survey.htm>



regulations, including in the area of international certification is held with the following principles:

- international cooperation accounting in economy, science, technology and environmental protection;
- ensuring the optimal, from technical and economic points of view, level of interchangeability and technical compatibility of products. Using the international standards allow to realize the products worldwide and lead to the synergistic and scale effect (tab. 4);
- accounting the impact on health, labour, environment, improving fire safety;
- regulation requirements with relation to the preservation, packaging, labeling (including environmental), transportation and storage of products;
- promoting a more economical use of raw materials and energy and so on.

The proposals for the harmonization of Ukrainian legislation in environmental standardization, certification and ecolabeling as innovative directions for the Ukraine's economy were developed:

1. Creation and development of national system of environmental standardization, certification and labeling which correspond to international principles.

2. Adaptation of conceptual apparatus in environmental standardization, certification and labeling using the ISO 14021, 14024 and 14025.

3. Promoting the implementation of international and national standards for conducting: the dissemination of information about producers and environmental products; introduction for certified producers the tax exemptions for certain categories of taxes; the development of a number of regulations.

4. Conducting the social advertising about the environmental products and its labeling.

Table 4. Macroeconomic indicators of world economies

Country	The share of medium- and high-tech products in market value added (%)		The share of added market value in GDP (%)		The export share of medium and high-tech industrial products in total export of industrial products (%)		The export share of industrial products in total export (%)		The impact on countries indicator of added market value of the world countries (%)		The impact of the country to the world market of industrial products (%)	
	2008	2013	2008	2013	2008	2013	2008	2013	2008	2013	2008	2013
Ukraine	33,9	33,9	17	17	45,0	42,3	85,6	77,8	0,00	0,18	0,01	0,39

Belarus	42,0	47,1	30	31	39,2	35,6	91,6	83,7	0,00	0,16	0,00	0,25
Canada	37,9	30,6	12	11	55,3	56,7	59,6	60,1	0,02	1,60	0,02	2,16
Poland	36,5	32,9	19	21	57,6	55,2	87,5	87,3	0,01	0,98	0,01	1,40
Germany	60,3	59,9	20	21	71,1	72,7	87,7	87,9	0,07	7,02	0,11	10,11
England	44,9	45,9	10	10	62,7	57,1	77,0	76,3	0,03	2,57	0,03	1,42
Austria	43,8	45,1	19	19	59,3	62,0	88,3	88,1	0,01	0,72	0,01	1,16
Denmark	44,6	52,4	11	12	52,8	52,1	76,1	72,5	0,00	0,34	0,01	0,63
France	47,2	47,1	11	10	64,3	65,3	88,1	87,6	0,03	2,54	0,05	3,92
Czech Republic	40,9	48,9	28	29	67,0	67,3	91,5	93,3	0,01	0,48	0,01	1,19
Sweden	53,4	53,7	17	16	57,9	57,5	89,4	88,7	0,01	0,73	0,01	1,17
USA	51,3	50,6	12	12	69,0	61,7	83,3	75,3	0,20	19,39	0,09	8,15
Japan	55,4	54,9	22	21	79,6	78,1	92,5	91,8	0,12	11,02	0,06	5,18
China	44,0	44,0	33	33	58,1	58,3	95,8	96,6	0,13	17,55	0,12	16,83
Korea	82,8	63,1	27	29	72,7	72,4	97,0	97,2	0,03	3,92	0,04	4,29
South Africa	23,6	24,4	16	15	51,1	43,7	69,1	67,0	0,01	0,52	0,00	0,50
Switzerland	64,0	64,5	19	18	69,0	71,3	90,1	90,6	0,01	0,91	0,02	1,64
Norway	58,6	46,3	8	8	50,6	46,8	25,3	26,5	0,00	0,29	0,00	0,32
Australia	21,5	29,7	10	8	26,3	17,1	43,0	50,0	0,01	0,79	0,01	0,99

Source: Based on the data:<sup>233</sup>

5. Development of recommendations for public authorities in the future to develop the practices of green procurement for spreading the ecolabeling, and to include in the conditions of participation in competitions at state purchases the products of those companies that are certified by ISO 9000, ISO 14001 and other systems.

6. Creation the national accreditation system of environmental audits, standardization, certification, labeling (e.g. sign "ecologically clean and safe" regional brands and producers).

It is topical for Ukraine to use the directives of new and global EU approach adopted by the purpose of enabling the free movement of goods throughout the EU while ensuring the required (minimum) level of security. The new approach basically envisages the creation of a unified European regulatory framework, which will define the requirements for products.

This principle establishes a "presumption of conformity" with European directives (technical regulations) provided the conformity of products with harmonized standards. Directives of these approaches are implemented by all members of EU through the adoption of national laws, on which are developed the

<sup>233</sup> State Statistics Service of Ukraine :[Electronic resource]. – Retrieved from: ukrstat.gov.ua

appropriate standards. These standards are evidence base of performing the requirements of technical regulations.

**Conclusions.** The analysis of the standardization impact to the Ukraine's macro and micro economic indicators allows to make the following conclusions:

1. Adaptation, implementation and harmonization should become the dominant of national economy, the basis of social and environmental policy in Ukraine. This triggers the further intensification of sustainable development national concept and realization of effective models its implementation. At the same time it is necessary to transform the process of developing the regulatory documents aimed primarily to ensure the legal system of the Ukraine's economy on the way of integration into the global ecological and economic space.

2. The development of new approaches in metrology, standardization and certification requires the simultaneous use of achievements of world science, adaptation, implementation and harmonization of legislative and regulatory framework of Ukraine's participation in the development of its own directives, technical regulations, normative documents and regulations including the provisions "of anticipating standardization". The newest tasks in standardization and certification of the economy are extremely important and confirm its development, environmental, economic security, development of science and new technologies in all areas of society.

3. One of the priorities for Ukraine in European integration is a substantial deepening of economic nature of relations between Ukraine and the EU. In addition, the significant first step of improving the practical results in the field of European integration on the environmental protection and rational nature resources use of Ukraine should become: adaptation and harmonization of legislation and regulations in the field; implementation of clean technologies; creation of consortia and alliances Ukrainian venture with the EU; dissemination of information on investment needs and opportunities in Ukrainian agricultural production; implementation of international co-financing modern forms of strategic investment projects; resource and energy conservation; development of alternative energy; forming a system of mutual investments protection and combating unfair competition of partner countries and third countries.

4. It is established that standardization is the basis for technical regulation and considered as the basis of consumers' right protection, the implementation of "green" economy conceptual principles. Standards and standardization as an element of technical regulations in a market economy can provide a contribution to economic growth, which exceeds the corresponding figures from the introduction of patents and licenses.

5. Forestalling progress of standardization consist in forming the unified environmentally safe household and economic space, which will be the basis of ecologically balanced social and economic development of the state, regions and companies.

6. The economic basis of regulatory documents standardization became relevant. Solution of these issues in our country contributes to the competitiveness of the economy, to the cultivation of environmentally clean products, to the protection and rational natural capital use and livelihood of the population.

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**NOTES**