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ФИНАНСЫ И БАНКОВСКОЕ ДЕЛО

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ПІДПРИЄМНИЦТВО

ФІНАНСИ ТА БАНКІВСЬКА СПРАВА

ВИЩА ОСВІТА

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COMPENSATORY MECHANISMS FOR ENSURING THE RESILIENCE OF THE ECONOMY

The list of compensatory mechanisms in the sphere of resilience of economy of Ukraine and their functional role is defined. The structure of the compensatory mechanism for ensuring the resilience of the economy is proposed. The conditions for the construction of a comprehensive compensatory mechanism to ensure the resilience of the economy are defined.

Keywords: economic resilience, national economy, the compensatory mechanisms for resilience, the shock of the impact.

Бойко А., Шкуропадская Д. Компенсационные механизмы обеспечения устойчивости экономики. *Определены перечень компенсационных механизмов в сфере устойчивости экономики Украины и их функциональная роль. Предложена структура компенсационного механизма обеспечения устойчивости экономики. Установлены условия для построения комплексного компенсационного механизма обеспечения устойчивости экономики.*

Ключевые слова: устойчивость экономики, национальная экономика, компенсационный механизм обеспечения устойчивости, шоковые воздействия.

Background. In the process of social development of Ukraine there were destructive and crisis phenomena in all sectors of the economy and spheres of society: reduction of production; growth of the share of products with low added value in the commodity structure of exports; increasing imports of consumer goods; growth of the level of dependence of the national economy on the world market of goods and services. All this has had a negative impact on the resilience of the national economy to negative external influences, which requires justification of protective measures, tools, reserves and compensatory mechanisms to ensure it. The cyclical

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development of the economy determines the urgent task for the state as a regulator of economic processes – the development and implementation of a system of compensatory mechanisms to ensure the resilience of the economy.

The problem of ensuring the resilience of the economy is given considerable attention by scientists, however, there is no single approach to understanding the nature of compensatory mechanisms for its provision and the sources of their formation, which necessitates additional research.

Analysis of recent researches and publications. Economic and organization and legal mechanisms of economic development in modern conditions, components, tools and measures of their implementation are actively studied by Ukrainian researchers and economists. In particular, the possibilities of increasing the level of economic security of the state through the implementation of national projects, which are synergetic mechanisms of public-private partnership, are considered by Ukrainian scientists A. Sukhorukov, D. Ostapchuk [1]. The publications of T. Kislaya [2] are devoted to the study of theoretical and scientific-methodological provisions for assessing the state of the organizational and economic mechanism of ensuring the economic security of the region and the development of appropriate scientific and practical recommendations. Consideration of the structure of the administrative-legal mechanism of economic security of the state is presented in the works of S. Lekar [3], A. Prisyazhnyuk [4]. Publications of scientists of the Institute of Economics and forecasting of the NAS of Ukraine [5], Institute of Economics of environmental management and sustainable development of the NAS of Ukraine [7] are devoted to the study of scientific and applied aspects on the issues under study. The role of adaptation financial and climate funds in ensuring the resilience of the economy is represented by the works of foreign scientists [8; 9].

The **aim** of the study is to determine the nature and functional role of compensatory mechanisms in ensuring the resilience of the economy of Ukraine.

Materials and methods. The methodological basis of the research is General scientific and special methods of scientific knowledge: system – to reveal the essential characteristics of the resilience of the national economy; methods of analysis and synthesis, comparison and systematization – to determine and justify the components of compensatory mechanisms to ensure resilience. The information base of the research is represented by the works of Ukrainian and foreign scientists and statistical data of the Ministry of Finance of Ukraine.

Results. The national economy is a system, the parameters of which are determined by the laws of the development of society and the country. Global changes in the world economy, characterized by the rapid integration of national economies through trade, financial flows, transfer of technological advances, information networks and cultural processes, reduce the level of resilience of national economies and the need for mechanisms to ensure it. Large-scale economic crises lead to global instability, covering

both individual national and the world economy as a whole (the "Great depression" of the 30s, the financial crisis of 1998, the financial and economic crisis of 2007–2008). Now the problem of ensuring the resilience of the economy is a priority for government managers, economists, practitioners and scientists.

Until now, there is no single approach to the definition of the essence of economic resilience, but based on the analysis of various scientific points of view, it is possible to identify the features of this concept. In Particular, S. Kozlovsky considers the system, integration and situational approaches to the management of economic resilience and from the position of the maximum value of economic potential growth with a minimum deviation of the economic system from the state of equilibrium offers a General model of economic resilience. The scientist defines the resilience of the economy as "a generalized indicator that provides information about the real state of the economic system of Ukraine, taking into account possible changes in the external and internal conditions of the economy of Ukraine, as well as enables all other subjects of economic activity in a timely and adequate response to possible changes in the stability of the economy of Ukraine and make adequate management decisions" [10, p. 10]. V. Margasova understands the resilience of the national economy as "the ability of the latter to respond to changes in the external and internal environment through continuous improvement of its internal structure on the basis of the adaptation mechanism to ensure the achievement of the goals of socio-economic development and effective functioning of the national economy" [11, p. 26]. Given the definition of economic resilience, which operates in the world practice [12–14], under this concept we understand the ability of the economic system of the country to withstand negative external influences, to adapt to them and recover from their impact. The generalized characteristic features of the national economy resilience are shown in *figure. 1.*

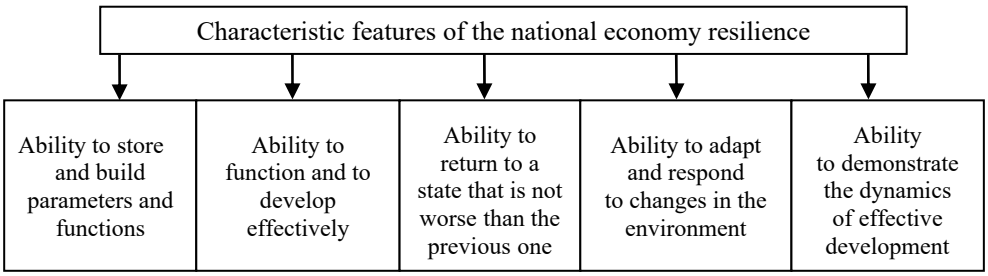

Figure. 1. The characteristics of the resilience of the national economy

Source: compiled and systematized by the authors.

The analysis of the above approaches shows that in a broad sense, the resilience of the economy is most often considered from the standpoint of the resilience of the economy to changes in the internal and external environment and the preservation of its main macroeconomic parameters.

Ensuring the resilience of the economy is a continuous and multifaceted process that requires a significant amount of resources and financial investment. In a broad sense, the mechanism of ensuring the resilience of the economy is defined as a system of organizational, economic and legal methods and levers, measures to prevent shock impacts and economic threats, in particular, it includes the following components [15]:

- monitoring the state of the economy and society in order to identify, predict and prevent negative external impacts on them;
- the use of science-based system of socio-economic indicators and their thresholds, non-compliance indicates the economic vulnerability of the country;
- activities of the state to identify, prevent and overcome manifestations of internal and external negative impacts on the economy and society.

In order to ensure the resilience of the economy, it is necessary to have appropriate compensatory mechanisms. Under the compensatory mechanisms to ensure the resilience of the economy (CMERE) we understand a set of organizational forms of economic relations that ensure the formation and use of funds and material reserves in order to prevent and minimize the negative consequences of financial, food, technological, environmental, socio-demographic, technological impacts on the national economy [16]. From a theoretical point of view reveals the essential characteristics of the CMERE such its structure *(figure 2).*

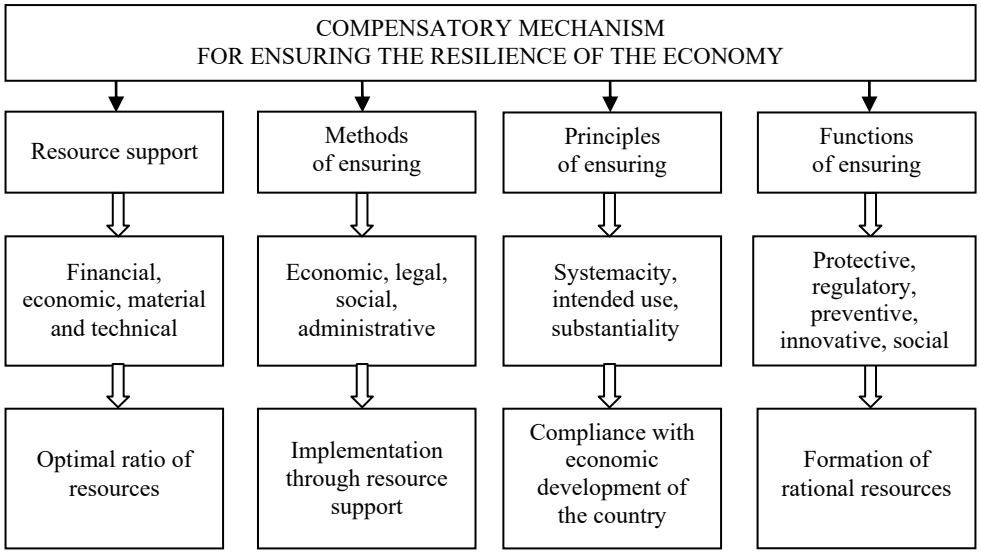

Figure 2. The structure of the compensatory mechanism to ensure the resilience of the economy

Source: compiled and systematized by the authors.

The CMERE should perform well-defined functions *(figure 2).* Consider them in more detail:

• *protection* involves counteracting the economy to negative external influences and is associated with the presence of sufficient resource potential in the country;

• *regulatory* is aimed at overcoming the consequences of negative external influences through the permanent search for additional opportunities and economic benefits;

• *preventive* is aimed at anticipating and preventing negative external impacts on the economy, critical situations in the process of socio-economic development of the country. The implementation of this function is based on the development and implementation of socio-economic, technological and organizational measures. The most important of them are measures to ensure the formation of an information system to ensure the resilience of the economy;

• *innovation* is the development and implementation of innovative solutions and measures to overcome the consequences of negative external impacts on the economy;

• the *social* function is aimed at the realization of the rights and freedoms of citizens of the country, achieving a high level and quality of life of the population through mutual partnership of economic entities, society and the state.

In Ukraine, the CMERE is at the stage of development. Now in the funds of cash and material reserves, created to prevent and minimize the negative effects of various influences on the economy of Ukraine, include the reserve Fund of the Cabinet of Ministers of Ukraine, the Stabilization Fund of the state budget, the state material reserve, international reserves of Ukraine, the Deposit guarantee Fund of individuals, the social insurance Fund of Ukraine, the Pension Fund of Ukraine, the international reserves of the country (*table 1*).

Each of these in the *table 1* funds of cash and material reserves, the functioning of which is intended to ensure the resilience of the Ukrainian economy to negative external influences, performs its functions [17]:

• reserve Fund of the Cabinet of Ministers of Ukraine – for the implementation of unforeseen expenses that are not permanent and could not be provided in the preparation of the draft budget;

• stabilization Fund of the State budget – for development projects in a stable period of the economy; and quickly redirected to critical projects to respond to the challenges of different nature;

• the state reserve as the minimum stock of material values (constantly supported volume of their storage) or the special state stock of material values for rendering the state support to separate sectors of national economy, the enterprises, organizations and the organizations for stabilization of economy in case of temporary violations of terms of delivery of important types of raw materials and fuel and energy resources, the food, emergence of disproportion between demand and supply in the domestic market; and also for ensuring priority works at elimination of consequences of emergency situations;

Table 1

Components of the compensatory mechanism to ensure the resilience of the economy of Ukraine

Title	Legal basis	Responsible	Direction	Sources
The reserve Fund of the Cabinet of Ministers of Ukraine	Resolution of the Verkhovna Rada "On approval of the regulations on the reserve Fund of the Cabinet of Ministers of Ukraine", dated 22.02.1996 № 62/96-BP	The Cabinet of Ministers of Ukraine	To Finance urgent expenses in the economy, socio-cultural and other activities not envisaged and which could not be envisaged during the approval of the state budget of Ukraine for the corresponding year	Up to 2 % of the state budget expenditures
Stabilization Fund of the State budget	Law of Ukraine "On priority measures to prevent negative consequences of the financial crisis and amendments to some legislative acts of Ukraine" dated 31.10.2008 № 639-VI	The Cabinet of Ministers of Ukraine	Ensuring the constitutional rights of citizens, guaranteeing the economic security of Ukraine, minimizing possible losses to the economy and financial system of Ukraine from the financial crisis, which covered most of the industrialized countries	At the expense of super planned receipts from privatization of the state property in 2008 and receipts of these means in full in 2009, and also target placement of the state securities
State reserve	Law of Ukraine "on state material reserve" of 24.01.1997 № 51/97-BP	State Agency of reserve of Ukraine; SOE "State reserve seed Fund of Ukraine"	Defines the General principles of formation, placement, storage, use, replenishment and updating of reserves of the state material reserve and regulates relations in this area	At the expense of the state budget and funds received from the sale of material values of state reserve, to restore
The Deposit guarantee Fund of individuals deposits	The law of Ukraine "About system of guaranteeing deposits of individuals" from 23.02.2012 № 4452-VI	Fund,The national Bank of Ukraine	The legal, financial and organizational bases of functioning of the system of guaranteeing deposits of individuals and removal of insolvent banks from the market are established	Initial and regular fees from the participants of the Fund, others; the minimum amount of funds of the Fund may not be less than 2.5 % of the amount guaranteed by the Fund depositors within the amount of compensatory
Social insurance Fund of Ukraine	Law of Ukraine "On compulsory state social insurance" dated 23.09.1999 № 1105-XIV	Fund, The cabinet of ministers of Ukraine	Payment of material security and social services to insured persons	Insurance premiums of policyholders and insured persons
Pension fund of Ukraine	Regulations "On the pension Fund of Ukraine" from 23.07.2014 № 280	The Cabinet of Ministers of Ukraine	Implementation of the state policy on pension provision and accounting of persons subject to compulsory state social insurance	Income from payment of the fee for mandatory state pension insurance, other funds
International reserves	Law of Ukraine"On the National Bank of Ukraine" of 20.05.1999 № 679-XIV; The regulation "On the management policy of the international (gold and exchange) reserves of Ukraine", from 26.04.2018 No. 229-rsh	The national Bank of Ukraine	External financial assets of Ukraine recognized by the international community as international and intended for international settlements	Reserves in convertible foreign currencies, reserve position in the IMF, SDRs, monetary gold, foreign currency cash or funds in accounts abroad, securities issued by non-residents, and any other reserve assets, provided that they are reliable and liquid

Source: compiled and systematized by the authors.

- deposit guarantee Fund – to protect the rights and legitimate interests of Bank depositors, to strengthen confidence in the banking system of Ukraine, to stimulate the attraction of funds to the banking system of Ukraine, to ensure an effective procedure for the withdrawal of insolvent banks from the market and the liquidation of banks;
- the social insurance Fund, which manages the compulsory state social insurance against accidents, in connection with temporary disability and health insurance, accumulates insurance premiums, controls the use of funds, provides funding for payments for these types of compulsory state social insurance;
- the pension Fund, which provides for the timely and full financing and payment of pensions, funeral benefits and other payments, as determined by law.

An important component of the compensatory mechanism for ensuring the resilience of the economy is the international reserves of the country, whose sufficient volume contributes to the stable development of the economy, corresponding to the level of confidence in the national monetary unit. As of October 31, 2018, the volumes of international reserves of Ukraine, were $ 16.7 billion. *Figure 3* shows the dynamics of the ratio of Ukraine's international reserves to gross external debt.

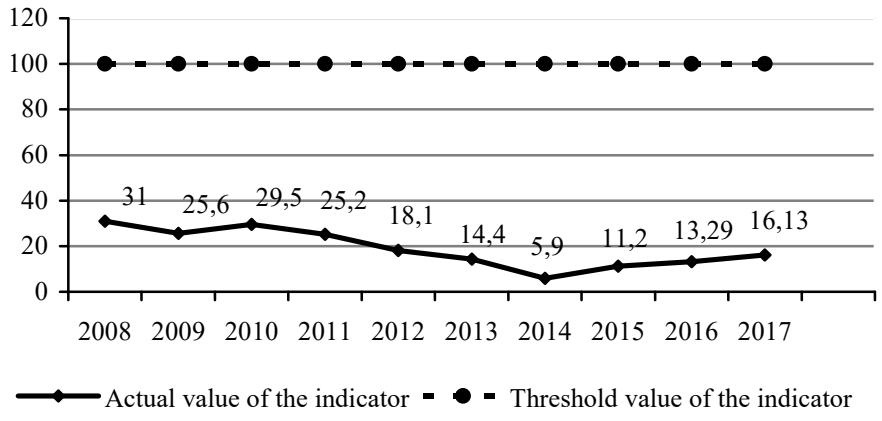

Figure 3. Dynamics of the ratio of international reserves to gross foreign debt of Ukraine in 2008–2017

Source: compiled and systematized by the authors [18; 19].

The ratio of international reserves to gross external debt is an indicator of the adequacy of the level of international reserves, which characterizes the country's ability to pay its current external obligations. In 2008–2017, the indicator did not meet the threshold (more than or equal to 100) and showed the excess of the country's annual external debt over its

international reserves. The highest value of the indicator was recorded in 2008, but until 2014 under the influence of the global financial crisis, inefficient economic policy, the annexation of Crimea and the occupation of part of the territories of Donetsk and Luhansk regions, it decreased by 5 times. The long-term and significant negative trend of this indicator indicates a high probability of imbalances in the economy, which can lead to a financial crisis.

Conclusion. Ukraine's economy is developing in the conditions of permanent negative internal and external challenges, which potentially carry a number of powerful risks and threats to its resilience development. The mitigation of these threats and their negative consequences is due to the existing compensatory mechanisms, which are represented in Ukraine by separate funds and reserves. However, such mechanisms are not sufficiently efficient in the generation and use of resources. To improve the effectiveness of compensatory mechanisms to ensure the resilience of the Ukrainian economy should adhere to the following conditions: promoting the growth of national savings and economic development of the country; increasing the activity of civil society and the responsibility of citizens for their own well-being; legislative and organizational coherence in the formation of budget expenditures and expenditures of public funds and reserves.

The perspective direction of further research of compensatory mechanisms of ensuring resilience of economy of Ukraine is consideration of possibilities of activization of mechanisms of self-organization of the population and business arising in connection with decentralization.

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Бойко А., Шкуропадська Д. Компенсаційні механізми забезпечення стійкості економіки.

Постановка проблеми. *Циклічність розвитку економіки обумовлює актуальне завдання держави як регулятора економічних процесів – розробку та впровадження системи компенсаційних механізмів, що забезпечують стійкість економіки. Проблемі забезпечення стійкості економіки приділяється увага вчених, але нині не існує єдиного підходу до розуміння сутності компенсаційних механізмів для його забезпечення і джерел їх формування, що вимагає додаткових досліджень.*

Аналіз останніх досліджень і публікацій. *Економічні та організаційно-правові механізми економічного розвитку в сучасних умовах, компоненти, інструменти і заходи щодо їх реалізації активно вивчаються українськими дослідниками і економістами.*

Метою *дослідження є визначення сутності та функціональної ролі компенсаційних механізмів у забезпеченні стійкості української економіки.*

Матеріали та методи. *Методологічною основою дослідження є загальнонаукові та спеціальні методи наукового пізнання: системний, аналізу і синтезу, порівняння та систематизації. Інформаційну базу дослідження складають праці українських і зарубіжних вчених і статистичні дані Міністерства фінансів України.*

Результати дослідження*. В Україні компенсаційні механізми забезпечення стійкості економіки перебувають у стадії розвитку. Нині фундації, створені у цілях запобігання і зведення до мінімуму негативного впливу різних впливів на економіку України, включають резервний фонд Кабінету Міністрів України у Державному бюджеті, Стабілізаційний фонд, державний матеріальний резерв, міжнародні резерви України, Фонд гарантування вкладів фізичних осіб, Фонд соціального страхування України, Пенсійний фонд України. Компенсаційні механізми забезпечення життєстійкості економіки повинні виконувати захисну, регулятивну, превентивну, інноваційну та соціальну функції.*

Висновки. *Для підвищення ефективності компенсаційних механізмів забезпечення стійкості української економіки необхідно дотримуватися таких умов, як: сприяння зростанню національних заощаджень та економічному розвитку країни; підвищення активності громадянського суспільства і відповідальності громадян за власний добробут; законодавча та організаційна узгодженість у формуванні бюджетних видатків та видатків державних коштів і резервів.*

Ключові слова: стійкість економіки, національна економіка, компенсаційний механізм забезпечення стійкості, шокові впливи.

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INVESTMENT PROJECTION OF ECONOMIC SECURITY

The structural characteristics of economic security at all levels of management are presented and its place in ensuring sustainable economic growth is determined. The position of Ukraine in international ratings according to this criterion is assessed. The sources of investment security formation in the system of ensuring the economic safety of the system as a whole, the means of its improvement, and the main tendencies of changes in the main indicators of its achievement in Ukraine in 2012–2017 are determined.

Keywords: economic security, investment and innovation security, indicators of activity, extended reproduction.

Гуляева Н., Вавдийчик И., Матусова Е. Инвестиционная проекция экономической безопасности. *Приведены структурные характеристики экономической безопасности на всех уровнях хозяйствования и обозначено ее место в обеспечении устойчивого экономического роста. Оценена позиция Украины в международных рейтингах по этому критерию. Определены источники формирования инвестиционной безопасности системы в целом, инструменты ее повышения, главные тенденции изменения основных индикаторов ее достижения в Украине на протяжении 2012–2017 гг.*

Ключевые слова: экономическая безопасность, инвестиционно-инновационная безопасность, индикаторы активности, расширенное воспроизводство.

Background. As an integral part of economic security (ES), investment security is an integral and measurable concept, and with optimal values of parameters, it is basic in ensuring the national security of the country as a whole. The development of the theoretical platform for the formation of the investment component of the ES of any economic system, the definition

of the conceptual foundations of management of this process by the functional ensuring the given rates of economic growth is the main task of modern research in this field of science.

Analysis of recent research and publications. For the most part, modern scientific researches on this problem are aimed at achieving the essential unambiguousness of the characteristics and basic components of the ES, tools for assessing its level, means and criteria for diagnosing the state. The substantiation of the basic concepts of state economic security, conceptual foundations and methods of securing economic security was carried out in the writings of O. Baranovsky [1], Z. Varnalii [2], V. Martynenko [3]. Conceptual approaches to strengthening the security of the national economy taking into account the influence of globalization processes were investigated by V. Yedynak [4], L. Fedulova [5]. The characteristics of the main components (subsystems) of economic security and the determined factors were proposed by O. Volos [6], E. Mishchuk [7], M. Moroz [8], I. Moskal' [9]. The justification of the theoretical and methodological principles of economic security at the enterprise level is presented in the works of S. Kalambet [10], V. Khalina [11], and S. Cherkasova [12].

Modern approaches to the nature and importance of such ES characteristics, especially in the context of increasing the influence of globalization processes in the modern world economy, began to develop somewhat earlier, in the scientific works of V. Cable [13], H. Poirson [14], P. Marsh [15], S. Williams [16]. For example, the dependence of the rates of economic growth and the level of security on factors of a diverse nature, in particular corruption, was investigated by C. Murdoch [17].

Despite the large number of publications on the essence of economic security, its applied comprehension, the formulation of fundamental scientific provisions on the structuring of this complex characteristic, some aspects remain controversial, especially in terms of in-depth studies of the state of the investment component.

The **aim** of the article is to study the conditions and indicators of investors' activity in the system of economic security of Ukraine.

Materials and methods. Methods for logical generalization, synthesis and analysis are used to achieve the purpose of the article.

Results. Investments, their directions and volumes determine the dynamics and quality of the progressive movement of the country's economy, especially in the period of permanent global and local transformations, thereby increasing the potential of economic security. In turn, the exit of the economy on the path of sustainable development is possible under the conditions of ensuring the ES state in a country that has become cross-cutting across the entire economic system, including the level of the enterprise.

That is, a high level of ES and the achievement of sustainable economic growth are interconnected signs of a dynamic economy. For the Ukrainian economy, ensuring high rates of economic growth, including the

implementation of export ambitions, is possible only if the investment and innovation models of economic reform and the acquisition of signs of a post-industrial society dominate.

Nevertheless, implemented within the framework of the transformation period, institutional reforms are characterized by inconsistency and fragmentation, lack of a strategic approach to managing the development of the national economy. Ukraine is characterized by political and economic instability, a rather weak state policy of confronting internal and external challenges, and threats to economic security [1]. That is why state investment policy has not become the cornerstone of the restoration of the pace of economic development in general, did not provide stimulation of the growth of the industrial base, the financial sector, and thus the conditions for sustainable economic growth.

The problems of internal nature were accompanied by the challenges of integrating domestic business into the world of space [5].

The global problem of achieving the pace of sustainable economic growth is structured primarily in the task of raising the technological level of the productive potential of the economy. This includes the inclusion of levers of intensifying nature, based on the means of rationalizing the use of economic resources and increasing the total capacity of the production base, and hence the growth of the national product.

According to V. Martynenko, the strengthening of national economic security is a systemic and long-lasting process that is effective in applying long-term forecasting, including in substantiating the state strategy at all levels of government [3].

Although world science has already accumulated the essential interpretations of the concept of "economic security," this did not stop a very lively discussion on this subject.

Ya. Zhalilo considers the ES as an ability of the national economy to expand a certain level of needs of its own people and the state, confronting the destabilizing factors of the threat to sustainable balanced development of the country, ensuring the competitiveness of the national economy in the world economy system [18] .

S. Lekar', who interprets the ES as the ability of the economic system to continuously expanded reproduction, which provides its viability and the ability to maintain signs of full-fledged economic growth [19], is more compactly formulated.

It further narrows the essential features of the ES, O. Vlasyuk, defines it as the most effective use of resources for neutralizing threats and ensuring stability in the present and the future [20].

The contribution to the applied understanding of the ES was made by the Ministry of Economic Development and Trade of Ukraine, which developed the Methodology for its assessment, where economic security is defined as the state of the national economy, which makes it possible to

maintain resilience to internal and external threats, to provide high competitiveness in the world economic environment, characterizing the ability of the national economy to a sustainable and balanced growth. It is important that the methodology identifies the components of the ES, such as industrial, demographic, energy, foreign economic, investment and innovation, macroeconomic, food, social, and financial security [21]. Moreover, investment and innovation security are united in one block, although in the previous version of the Methodology the investment component is isolated in a separate block. Accordingly, investment security was defined as the level of national and foreign investment (provided that it is optimal) that can provide long-term positive economic dynamics if there is an adequate level of financing for the scientific and technical area, created an innovation infrastructure and adequate innovation mechanisms [21].

According to most estimates, the main threats to the stable functioning of the system are limited financial resources, stable high investment risks, low motivation for investment activity and the lack of effective mechanisms for transforming the population's savings into investment resources [22].

The experience of the developed countries of the world has provided that the state becomes a generator and motivating center in launching and strengthening economic growth processes, when the national strategy sets the priorities of ensuring the country's economic security. Consequently, the investment and innovation vector of the national economic development strategy virtually completely absorbs the priority of state influence and support in the process of forming the country's ES. The important public indicators of the status of economic security are the position in the relevant international rankings.

According to the World Bank methodology, Business Conditions Index "Doing Business" (DB) [23] evaluates the conditions for implementing this process at all stages, from creation to liquidation of the enterprise. In this analytical form, each country is assigned a corresponding position in the ranking, which is created by 190 positions. The higher ranking of the country is the more optimistic assessments of the business environment for the opening of business and activities. The position of each country in this ranking is determined by streamlining the aggregate estimate in ten directions, based on the distance indicator from the leading edge. Each of the directions consists of several indicators that have an equal value for the indicator. Traditionally, the assessment is made on the 10 components that characterize the economic and organizational and legal conditions of the activity: the procedures for registration of the enterprise; obtaining a building permit; connection to power supply systems; registration of property; obtaining a loan; protection of the rights of minority investors; taxation; regulation of international trade; Enforcement of contracts; a mechanism for solving insolvency problems. The position of Ukraine in 2012 has changed in the ranking of business lightness from the position № 152 in 2012 to № 76 in 2016 (*figure 1*).

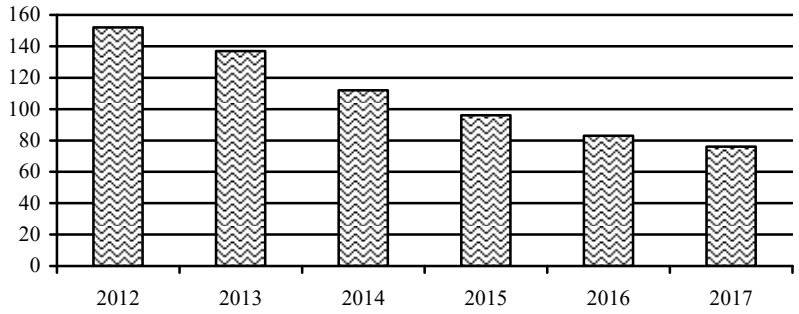

Figure 1. Ukraine's ranking in the top list "Doing Business" (according to the index of business conditions)

Source: built by the authors, according to the International Finance Corporation and the World Bank [24].

The Ease of Doing Business Index "Doing Business" describes the general conditions for doing business in the country. At the same time, the index of investment attractiveness, created by expert assessments of member companies of the European Business Association, reflects the state of business climate. In this matrix, the investment climate is the investment climate as a set of political, economic, legislative, regulatory and other factors that ultimately determine the degree of risk of investment and the prospect of their effective use. The Index of External Investments is calculated by the method of the arithmetic mean value for the five components evaluated by the five-point system: the overall assessment of the investment climate, the dynamics of its development indicators based on the results of the previous quarter, the expected dynamics of these indicators for the next three months, the probability of investing in Ukraine for new entrants, an assessment of the investment climate in a particular industry for the next three months.

According to the estimations of the European Business Association, the Index of Ukraine's External Investments in 2017 reaches a value of 3.05 points on a 5-point scale, which is an attractive signal for the activation of economic agents in the generation and implementation of entrepreneurial initiatives in Ukraine (*figure 2*).

The last time, the index marker crossed the boundary at 3 points, was only at the end of 2011. Among the positive changes respondents highlighted the openness of government data in the field of economic activity, marked development of electronic services, simplification of the procedure for obtaining construction permits, moratorium on inspections, reduction of currency control, introduction of the institute of private performers, etc.

Among the top priority issues that require special attention from the authorities, the business has named three unchanged positions: the fight against corruption is 36 %, judicial reform is 20% and land reform is 11 % [26].

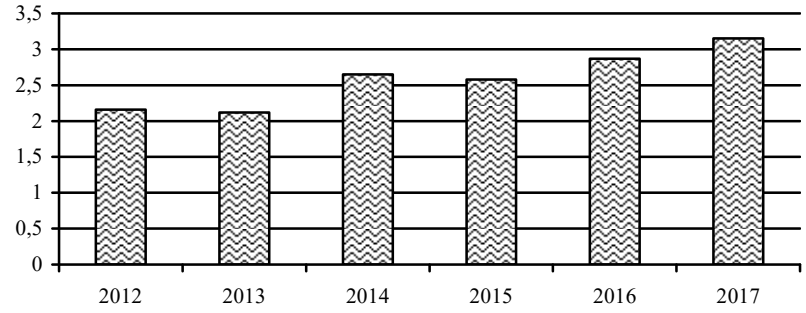

Figure 2. Index of Ukraine's External Investments

Source: built by the authors according to the European Business Association [25].

The Index of Economic Freedom is calculated on the basis of 10 indices, including freedom of business, freedom of trade, tax freedom, public expenditure, monetary freedom, freedom of investment, financial freedom, protection of property rights, freedom from corruption, freedom of labor relations. The rating of Ukraine under the Index of Economic Freedom rises from 164 places among 179 countries in 2010 to 150 places among 180 countries in 2017 (*figure 3*).

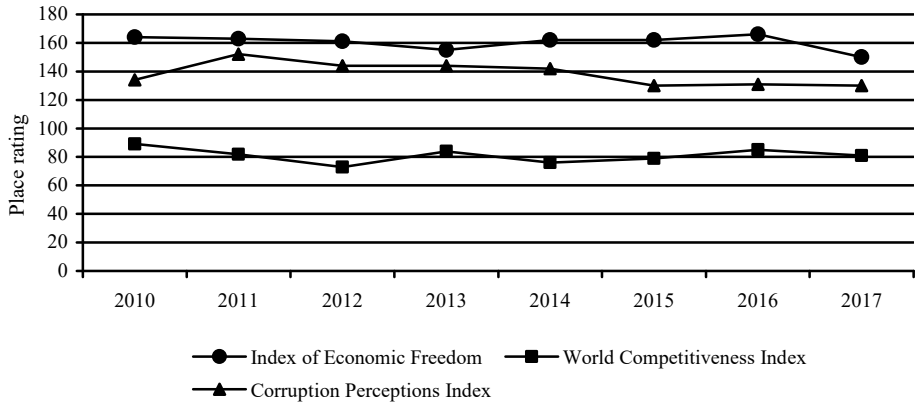

Figure 3. The position of Ukraine in international ratings during 2010–2017.

Source: built by the authors according to the World Bank [23].

The World Competitiveness Index is formed on the basis of a large-scale scientific study by the World Economic Forum and assessed through the ranking of countries around the world in terms of economic competitiveness. The position of Ukraine in the World Competitiveness Index in 2017 is 81st out of 140 countries (*figure 4*).

A slight improvement is observed in the tendencies of changing the position of Ukraine in the Corruption Perceptions Index from 134 in 2010 to 130 in 2017. Ensuring a high level of economic security, the formation of a favorable business environment in the country in the long run will allow taking decent positions in international ratings.

Considering systemically tools for raising the level of economic security, it is determined on the composite influence of its components and sources of formation. For example, in the investment projection, the state of investment can be considered a source of economic security of the state, in which the economy is able to serve and maintain such a level of investment resources under conditions of internal and external threats that is sufficient to ensure sustainable development, social and economic stability of the country, increase of competitiveness national economy and welfare of the population [27].

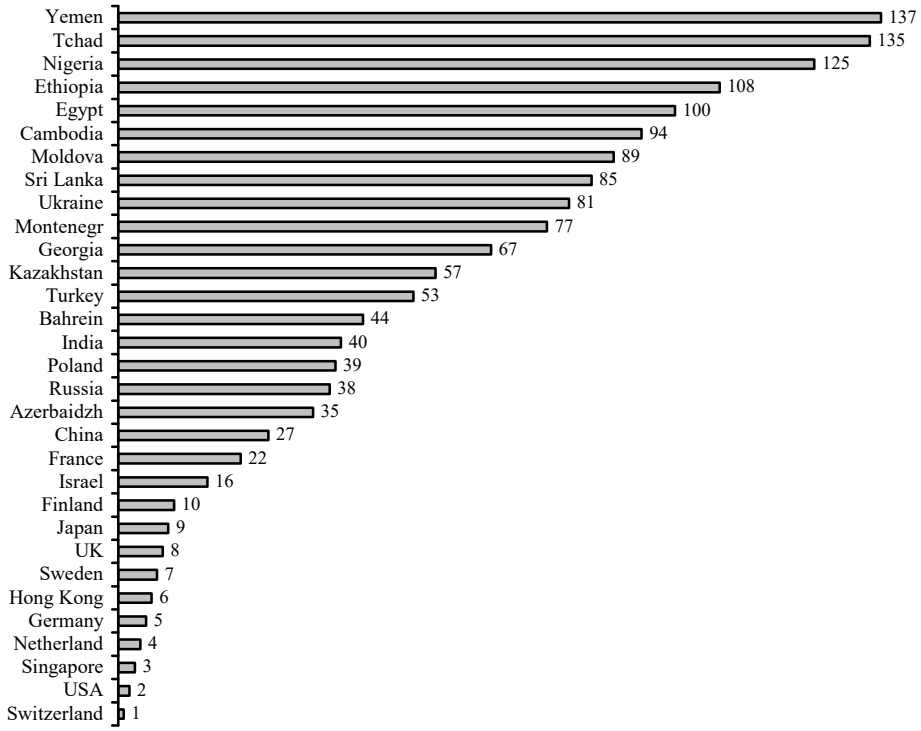

Figure 4. World ranking of countries according to the World Competitiveness Index 2017–2018 [23].

It is the investment sphere that determines the pace and trends of transformational processes and is conditioned by the efficiency of the functioning of public institutions and a combination of social and economic conditions. In particular, according to the authors of the monograph edited by A. Mazaraki, reducing the investment attractiveness and activity of key sectors of the economy negatively affects the position of state security in general [28].

According to O. Baranovsky, investment security is the level of investment that optimally satisfies the current investment needs of the national economy by volume and structure at the urgent level, ensures high efficiency and short payback periods, provides the optimal ratio of investment flows of internal and external trends, inflows foreign investments in the economy of the country and investment of domestic enterprises abroad, maintaining a positive national balance of payments [29].

On a functional aspect, investment security can be assessed as part of economic security as the ability of the economic system to carry out an expanded reproduction of fixed assets, effective investments in the objects of economic and social transformations of social life.

In most positions of the leaders of economic thought, at almost all stages of the evolution of theory and experience of macroeconomic management, it was determined that the sources of GDP growth and increase of the level of investment security are the level of gross accumulation, in particular gross fixed capital accumulation.

It is believed that under the rate of accumulation less than 10% of GDP, there is no economic development and an increase in the share of GDP gross accumulation by 1% leads to its growth by 0.1%. Scientific hypotheses of this content, which are mostly confirmed by practical activity, have become the basis for the formation of tools and indicators for assessing the level of investment security.

Indicators of investors' activity in ensuring economic growth are volumes of investments in the non-financial sector of the economy, capital assets in particular.

According to the State Statistics Service (*table 1*), capital investments in Ukraine were carried out unevenly.

Table 1

Dynamics of capital investments volume in Ukraine in 2012–2016

Indexes	2012	2013	2014	2015	2016
Capital Investment, billion hryvnia	273.3	249.9	219.4	273.1	359.2
The rate of capital investment changed, %	–	91.4	87.8	124.5	131.5
The degree of wear of fixed assets , %	76.7	77.3	83.5	60.1	н.д.
The value of the put into operation of fixed assets, billion hryvnia	191	165.8	126.2	216.8	202.1
The rate of change in the value of the put into operation of fixed assets, %	–	86.8	76.1	171.8	93.2
The ratio of the cost of fixed assets to the volume of capital investment, %	69.9	66.4	57.5	79.4	56.3

Source: calculated by the authors according to the data of the State Statistics Service of Ukraine [21]

Thus, in 2012–2014 there is a decrease in their volume, which, starting from 2015, changes into a growing tendency with a growth rate of 24.5 %. This trend is maintained in 2016, when the growth rate of capital investment grew to 31.5 % year-on-year. An important place in the assessment of investment security is the assessment of the suitability of fixed assets of economic entities and the possibility of their renewal. Thus, according to the State Statistics Service of Ukraine, by the beginning of 2015, the degree of depreciation of fixed assets by real sector of the economy of Ukraine was 60.1 %. That is, more than half of fixed assets are in need of upgrades. However, the process of replacing them with new fixed assets significantly slowed down during 2012–2014. For example, the volume of new capital assets decreased from UAH 191 billion in 2012 to UAH 126.2 billion in 2014. The effect of increasing the

amount of fixed assets in 2015 by 71.8 % compared to the previous year, did not survive in 2016, when the recession trajectory of this indicator has restored, which in the value measure gives a decrease of 6.8 % in comparison with the previous year. Thus, based on the low level of suitability of fixed assets and given the weak investment impulses on investments in the introduction of new fixed assets, as evidenced by their low share in the volume of capital investments (only 56.3 % in 2016), it is difficult to substantiate the upbeat optimistic prospects of investment ensuring the expanded reproduction of fixed assets, and hence the formation of prerequisites for sustainable innovation transformation and economic growth. According to the State Statistics Service of Ukraine [30], the main source of financing of capital investments remains the funds of enterprises and organizations, which amounted to 69.9 % in total in 2016. The share of bank loans and other loans in total investment was 5.3 %; At the expense of the state and local budgets, 12.7 % of capital investments were mastered. The share of funds from foreign investors amounted to 1.4 % of all investments, while the share of households only for housing construction was 7.8 %. Other sources of funding are 2.9 % [30].

Among the factors that negatively influence the revitalization of investments into the Ukrainian economy, one can note: the insignificant productivity of the national economy, its high energy intensity and material capacity; insignificant growth rates of GDP; ineffective NBU activities to ensure the stability of the national currency and create incentives for investment activity; unstable tax regulations; high inflation rate; insufficient development of market infrastructure; high level of public debt; deficit of the state budget; unstable political situation in the country; in fact, the unformed mechanism of regulation of the investment market against the background of the absorption of waves of the global economic and financial crisis.

In view of the highly competitive environment in the world economic space, in Ukraine, tangible economic growth can only be achieved on the basis of the innovative transformation of the technical and technological basis of social production. Inherited Ukraine from the periods of formation and crisis shocks, the high level of wear and tear of fixed assets is only partially offset by renovation processes, and the volume of net investments has either zero or negative value, that is, on the verge of the formation of a constrictive reproduction process. Successful implementation of economic reforms in Ukraine requires, first of all, powerful investment support on an innovative basis, which, in turn, is possible with the attraction of significant amounts of financial resources that must be formed by high production and economic activity of all economic agents of the system.

Conclusion. Ukraine has not yet formed the conditions to ensure expanded reproduction, the formation of an innovative model of development, the current economic policy is not based on the bases of effective use of existing investment potential, its development, including through the strengthening of the role of research, design development and commercialization, that

is in essence, on the functional of investment innovation reconstruction of the economic system as a whole. The system of indicators and criteria for the level of investment and innovation security needs to be expanded, which should enrich and update the tools for managing these processes.

Further scientific developments in this direction should be expanded by studying the dynamics of changes in the safety indicators of the investment environment of Ukraine, in the deterministic metrics of the revealed tendencies in-depth other aspects of evaluation in accordance with the complication of the characteristics of existing threats and the emergence of new ones.

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Гуляєва Н., Вавдійчик І., Матусова О. Інвестиційна проекція економічної безпеки.

Постановка проблеми. *Розвиток теоретичної платформи формування інвестиційної складової економічної безпеки будь-якої господарської системи, визначення концептуальних засад управління цим процесом за функціоналом забезпечення заданих темпів економічного зростання є магістральним завданням сучасних досліджень у цій науковій сфері.*

Аналіз останніх досліджень і публікацій *показав, що попри велику кількість публікацій щодо сутності економічної безпеки, її прикладного осмислення, формулювання фундаментальних наукових положень зі структурування цієї комплексної характеристики, деякі аспекти залишаються дискусійними, особливо в частині поглиблених досліджень стану саме інвестиційної складової.*

Мета *статті – дослідження умов та індикаторів активності інвесторів у системі забезпечення економічної безпеки України.*

Матеріали та методи. *Для досягнення поставленої мети використано методи логічного узагальнення, синтезу та аналізу.*

Результати дослідження. *Інвестиції, їх напрями і обсяги визначають динаміку та якість поступального руху економіки країни, особливо в період перманентних глобальних та локальних перетворень, посилюючи потенціал економічної безпеки. Вихід економіки на траєкторію сталого розвитку можливий за умов забезпечення стану економічної безпеки у країні, що набув наскрізного характеру по всій економічній системі, включаючи рівень підприємства.*

Індикаторами стану економічної безпеки є позиція країни у відповідних міжнародних рейтингах. Упродовж 2012–2017 рр. спостерігається незначне поліпшення у тенденціях зміни позиції України за індексами сприйняття корупції, глобальної конкурентоспроможності, інвестиційної привабливості.

Зважаючи на висококонкурентне середовище у світовому економічному просторі, в Україні відчутне економічне зростання може бути досягнуто лише на основі інноваційного перетворення техніко-технологічного базису суспільного виробництва. Успадкований Україною від періодів становлення і кризисних потрясінь високий рівень зношення та вибуття основних засобів лише частково компенсується за рахунок реноваційних процесів, а обсяги чистих інвестицій мають або нульове, або від'ємне значення, тобто на грані формування звужувального відтворювального процесу. Успішне здійснення економічних реформ в Україні потребує, передусім, потужної інвестиційної підтримки на інноваційній основі, яка можлива при залученні значних обсягів фінансових ресурсів, що мають бути сформовані високою виробничо-господарською активністю всіх економічних агентів системи.

Висновки. *В Україні ще не сформовані умови для забезпечення розширеного відтворення, формування інноваційної моделі розвитку, чинна економічна політика не спирається на базис ефективного використання наявного інвестиційного потенціалу, на його розвиток, у тому числі через посилення ролі наукових досліджень, проектних розробок та їх комерціалізації, тобто по суті на функціонал інвестиційно-інноваційної реконструкції економічної системи в цілому. Потребує розширення система індикаторів і критеріїв рівня інвестиційно-інноваційної безпеки, що має збагатити й актуалізувати інструментарій управління цими процесами.*

Подальші наукові розробки за цим напрямом мають бути розширені дослідженням динаміки зміни індикаторів безпеки інвестиційного середовища України, у детермінованих метриках виявлених тенденцій за поглибленими іншими аспектами оцінювання відповідно до ускладнення характеристик діючих загроз і виникнення нових.

Ключові слова: економічна безпека, інвестиційно-інноваційна безпека, індикатори активності, розширене відтворення.

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INFRASTRUCTURE OF EXCHANGE TRADE IN UKRAINE

The article is devoted to the actual issues of the relationship between the state of the stock exchange infrastructure and the opportunities for economic growth in the country. The main problems, limiting possibilities for formation of the modern stock market in Ukraine, are determined, ways of their solution are determined too. It is argued that the development of exchange trade in the country will have a direct impact on accelerating the economic growth of the national economy.

Keywords: wholesale trade, goods, prices, demand, supply, stock market, economic growth, futures, options, hedging.

Недбалюк А. Инфраструктура биржевой торговли в Украине. *Рассмотрены актуальные вопросы взаимосвязи между состоянием инфраструктуры биржевой торговли и возможностями активизации экономического роста в стране. Выделены основные проблемы, ограничивающие возможности для формирования современного биржевого рынка в Украине, определены пути их решения. Аргументировано, что развитие биржевой торговли в стране будет иметь прямое влияние на ускорение темпов экономического роста национальной экономики.*

Ключевые слова: оптовая торговля, товар, цены, спрос, предложение, биржевая торговля, экономический рост, фьючерсы, опционы, хеджирование.

Background. For most scholars, economists and for business practitioners, it is obvious that the main internal reason for the economic crisis it is that the domestic economy has a raw material nature with a spontaneous system of commodity exchange relations. It is not a market without a modern infrastructure of commodity exchange, and it should be named such a "bazaar", where the wholesale market is dominated by shadow schemes. A significant part of these problems comes to the sphere of pricing, in which there are three destructive segments: the state's opaque price setting for the Rotterdam Plus type (for example, prices for gas, utilities, etc.); the establishment of prices by large private holdings on a monopoly basis (prices for coal, electricity, grain, etc.); dictation of prices by foreign producers on a wide range of imported product range. Unfortunately, the dependence of the domestic market on the prices of imported goods is determined not by world prices (which are established on international exchanges), since mainly over-the-counter commodities are imported.

These problems are obvious, but unfortunately, today there is no solid scientific analysis of the causes of the problems of the dependence of the general economic problems of the country's economic growth on the state of the market infrastructure, in which, again, it is obvious and universally accepted – the main component of it is the exchanges (much easier to hold discussions about changes in the dollar rate which are the ultimate consequence of the lack of modern market infrastructure). After all, stock exchanges in developed countries provide transparent and equilibrium pricing primarily for commodities, which is the basis for increasing the country's investment attractiveness and economic growth. All production and exchange chains are derived from raw materials and raw material prices. Stabilization, transparency and compliance with raw material costs through mechanism the stock exchange ("fair price") in developed countries is the basis of their consistent economic growth. Therefore, this topic of research is relevant in Ukraine both for scientific research and for the formation of priorities in reforming the system of state regulation of the economy.

Analysis of recent research and publications. A significant contribution to the development of methodological approaches to the definition of economic growth and its relationship to state of market infrastructure are made through domestic and foreign scientists V. Bezugla [1], I. Vysotskaya [2], M. Dailami [3], A. Dareshvar [3], S. Erokhin [4], B. Kabatsi [5], N. Lutchin [6], I. Satsik [7].

Problems of the development of stock trading are given considerable attention in the domestic and foreign scientific literature. In the overwhelming majority of these studies, these studies focus on the changes taking place in the mechanism of stock trading as a result of the development of information and communication technologies, the processes of globalization of exchange trading. Thus, D. Lukyanenko and O. Titov emphasize the fact that exchanges are a necessary element of the modern global market [8]. A number of authors focus on the issues of automation of stock trading, for example, E. Kirilyuk [9]. In general, domestic researchers pay more attention to the development of commodity exchanges, compared with stock, since it is considered that the commodity exchanges market segment of the economy is less developed than the stock [9; 10]. At the same time, despite the rather broad presentation of the issues of economic growth and the development of exchange trade in scientific literature, the issue of the connection between the state of exchange trade and the economic growth of the national economy remains poorly researched.

In the scientific works of domestic scientists, the essence of exchange operations, features of functioning of futures markets and the mechanism of their state regulation, conceptual principles of exchange pricing, organization of clearing, etc. However, there is link between the state of exchange trading and the rates of economic growth are not investigated, what limits the understanding and practical implementation of measures to stimulate

and support the development of stock trading in Ukraine. Obviously, the relevance of these issues is underestimated. Accordingly, most studies are limited to the study of foreign experience, since domestic exchange trading practice does not provide sufficient material for such research. For example, in one of the potentially most powerful markets for stock trading, – the market for agricultural products, the share of stock trading in Ukraine is less than 1 % from the total number of transactions, while, for example, in the USA this figure exceeds 90 %. The features of stock trading in the transition economy are also poorly investigated. No one raises the question of the urgent need for scientific substantiation and implementation of the "Exchange Trade Development Program in Ukraine". The implementation of such a program can become an instrument for realizing rapid and radical changes in the mechanism of infrastructure support for economic growth of the country's economy.

The **aim** of the article is to study the nature of the impact of the exchange trade infrastructure on the economic growth of the country's economy, the institutional foundations, goals and objectives of the mechanism of this influence.

Materials and methods. Information materials for conducting this research were the data of the State Statistics Service of Ukraine, monographs and publications in domestic and foreign periodicals devoted to the issues of infrastructure of modern exchange trading and its impact on the process of economic growth of the country's economy. In the process of work the general scientific methods of knowledge were used, namely: historical-logical, induction, deduction, synthesis, comparative and system analysis, systematization, etc.

Results. The fundamental disadvantages of the structure of the Ukrainian economy are the undeveloped system of its infrastructure, logistic links to the commodity circulation, as well as the absence of a strategic state concept for the formation of modern economic infrastructure, which is a necessary tool for economic growth.

Economic growth is an important guarantee of the socio-economic development of the country. It should be borne in mind that economic growth, on the one hand, is the main goal of state policy and indicator of the country's welfare and the effectiveness of the country's socio-economic system, on the other – its parameters are conditioned by the state of infrastructure of the country's economy. All this determines the need for comprehensive and comprehensive research, the impact of infrastructure, especially stock exchange, on economic growth.

Economic growth at the macro level is implemented at the micro level; the functioning of individual economic entities directly depends on the state of the market infrastructure macro level. In a market environment, the existence of a well-developed infrastructure is a necessary factor for the effective functioning of the business. Therefore, the creation of a compre-

hensive market infrastructure for stock trading in Ukraine, in our opinion, is the most decisive factor in stimulating economic growth. After all, the stock market infrastructure provides "fair" pricing, an "ideal" balance of supply and demand, and stimulates the development of modern logistics of goods and services.

Reforms that took place in the national economy during the period of independence of the country implemented a number of tasks in the areas of privatization and denationalization, but were not able to provide the conditions necessary for economic growth of the country for entrepreneurship, the formation of a competitive market environment, conditioned by the influence of a number of factors, including exchange trade occupies a leading position.

The lack of sustainable economic growth in the country is due to the fundamental shortcomings of the modern structure of the Ukrainian economy, namely: the undeveloped system of its infrastructure, logistics links to the commodity turnover; there is no strategic state concept for the formation of modern economic infrastructure, which is a necessary tool for economic growth.

Economic growth is estimated by increasing the volume of real GDP of the country, which reflects a much narrower range of ties and relations than economic development. Economic growth is an integral part of economic development, because economic growth is quantitative economic development, and economic development is a qualitative economic growth. As economic growth becomes the goal of state policy, economists no longer perceive development without economic growth. However, in true sense, development is a change in the principles and methods of functioning of the economic system, the transition from one qualitative state to another. That is, economic development is not just an expansion of production, but its complication, differentiation. Thus, it can be concluded that the complication and differentiation and, accordingly, economic growth is impossible without adequate infrastructure support, the main instrument of which is stock trading.

At the current stage of development of exchange trading in Ukraine is characterized by low efficiency, its development in Ukraine in general not meet the world standards. Along with this, a reduction in the solvency of enterprises, the development of barter trade, the introduction of regional orders without financial support and market purchases led to the reduction and stopping of the activity of many commodity exchanges in Ukraine.

Domestic exchanges do not fully fulfill the peculiar exchange as a market institution, a regulatory function. Substantiation and development of appropriate measures of state economic policy regarding the activation of stock exchange activities are possible only if there is an understanding of the value of the influence of stock trading on the intensification of economic growth.

As noted, stock trading is one of the decisive factors for economic growth. By P. McConnell and S. Bru it has been proposed a classification of factors of economic growth, which is based on the majority of economists-scientists. According to this classification, economic growth is caused by six

blocks of factors. The four blocks consist of factors that determine the physical capacity of the economy to grow – these are the factors of supply (the quantity and quality of natural and manpower resources, the volume of capital goods and technologies). It is about resource potential and it is generally acknowledged that in Ukraine, despite structural imbalances, it is available. However, for economic growth, the presence of these factors is a necessary, but insufficient condition for increasing production volumes. The fifth and sixth blocks include the demand factors and the efficiency factors, whose purpose is to ensure an efficient allocation of resources that can maximally meet the needs of society [11]. The problems of economic growth in Ukraine are connected with the ineffective allocation and circulation of resources and goods. And it is the stock exchange that is the tool that provides the efficiency of circulation. Therefore, provision of conditions for developed exchange trading in Ukraine is a decisive factor in stimulating economic growth.

Exchange trading directly or indirectly covers all components of the commodity market infrastructure with a specified set of elements-institutions: organizational, material, informational, credit, accounting and personnel components. Taking into account the specifics of the commodity market, commodity exchanges as an element of market infrastructure provide the provision of a full range of services for the servicing of business entities, namely: trade and intermediary, intermediary, information, organizational and commercial, production and technological, transport, logistics, leasing, settlement and credit, insurance, auditing, etc.

The Commodity Exchange is not engaged in commercial intermediation and does not have the purpose of making a profit. The activity of commodity exchanges in Ukraine is regulated by the Law "On Commodity Exchange". At the beginning of 2015, 555 commodity exchanges were registered in Ukraine [12]. In the world practice, commodity goods include 60–70 items. Commodity exchange are characterized by: the regularity of functioning; trade in homogeneous goods with certain characteristics on the basis of strict rules and in a special place; the sale of stock products with the help of presented models or standards; the absence of goods on the stock in kind. All operations on commodity exchanges are divided into two types: transactions with a real commodity, which include the presence of goods at the time of the transaction, and term, or futures, operations, that is, the previous sale of goods that have not yet been produced. Most stock exchanges (90 % or more) are futures contracts. The purpose of a futures contract is not the sale or purchase of really goods, but the receipt of the difference in prices that occurs before the term of the transaction, that is, speculation, as well as insurance (hedging) from losses associated with changes in prices for goods.

At the current stage of development, the stock exchange acts as an independent economic entity that performs certain functions in the economy. The economic nature of the commodity exchange can be expressed through the following definition: a modern commodity exchange is a financial market

in which different groups of its member's trade in contracts that are tied to raw material prices or so-called "non-commodity values" in order to eliminate price risk and transfer it to other market participants, or, conversely, in order to accept this risk for themselves in the calculation of profit [13].

The statistics show that the number of exchanges in Ukraine is constantly increasing *(table 1)*.

Table 1

Number of exchanges in Ukraine (at the beginning of the year) [1]

Year[2]	Total Registered	Universal	Commodity	Agro-industries	Others
2010	510	106	341	25	38
2011	537	106	368	25	38
2012	562	107	391	25	39
2013	574	108	400	24	42
2014	586	107	415	23	41
2015[3]	555	104	391	24	36

[1] Excluding stock exchanges and their affiliates.
[2] There are no statistics for 2016–2017 years.
[3] Not including the temporarily occupied territory of the Autonomous Republic of Crimea and the city of Sevastopol and part of the area of the anti-terrorist operation.

Source: compiled on the basis of data of State Statistics Service of Ukraine. URL: http://ukrstat.org.

According to the State Statistics Committee in 2015 year 555 exchanges in Ukraine are registered. This number of exchanges in Ukraine significantly exceeds the number of exchanges in the EU and in the US. However, the advantage of Ukraine in the number of exchanges does not affect the increase of volumes and efficiency of their activities. The comparison shows that for the territory of Ukraine and for required volume of business transactions, the existing number of exchanges is too large, and the number and volume of transactions are insignificant (their volume ranges from 5 to 10 % of the size of the wholesale goods market in Ukraine). The structure of concluded transactions on the exchanges of Ukraine by type of goods (services) is reflected in the data in *table 2*.

World experience shows that exchanges are created in large business centers of individual countries. It should be assumed that the activities of Ukrainian exchanges are also concentrated in the country's largest business centers. At the same time, we have a situation in which the stock exchange activity in Ukraine seems to be carried out in all regions, however, at the same time, 92.7 % the exchanges operating dealing in four regions of Ukraine from all exchange transactions which were concluded in 2015 year. The largest share of stock exchanges accounted for the stock exchanges been realized in Kyiv city (79.7 %), Poltava region (7.2 %), Kyiv region (4 %) and Dnipropetrovsk region (1.8 %). Such a territorial diversification of stock trading in Ukraine not prove its conformity to world trends.

Table 2

Structure of concluded transactions on the Ukrainian stock exchanges by types of goods (services)[1], million UAH

Subject of stock trade	Year (there are no statistics for 2015–2017 years)				
	2010	2011	2012	2013	2014[6]
Total	51440.6	94420.0	118544.4	28807.0	25680.4
Basic metals (iron, iron, steel and ferroalloys) and products of primary steel processing[2]	13.5	9.1	3.8	0.1	3.8
Non-ferrous metals	4.2	–	–	0.1	–
Means of transport[3]	184.5	60.2	43.5	51.1	76.7
Timber, wood and wood products[4]	344.0	948.1	1297.9	1861.3	2094.8
Fuel	2630.4	7523.8	6280.9	11132.8	1027.8
including: coal	1376.2	2273.5	1000.6	2180.1	627.6
petrol engine	33.5	2910.3	2995.6	669.7	–
crude oil	0.0	0.0	0.0	7199.6	0.1
propane and butane are liquefied	1208.3	1103.0	698.2	240.7	400.1
Agricultural products	43787.4	63361.4	77889.6	11631.6	13856.2
Groceries	2272.3	20139.9	28541.8	245.2	1707.2
Chemical substances and chemical products[5]	107.4	27.9	19.8	12.0	0.1
Real estate	252.4	323.8	875.7	549.1	2316.9
Other nonfoods	215.4	242.8	278.6	1939.6	2843.9
Other types	1629.1	1782.9	3312.8	1384.1	1753.0

[1] Excluding stock exchanges and their affiliates.
[2] In 1995–2012 – Metal and metal products.
[3] In 1995–2012 – Vehicles.
[4] In 1995–2012 – Wood and timber.
[5] In 1995–2012 – Chemical products.
[6] Excluding the temporarily occupied territory of the Autonomous Republic of Crimea and the city of Sevastopol and part of the zone of anti-terrorist operation.

Source: compiled on the basis of data of State Statistics Service of Ukraine. URL : http://ukrstat.org.

Special place among the elements of the financial market infrastructure are stock, currency exchanges, brokerage companies, commercial banks, investment and innovation funds, and holding companies. And it is the stock and currency exchanges that have to take the main place in the infrastructure of the financial market of Ukraine.

In Ukraine, the activity of stock exchanges is regulated by the Laws "About Securities and Stock Exchange", "About State Regulation of the Securities Market", "About State Associations", the Regulation "About Registration of Stock Exchanges and Trade and Information Systems and Regulation of their Activities".

Economic growth is accompanied not only by the growth in the demand for raw materials (which is the subject of trades on commodity exchanges), but also by the growth the volume of fixed assets, which through stock exchanges turn to the market in the form of securities. This has its manifestation in the growth of the volume of foreign exchange operations at currency exchanges. Economic growth requires the acquisition of modern high-tech equipment for freely convertible currency.

The total turnover of securities on the unorganized market in December 2017 amounted in UAH 18.5 billion, on the organized – UAH 24.7 billion. Changes in months of 2017 in the volume of trading in securities on the market have significant fluctuations (from 10.8 to 14.0 billion UAH) [14], which is evidence instability of both, – the stock market and the economic situation in the country as a whole, because the stock market is a generally accepted indicator of the condition of the national economy.

Extremely destructive is the situation when in the absence of the dynamics of stock market growth, most transactions on this market are over-the-counter. The share of trades on stock exchanges of Ukraine in their total volume is stable and even have tends to decrease. The relevant indicators of the share in terms of years are: in 2012 – 10.4 %, in 2013 – 16 %, in 2014 – 26.5 %, in 2015 – 6.3 %, and in 2016 – 11.1 % [15]. The share of stock exchanges on stock exchanges in their total volume reflects the transparency of these agreements and the extent of the state's ability to control the situation in the stock market. Such this state of the stock market limits the state's ability to control the economic situation and the use of tools to stimulate economic growth through structural reforms.

At the same time, in world practice, financial resources are redistributed mainly through the stock exchange stock market (which are transparent and adjustable). However, in Ukraine, despite the record yields, the stock market as a whole plays a minor role in raising funds in financial markets and transforming them into investment resources for the real sector of the economy. Therefore, the state policy of institutional development of stock exchanges should change the situation, namely, to ensure accumulation of funds on the financial market, investment attraction and, accordingly, economic growth in the country.

Domestic exchanges do not fully fulfill the peculiar exchange as a market institution, a regulatory function. Therefore, at the current stage of Ukraine's economic development, it is very important to consolidate the goals of development of the market infrastructure of stock trading in the list of priorities for implementing the state's economic strategy in order to provide a solid basis for an effective socially oriented market economy. The development of the market infrastructure of stock trading should take place at a faster pace than other components of the national economy, as it creates real prerequisites for expanding the boundaries of the competitive environment for dynamic economic development. To this end, as noted, it is necessary to develop and implement a corresponding state program.

Many domestic scientists today send their research to a comprehensive assessment of the existing problems of the Ukrainian stock market and identify ways to overcome them. Using the results of their own observations and generalizing the opinions of domestic scientists, one can single out the main problems of the formation of the stock market of Ukraine as an instrument of economic growth [16–18]:

- legislative basis for the development of exchange trade creates conditions for registration of exchanges in Ukraine but does not create conditions for their development;
- low level of organization of the stock market. In spite of the record number of officially created business organizations under the name "stock exchange" (555 exchanges at 2015 [12]), the stock market in Ukraine was created nominally and does not fulfill the functions of stimulating economic growth, first of all in the sphere of pricing. Modern "exchanges" in Ukrainian realities are created primarily to secure the business interests of a certain group of people, rather than to stimulate the economic growth of the country as a whole. The main volume of transactions related to exchange commodities is carried out on the over-the-counter market, and transactions concluded on exchanges, by their very nature, are mostly not stock exchanges. It should also be noted that the over-the-counter wholesale market is characterized by the opacity of the pricing mechanism and information secrecy. This contradicts to the elementary principles of a market economy, and in fact transforms it into a "bazaar economy";
- low level of liquidity of exchange commodities in the market, which in turn is explained by the fact that the exchange trade of these goods does not have a dominant market share, as in developed countries;
- insignificant number of exchange instruments which are used by Ukrainian exchanges;
- low level of trust of entrepreneurs to domestic exchanges. Existing commodity exchanges do not provide bidders with guaranteeing the fulfillment of obligations under exchange contracts, which weakens the motivation of market participants to participate in stock trading and, as a result, leads to its insignificant volumes;
- imperfection of tax stimulation of stock trading. This has its manifestation in the absence of privileges for investors, double taxation of dividends, taxation of investment income, fees for registration of securities, license fees, etc.;
- shortage of skilled personnel in the field of exchange trading. Only at recent years, programs for the training of specialists in stock trading and trade began to open in Ukrainian universities;
- a low level of protection of the rights of shareholders and investors who are potential participants on the stock market;
- low level of exchange ethics and business culture;
- technological backwardness of the process of exchange commodity exchange operations. Domestic exchanges use outdated technologies and primitive electronic trading tools. An urgent issue today is the integration of exchange electronic platforms into ProZorro’s public procurement system, the implementation of this idea has many bureaucratic and technical limitations (for example, accreditation of the stock exchange, coordination of platforms, written in different programming languages, etc.).

An important aspect of the positive effect of stock trading on economic growth in Ukraine is that, then on a transparent market, the assets of enterprises in the form of commitments on the production and supply of goods will be annually. If, through a transparent organized wholesale market, at least three quarters of the total product range produced will be sold, guaranteed revenues of the stock exchange (forwards, futures, options) will ensure an increase in tax revenues to the budget, there will be a significant simplification of lending mechanisms, etc. [19].

Under the condition of state assistance, the intensification of the development of stock trading in the current integrated market of Ukraine will ensure automatic correlation of domestic market prices with prices on world commodity markets, that is, Ukraine will have the most favorable price for its strategic products [20].

Exchange trading with a futures trading instrument and, subject to state support, will ensure the formation of a transparent market, saturation with its exchange instruments (futures, forwards, options) that will provide:

- guaranteed sales orders for producers and traders;
- guaranteed purchase orders for processors and traders;
- forecasts of prices for goods for a term up to six months;
- risk reduction from market price fluctuations;
- guarantees in the performance of exchange contracts;
- mechanisms of guaranteed repayment of loans to commodity producers;
- access to world stock markets of fixed-term contracts with Ukrainian specifications of goods.

Promotion of stock futures for participants in the wholesale commodity market with the use of the infrastructure of existing commodity exchanges is a key to the success of the formation of the futures market in Ukraine [9]. It is anticipated that the main aspect for the beginning of the functioning of the futures market will be the maximum involvement of large volumes of goods at the stock exchange, that is, futures should be as close as possible to producers, which means that the role of regional commodity exchanges in the futures market will be very significant, if not decisive [21].

The International Swaps and Derivatives Association states that in recent years more than 90 % of the world's 500 largest companies have used derivatives / derivatives (stock exchange, non-exchange) to effectively manage and hedge their risks. The futures and options trading market (over 70 %) prevails on the global stock market. Futures, respectively, are 95 % used in the hedging strategy. Analysis of the global turnover of exchange instruments at 84 % of the largest exchanges indicates the preservation of trends in the domination of futures [22]. The proposed structure of the futures trading system in Ukraine requires the inclusion in the first stage of regional futures exchange futures markets, so it is expedient to organize exchange trading on the basis of an electronic trading platform. The futures exchange trading system must have a clearing subsystem, which will provide interaction with stock trading participants at all sites simultaneously, as well as the integrity of each transaction [23].

Observance of the rules and principles of open and transparent auctions and tenders allows us to identify fair prices and take into account the interests of all participants in the exchange trading process. The presence of a constructive dialogue directly with the participants in the process will facilitate the creation of an actual and effective model of the functioning of the stock market and the transition of the national economy to economic growth in general.

Transparent futures markets could become the underlying asset for a commodity index, which will give significant positives: derivatives release value; buyers and sellers receive constant price signals; there is an opportunity to manage the price risk by means of hedging; the process of making decisions by the manufacturer is simplified [20].

The result of the creation of a modern stock market in Ukraine will be the systemic economic growth of the Ukrainian economy. The volume of production will increase (GDP), the quality of goods will increase; it will be possible to invest more in infrastructure and in introducing innovative technologies; the hard currency reserves will increase, the exchange rate will be stabilized.

In order to implement the proposed legislative and regulatory changes, such as the exchange trading development program, a new regulatory legal regime of derivatives that is in line with best international practice, will facilitate the development of currency interest swaps and other products, and establish a clearing and settlement regime that will meet the requirements of the functioning of the stock market in EU countries.

At the end of 2014, the Ministry of Economic Development and Trade prepared draft Laws of Ukraine "About Commodity Exchange Market" and "About Derivative Financial Instruments (Derivatives)". However, the projects were returned for refinement and it is unknown when these laws will be adopted and will come into force. The adoption of these laws and the implementation of their provisions through the proposed institutional changes in the exchange trading system would be the basis of economic growth of the country.

International experience shows that one of the most effective mechanisms of shadowing and demonopolization of the wholesale market for commodities, transparent market pricing is the use of modern stock tools. The stock market becomes a place for their "recycling": the price is set here and transferred from those who cannot bear the price risks for those who can use them for profit; the danger of price fluctuations at the macro level is leveled; providing expected prices and trade benefits. In the stock-exchange risk management arsenal there is a wide range of tools taken for use in world practice. The most valuable are those that can be used for hedging, for the process of eliminating price risks through various strategies for their adoption, structuring to determine which part of the risk can be

eliminated on its own, and which should be passed on to others. However, in order for stock exchange risk management tools to be effectively used by domestic business entities, it is necessary to elaborate detailed mechanisms for their circulation, in particular, futures and forwards [21].

Conclusion. Despite a rather large array of problems in the development of the stock market infrastructure in Ukraine, it should be noted that they can be overcome due to the awareness of the importance of the development of stock trading, especially in the area of pricing. Understanding these causes will facilitate the adoption of appropriate decisions in the field of state regulation of the economy and, as a result, will ensure high rates of growth of the country's economy. Obviously, the history and traditions of stock trading remain new for Ukraine, but this way of forming the modern institutional mechanism of stock trading should be completed as soon as possible, without it is impossible to talk about any chances for economic growth. The role of the system of state economic forecasting and management in general is decisive in this sense. In turn, the mechanism of economic management of the country can implement the relevant legislative and executive steps only if awareness of the importance and priority of the development of exchange trade for the economic growth of the national economy. Further scientific researches of this problem are necessary, they will become the basis for the formation and adoption of appropriate decisions.

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Недбалюк О. Інфраструктура біржової торгівлі в Україні.

Постановка проблеми. *Нині відсутній ґрунтовний науковий аналіз причин проблем залежності загальноекономічних проблем економічного зростання країни від стану ринкової інфраструктури, в якій основним компонентом є біржі (набагато простіше вести дискусії про зміни курсу долара, які є кінцевим наслідком відсутності сучасної ринкової інфраструктури). Адже саме біржі в розвинених країнах забезпечують прозоре і рівноважне ціноутворення передусім на сировинні товари, що є основою підвищення інвестиційної привабливості країни та економічного зростання. Усі виробничі та товарообмінні ланцюги є похідними від сировини та цін на сировину. Адже стабілізація, прозорість та відповідність витратам цін на сировину за допомогою механізму біржової торгівлі ("справедливі ціни") в розвинених країнах є основою їх послідовного економічного зростання.*

Метою *дослідження є вивчення характеру впливу інфраструктури біржової торгівлі на економічне зростання економіки країни, інституційні основи, цілі та завдання механізму цього впливу.*

Матеріали та методи. *Інформаційними матеріалами для проведення цього дослідження слугували дані Державної служби статистики України, монографії та публікації у вітчизняних та зарубіжних періодичних виданнях, присвячених питанням інфраструктури сучасної біржової торгівлі та її впливу на процес економічного зростання економіки країни. В процесі роботи використано загальнонаукові методи пізнання, а саме: історико-логічний, індукції, дедукції, синтезу, порівняльного та системного аналізу, систематизації тощо.*

Результати дослідження. *На основі системного підходу здійснено аналіз впливу стану біржової торгівлі на економічне зростання. Аргументовано, що оскільки біржова торгівля – основний елемент ринкової інфраструктури, саме вона є механізмом, який забезпечує збалансування попиту і пропозиції, встановлення рівноважних та стабільних цін. Наявність сучасної біржової торгівлі в розвинених країнах є основою їх економічного зростання, оскільки біржова торгівля створює макроекономічні передумови для прогнозованого розвитку виробництва, підвищення інвестиційної привабливості країни, прозорого ведення бізнесу тощо. Тому для України пропонується внести корективи в механізм державного регулювання економіки в частині розробки та імплементації системи заходів щодо державної підтримки розвитку біржової торгівлі. Як інструмент розробки та реалізації таких заходів пропонується розробити відповідну державну програму.*

Висновки. *Наукове опрацювання проблем розвитку інфраструктури біржового ринку в Україні є актуальним і сприятиме формуванню в Україні сучасного ринкового механізму саморегулювання економіки. Ці проблеми можуть бути подоланими через усвідомлення представниками органів влади значення розвитку біржової торгівлі, особливо в сфері ціноутворення. Розуміння значення сучасного механізму біржової торгівлі сприятиме прийняттю відповідних рішень у сфері державного регулювання економіки і, як наслідок, забезпечить високі темпи зростання економіки країни.*

Ключові слова: оптова торгівля, товар, ціни, попит, пропозиція, біржова торгівля, економічне зростання, ф’ючерси, опціони, хеджування.

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PUBLIC-PRIVATE PARTNERSHIP: THEORY AND PRACTICE

The article is devoted to actual issues of partnership at the state and enterprise level. The peculiarities of the legislative base on public-private partnership in Ukraine are analyzed. The authors define main problems and obstacles in the conclusion of partnership agreements and the prospects of application.

Keywords: partnership, public-private partnership, partnership agreements.

Присяжнюк А., Хмурова В. Публично-частное партнерство: теория и практика. *Рассмотрены актуальные вопросы партнерства на уровне государства и предприятий. Проанализированы особенности законодательной базы публично-частного партнерства в Украине. Определены основные ошибки при заключении сделок партнерства и перспективы применения публично-частного партнерства.*

Ключевые слова: партнерство, публично-частное партнерство, партнерские соглашения.

Background. The development of the modern inclusive society requires the use of new mechanisms for cooperation between public institutions and business. Outdated methods do not allow to solve economic and social issues of development and to ensure the solution of issues of labor migration. It is precisely the use of mechanisms of public-private partnership that can solve urgent issues of development of the country as a whole, or in priority directions.

Analysis of recent research and publications. The results, presented in the publications of leading scientists I. V. Zapatrina, Yu. Z. Drachuk, N. V. Trushkina, O. M. Levkovets, V. I. Pavlov, L. I. Tarash, Ya. S. Tkachenko [1–7], testify to the prospect of this type of cooperation for further economic development. I. V. Zapatrina consideres decision of infrastructural problems as one of the basic priorities in the activity of public power [1]. The state of the systems of life-support and transport infrastructure requires serious financial investments and bringing in new technologies and materials, but also creation of new culture of production and exploitation of the similar systems, based on the ideology of steady development of territories. The most serious obstacle for development of public-private partnership is the tariff policy and attitude to what is happening in this sphere of both public power and population. The

Yu. Z. Drachuk explores the principles, which should be based on modern forms of public-private partnership in the field of innovative development of industry, and identifies the priority areas [2].

Public-private partnership in Ukraine is in its infancy. In modern conditions, public-private partnership represents an alternative to privatization of strategically important state-owned objects, helping, on the one hand, to maintain control over those entrepreneurs that are critical for the stable functioning of the economy. On the other hand, for their development, it has a wider scope for attracting private capital whose interests should be taken into account and protected. The need to develop public-private partnerships for pilot projects, development and distribution of methodology of their application in different directions (types of economic activity) was noted. The constructive interaction between the public and the private sector provides conditions for the implementation of entrepreneurial initiatives, while maintaining control in the social spheres of the state.

Issues of confidence in the state of business structures, determination of real opportunities for development and obtaining preferences provided by public-private partnership remain unresolved. To date, mechanisms of public-private partnership remain the instrument of the state for uncontrolled movement of funds and solving private business issues. As a whole, public-private partnership is defined as a defined system that has a certain set of economic, social, legal, political, organizational, managerial and other interrelationships, relationships and conditions that promote the most efficient use of existing and other sources for the socio-economic development of Ukraine.

The **aim** is to identify the main mistakes of partnership between government and business in the current environment and suggest ways to overcome them.

Materials and methods. The following general scientific methods, such as synthesis, analysis, comparison, abstraction and induction, are used in the work.

The solution of the above-mentioned questions and problems is intrinsically related to public-private partnership, since the latter serves as an effective instrument of investment support and equalization of socio-economic imbalances in the context of aggravation of macroeconomic upheavals.

Results. In scientific research, the term "public-private partnership" is considered in a narrow, and broad sense. Public-private partnership in the first case describes the long-term contract regulated cooperation between the state and the private sector for the fulfillment of public tasks, which covers the entire life cycle of the relevant project: from planning to operation, along with maintenance. In the broad sense, the term "public-private partnership" combines all forms of cooperation between the state and the private sector in order to solve tasks traditionally within the competence of the state [8, p. 41].

From a practical point of view, such a broad interpretation of the term is of little use, since there are many forms of cooperation between the state and business, the latter are regulated by different normative acts and pursue different goals.

According to the legislation of Ukraine, public-private partnership is a cooperation between the state of Ukraine and territorial communities in the person of the relevant state bodies and local self-government bodies (state partners) and legal entities, except public and communal enterprises, or individual entrepreneurs (private partners), which is carried out on the basis of the agreement in the order established by the Law of Ukraine "On public-private partnership" [9].

However, according to the Law "On Public-Private Partnership" of 01.07.2010 № 2404-VI "the dominant areas of application of the mechanism of public-private partnership are:

- search, exploration of mineral deposits and their extraction, except those carried out on the basis of production-sharing agreements;
- production, transportation and supply of heat and distribution and supply of natural gas;
- construction and/or operation of motorways, railways, runways at aerodromes, bridges, road overpasses, tunnels and subways, sea and river ports and their infrastructure;
- machine building;
- collection, purification and distribution of water;
- health care;
- tourism, recreation, culture and sports; ensuring the operation of irrigation and drainage systems;
- waste treatment;
- production, distribution and supply of electric energy; real estate management.

At the same time, this Law has certain disadvantages. *First*, there is no minimum percentage of participation in a private partner project. In this regard, the share of private financing in a joint project allows it to be classified as a public-private partnership, translating most of the responsibilities to the state. *Secondly*, there are no well-defined mechanisms of practical implementation (definition of stages of implementation of Public-Private Partnership projects, creation of motivation for foreign investors, etc.). *Thirdly*, according to Article 7 of the Law, Public-Private Partnership extends to objects that are in state or communal ownership, thus preventing the implementation of such projects as the construction of objects by a private partner, with subsequent transfer to the public partner.

It is evident from the list below that the main legislative act needs to be substantially refined in terms of expanding the scope of public-private partnership, in particular the sphere of domestic trade, since its socio-economic load is no less important than in other priority sectors. In addition, none of the above spheres is able to implement Public-Private Partnership projects and monetize their results without involving business entities.

It should be noted that the normative and legal basis for the regulation of public-private partnership in Ukraine is in the process of continuous improvement and close attention of specialists from the Ministry of

Economic Development and Trade. The list of normative documents of the Cabinet of Ministers is presented in the *table*.

Table

Development of normative and methodological support of Public-Private Partnership

Document	Issues that are regulated by the document
Resolution of the Cabinet of Ministers of Ukraine "On Approval of the Procedure for Granting to the Private Partner to the State Partner Information on the Implementation of the Contract, concluded in the framework of the Public-Private Partnership" dated February 9, 2011 № 81	The public partner prepares a report on the implementation of the agreement submitted to the authorized executive body on public-private partnership, which monitors, summarizes and publicizes the results of the implementation of public-private partnership. Approved report form, list of indicators
Resolution of the Cabinet of Ministers of Ukraine "On Approval of the Methodology for the Identification of Risks Related to Public-Private Partnership, their Evaluation and Definition of their Management Form" dated February 16, 2011 № 232	The methodology is used during the analysis of the effectiveness of public-private partnership, decision-making on its implementation, the distribution of risks between public and private partners, and the conclusion of an agreement between them
Resolution of the Cabinet of Ministers of Ukraine "On Approval of the Procedure for Providing State Support to the Implementation of Public-Private Partnership" dated March 17, 2011 № 279	The procedure of providing state support for the implementation of public-private partnership on state-owned objects, and the form of state support is defined.
Resolution of the Cabinet of Ministers of Ukraine "On Some Issues in the Organization of Public-Private Partnership Implementation" dated April 11, 2011 № 384	The procedure of conducting the analysis of the effectiveness of public-private partnership implementation is approved
Order of the Ministry of Economic Development and Trade of Ukraine "On Approval of the Form of Submission of a Proposal for the Implementation of Public-Private Partnership" dated August 16, 2011 № 40	The form for submission of proposals on implementation of public-private partnership is approved
Order of the Ministry of Economic Development and Trade of Ukraine "Some issues of the analysis of the effectiveness of the implementation of public-private partnership" of February 27, 2012 № 255	The form of feasibility study for the implementation of public-private partnership is approved
Resolution of the CMU "On Approval of the Concept of Public-Private Partnership Development in Ukraine for 2013-2018" of August 14, 2013 № 739-p	The methodology for conducting an analysis of the effectiveness of the implementation of public-private partnership is approved

However, the accumulation of legislative and regulatory framework in quantitative terms in practice reveals the weakness of qualitative parameters. According to the above-mentioned normative documents and methodological recommendations, at the stage of negotiations on Public-Private Partnership, a private partner needs to undergo complex approval procedures. At the same time, he does not receive from the state the necessary guarantees regarding fulfillment of obligations on his part.

According to the approved procedure, it is first necessary to sign a Public-Private Partnership contract and begin its implementation, and then the state will make a decision on providing financial support that does not correspond to the basic nature of the Public-Private Partnership.

Also, according to the current legislation, Public-Private Partnership projects should ensure higher efficiency of the activity than in the case of its implementation by a public partner, have a long-term nature (from 5 to 50 years), provide financing (or co-financing) of the project by the private partner, distribution of responsibilities and risks between private and public partners in the process of Public-Private Partnership implementation. Business considers such a partnership as:

- the opportunity to participate in resource and capital infrastructure projects through an organizational and institutional long-term alliance with the state;
- as a way of obtaining from the state guarantees in the form of the right to receive minimum returns and return of investments in the form of the right to receive income from the paid operation of the object, as well as partial or full return of money in case of unsuccessful implementation of the project;
- direct financial support from the state in the form of financing costs. It can be presented in the form of capital grants, operating subsidies in the form of fixed payments on availability or payments, which are dependent on traffic, and in some cases – granting of loans on preferential terms;
- preservation of strategic control over assets created by transferring the function of management of a specially formed company;
- The state, attracting a private partner, receives technological and technical development of infrastructure in the country;
- In addition, the efficiency of using budget funds is increasing, some of the risks are transferred to a private partner, effective management is involved, and the pace of social and economic development of the country is accelerating due to extrabudgetary funds. Also, the state is able to;
- carry out events of international importance. Ukraine successfully hosted the Football Championship 2012 and Eurovision 2005 and 2017. These measures require a high-quality infrastructure that can not be created on the right scale without the involvement of Public-Private Partnership mechanisms;
- the global crisis calls for a reduction in budget financing, especially infrastructure financing, and calls for the search for extrabudgetary sources of funding under the terms of the Public-Private Partnership;
- Business wants to cooperate with the state for the following reasons;
- successful projects (increase investment attractiveness and reduce risks);
- additional guarantees and rights of investors, as well as the introduction of new, more flexible Public-Private Partnership mechanisms at the legislative level (subject to the improvement of the legislation).

In order to implement the Public-Private Partnership, both parties must evaluate its risks, which is the first step in structuring the task. It is advisable to develop a risk map together with the financial model in its ratio and correspond to each other.

The world-wide practice of implementing Public-Private Partnership projects suggests that most of the failures are due to the following mistakes:

Incorrectly defined cost/profit part of the project. This may be an incorrect calculation of the cost of work or an incorrect calculation of net discounted profit. In such cases, the project may be completely terminated or an additional agreement may be entered into with the correction of errors and the adjustment of the implementation dates.

Technical design errors. These risks are due to mistakes in the design documentation, risks in the field of technological regulation (complexity in obtaining design documents, construction permits, approval of documents), the risks of identifying hidden defects after the commissioning of the facility, as well as the problems of territorial construction.

Non-rational division of risks according to the project. This may be an overstatement of business fines for violating conditions, but another partner will have other conditions.

Social and environmental risks. Forecasting of environmental risks should be carried out to the stage of designing an object through conducting relevant research. In addition, attention should be paid to environmental risk insurance, but in practice these issues usually remain unregulated.

Political risks. It is one of the most difficult to predict and has long-term negative consequences. The country has a significant relationship between political events and the economic development of various sectors. A constant budget deficit requires foreign lending, which is directly related to international agreements and the economic attractiveness of the country as a whole.

Legislative risks. It may be expressed in the incorrect interpretation by the parties of legal norms governing contractual relations, or in the termination of contractual relations by the state.

Public-Private Partnership as the instrument of economy development has significant prospects especially taking into account all the above-mentioned issues. However, this is possible if in the near future certain efforts will be directed at eliminating the factors hindering the development of partnerships between public authorities and business [10]. These include an imperfect base, inefficient funding mechanisms, and lack of flexibility on the part of the state towards investors.

Let's turn to practical implementation of Public-Private Partnership projects in Ukraine. Tourism is one of the priority areas of the Public-Private Partnership. When creating Public-Private Partnership projects in this direction, the state will receive: road infrastructure, public transport, the prosperity of tourist centers, public park systems; restored historical places, the possibility of festivals and other cultural events. The private sector will receive: hotels, conference halls, restaurants, shopping malls, entertainment centers and parks, sports complexes, etc. One of such projects was to reconstruct the palace in Tartak in Sokalsky and the castle in Old Village. The concession agreement, initiated by the state administration, envisaged, first of all, the reconstruction of the castle.

But the castle in the Old Village is scattered due to the mismanagement of the concessionaire, whose inaction led to the destruction of the palace. Several years of irresponsible concession worsened the already

emergency state of monuments of national significance – the palace in Tartak in Sokalsky district (needs for the restoration of "Novosad" was estimated at 100 million USD) and a castle in the Old Village near Lviv (in this facility LLC "Chris" was obliged to invest 300 million UAH). Concerning the fact that the commitments are not fulfilled, the concessionaires blame the world recession. But the sights are not easier. The palace in Tartak does not have a roof, the castle in the Old Village peasants stretch out to the stone for the mistress.

It was a complete failure of the government's initiative to hand over the landmark for half a century to the hands of private entrepreneurs who promised to restore the castle and palace within five years. Only reasonable defenders of the sights realized what really needed to be done to preserve the architectural pearls. These concessions were an attempt to pass the castles to private hands, because under such circumstances the state won't be able to maintain them in its current state. At that time, it seemed that there were already potential owners of these castles, it was simply tried to transfer them to private hands, for the current corruption to do it at the level of the Ministry was not a problem. Representatives of local authorities tried to persuade all of them to finance the state budget with a separate article.

After signing the concession agreement, entrepreneurs should order the development of a project for the withdrawal of a memorandum from a severe emergency, to attract professional restorers to work on the project. But this is completely absent, which gives grounds to consider concession the most usual fiction. Perhaps someone wanted to screw up some sort of scam, for example, to get a big loan in the bank, and a contract with the state structure is such a guarantee of reliability of the borrower. In this case, the authorities should work on the termination of the contract. These concessionaires not only do nothing, but also avoid communication with authorities.

Indeed, during the time of the castle concessions, Lviv had already changed several heads of state administrations and their deputies. The concession agreements were concluded for 49 years with other management and when unprofitable concessionaires did not make measurements, design estimates and consolidation, the irresponsible rulers wiped their hands without resorting to the perpetrators of any sanctions. Although the state retained the right to terminate the agreement ahead of time and to announce a tender if the concessionaire did not fulfill the requirements of the contract.

Two facilities in Lviv region before the concession were in better condition than now. Currently, all the innovations heard by local residents in the castle are the same as bike hangouts.

Recently all of confusions on the whole from the idea of castle concession and palaces to renounce does not hurry. The concession and private investor are the only hope for the preservation and restoration of historical objects. When complying with the law and taking into account the risks and clearly defined terms of responsibility, the Public-Private

Partnership projects have the right to exist. Good experience can be borrowed in the EU countries, where rest zones, hotel complexes, etc. are arranged in the restored castles.

Conclusion. As a result of the research, it was discovered that the main mistakes of partnership are the inability to clearly understand the legislative framework and the lack of incentive tools for business and reimbursement. To overcome the mentioned mistakes all the necessary changes should be made on the legislative level, clear framework for risk sharing and future preferences should be identified. All of the above has proven that it is necessary to develop clear instructions for signing concession agreements with determining the responsibility of each party depending on the amount of its contribution and determining the amount of fines in case of violation of conditions.

The analysis of the theoretical and practical aspects of Public-Private Partnership suggests the need for development of this direction, since it is the cooperation of the state and business through the mechanisms of Public-Private Partnership that will improve the quality of life of the population. We consider it expedient to continue the research of public-private partnership in the field of education and social sphere.

Further development of Public-Private Partnership in Ukraine should be linked to using advanced foreign experience in the development of regulatory and organizational foundations, the introduction of modern models of Public-Private Partnership and effective mechanisms of the state regulation and support.

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Присяжнюк А., Хмурова В. Публічно-приватне партнерство: теорія і практика.

Постановка проблеми. *Розвиток сучасного інклюзивного суспільства вимагає використання нових механізмів співпраці між публічними установами та бізнесом. Застарілі методи не дозволяють вирішити економічні та соціальні питання розвитку та забезпечити вирішення питань трудової міграції. Саме застосування механізмів публічно-приватного партнерства може вирішити актуальні питання розвитку країни в цілому або за пріоритетними напрямами.*

Мета *статті – визначити основні проблеми партнерства між владою та бізнесом у сучасних умовах та запропонувати шляхи їх подолання.*

Матеріали і методи. *У роботі використано такі загальнонаукові методи, як синтез, аналіз, порівняння, абстракція та індукція.*

Результати дослідження. *Обґрунтовано необхідність вирішення актуальних питань партнерства на рівні держави та підприємств. Проаналізовано особливості законодавчої бази з державно-приватного партнерства в Україні. Визначено основні помилки при укладанні угод партнерства та перспективи застосування.*

Висновки. *Проведений аналіз теоретико-методологічних та практичних аспектів публічно-приватного партнерства свідчить про необхідність його розвитку, оскільки саме співпраця держави та бізнесу через механізми публічно-приватного партнерства надасть можливість покращити якість життя населення, і цей напрям є перспективним механізмом впровадження нових технологій та оптимальним на шляху розвитку економіки і суспільства.*

Ключові слова: партнерство, публічно-приватне партнерство, партнерські угоди.

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DEMOGRAPHIC SUSTAINABILITY AND ECONOMIC GROWTH: THEORY AND METHODOLOGY

Essence and value of demographic sustainability at the terms of globalization are reflected. The theoretical approaches to the definition of the mentioned category as basis of endogenous economic growth are systematized. The ensuring factors of demographic sustainability and the optimal proportions of reproductive process are identified and grouped. Directions for the national socio-economic policy aiming to achieve demographic sustainability are offered.

Keywords: demographic structure, demographic sustainability, economy growth, economic strategy.

Непиталюк А. Демографическая устойчивость и экономический рост: вопросы теории и методологии*. Освещены сущность и значение демографической устойчивости в условиях глобализации. Систематизированы и углублены теоретические подходы к обоснованию обозначенной категории как основы обеспечения эндогенного роста экономики. Идентифицированы и сгруппированы факторы обеспечения демографической устойчивости и оптимальных пропорций воспроизводственного процесса. Предложены направления реализации национальной социально-экономической политики с целью достижения состояния демографической устойчивости.*

Ключевые слова: демографическая структура, демографическая устойчивость, экономический рост, экономическая стратегия.

Background. The prolonged transit period in economic history of Ukraine was marked by considerable changes in the demographic structure of society. Social and demographic processes, complementing the deep transformation phenomena in the system of public management, testified the crisis and uncompetitiveness of traditional resources-oriented development paradigm. As a result, the total size of Ukrainian population substantially reduced; the changes in the structure of productive forces resulted in objectively unsatisfactory level of functioning efficiency of economy industries, and decline in public welfare. There are some actual determinants of negative population dynamics; the state influence on those determinants should be mediated. But there are also problems that could be solved by

means of the national economic strategy's implementation. Among the fundamental categories of that strategy an important place should be occupied by demographic sustainability that is able to act as an institutional lever for economic growth.

In domestic specialized literature, the deep essence of demographic sustainability remains one of the most important scientific issues.

Analysis of the researches and publications. The role of social and demographic factors, including demographic sustainability, in ensuring of economic development was studied by foreign scientists. In particular, I. Hamiduddin investigates the phenomenon of social sustainability in the context of globalization challenges [1]. N. Mistas, K. J. Mallen and J. Powell study the influence of population aging on the rates of economic growth [2]. E. Boubtane, J.-C. Dumont and C. Rault examine the influence of migration on the steady development of the OECD countries [3].

Among domestic scientists, we can say that O. Gladun and A. Romaniuk investigated existing and forthcoming demographic tendencies in Ukraine [4]. The concept of sustainable management in modern economic systems as the basis for their development is the result of scientific work of S. Kozlovskyi, O. Rudkovskyi and A. Kozlovskyi [5]. The regional demographic aspects of birth rate and maternity in Ukraine were studied by I. Kurylo, S. Aksionov, B. Krimer [6]. The research of E. Libanova [7] is devoted to the demographic change in the context of social development.

In the relevant literature, the issues of social and demographic phenomena influence on the economic development processes were envisaged. But a wide range of its methodological aspects is not studied enough.

The **aim** of this article is to analyze, to systematize and to develop both theoretical and methodological determination approaches to the category of demographic sustainability as well as to outline its role in the economic growth processes' acceleration under conditions of globalization.

Materials and methods. Theoretical and methodological bases of this study are represented by the scientific works, addressing the problem in question, of domestic and foreign scientists. Multidimensional character of this research stipulated the introduction of methods and approaches, allowing to provide its conceptual unity. Dialectical, system and structural approaches, methods of analysis and synthesis, comparison, generalization, and scientific abstraction were applied.

Results. National economic strategy must take different factors into account, in particular demographic structure and social dynamics, which determine the volume of productive forces that can be attracted in certain moment of time, and determinants of the combined demand. Demographic changes and their direct economic consequences are the classic objects of research. However, the macroeconomic strategy's preparation requires introduction of demographic stability as the basic concept. To this day, in

domestic science the categories of demographic changes and economic sustainability were examined separately par excellence. Hence, the conceptual bases of demographic sustainability should be clarified and that category should be implemented into the modern glossary of humanitarian disciplines.

Demographic sustainability is important and necessary condition for the successful realization of national socio-economic politics. While the above category organically belongs to the western scientific discourse, in the Anglosphere it is used limitedly as an unambiguous concept and has not been clearly determined yet. For example, British scholars S. Annand and A. Sen envisaged the multiple interdependences between human development and economic sustainability, introducing the category of ethical "universalism" as the permanent society's aspiration to impartiality of claims between its generations. They came to the conclusion that the balance between public impartiality, sustainable economic development, optimal proportions of economic growth and requirements of the present day is vital. However, they offered the methodology to evaluate the influence of the changes in total population and its structure on the general proportions and dynamics of reproductive process [8].

A. J. McMichael, C. D. Buttler and C. Folke offer the renewed conception of addressing sustainability as an integral scientific concept, covering the issues of socially responsible business, environmental defense, quality of life, etc. Those objectives could be reached by massive decline in the population's morbidity and mortality rates with simultaneous increase in life expectancy and intellectual capital. The public production scales should be expanded as well [9].

In the newest domestic and foreign economic studies, stability is envisaged as a crucial element into the general concept of equilibrium. It is assumed that the economic agents inherently aspired to bring the systems (they belong to) to the optimal or equilibrium state, which is naturally stable. Any system on micro-, meso-, macro- and global level can be considered as stable, if it has an opportunity to change automatically to the state of the greatest / optimal functioning efficiency.

It is necessary to differentiate fundamentally the concepts of constancy, stability and sustainability in economic theory. Stability is sometimes interpreted as the particular state of the socio-economic system, when the elements of endogenous and exogenous environment cause no imbalance between the rational combinations of available resources and dynamic public demands. From the positions of elementary logic, the category of stable development seems controversial enough, as stability, id est definiteness and invariability, deeply conflicts with the nature of development, that envisages ephemerality, transitivity, dynamism, and even inversion of the corresponding system. Unclear definition of stable development causes essential methodological problem and impedes the preparation of a sustainable growth concept. The national paradigm of steady development of

Ukraine determines the above category as an instrument to satisfy a wide range of society's natural, ecological and economic demands. Steady development conception faces the lack of humanistic accent. That fact causes an institutional barrier and leaves the strategic reference-points of national economy unachievable. At modern terms, the study of binary interdependences between economic regress and progress becomes vitally important. Economic progress is associated with a sustainable economic growth.

The theory of "de-growth" (or *décroissance*), where the system's constancy was envisaged as pre-condition of its regress, was formed by J. Spangenberg and C. Kershner [10–11]. In the vast majority of the cases, positive and easily predicted dynamics of the system's basic indicators testifies its sustainability rather than stability. Explicitly stable system could hide an implicit crisis. In that case, the systems functioning parameters could deteriorate, and the systems could be faced with degradation. Society is a quite difficult scientific object. So, it is expedient to apply the flexible category of sustainability that methodologically admits some substantial quantitative and quality inner changes (if the optimal structure of the system is maintained and its development trends are positive).

Sustainability covers the strategic reference-point for the national socio-economic politics and attracts scientific interest of numerous foreign and Ukrainian scholars. E. Ostrom, L. Schroeder and S. Wynne [12] studied the mutual dynamic determination of institutional stimuli and economic sustainability in the context of demographic changes. More recent authors, in particular M. Davidson [13], Y. Rydin [14], I. Hamiduddin [1], investigate the issue of social sustainability as the component of demographic balance in the context of active migration in Central and Western Europe, identifying the character of expatriates' relocation and the scale of their contribution to the public production.

On the basis of sustainability's classic determination, it is possible to draw the conclusion that sustainable economic system corresponds to multiple-criteria simultaneously:

- *on a macro-level* it actively counteracts to the possible destructive influence of exogenous factors, mimicries and adapts to the changes of environment, maintaining its own uniqueness and identity, adopting some progressive external modifications that potentially are able to ensure a positive effect;
- *on a micro-level* it supports optimal dynamic multiple proportions between the elements of endogenous environment in accordance with the selected development strategy and taking the lagged effects into account;
- *on a meso-level* it directly co-operates with analogical and complementary industrial and regional systems;
- *at general level* it dialectically takes and determines the global economy's development vector [5].

Based on the mentioned criteria, a rigid economic system is not obligatory determined as sustainable. If the system keeps its own functional validity and achieves planned / desirable performance indexes and standards, it could be described as sustainable. The state of the system that does not develop, while supporting the equilibrium of its elements for a long time, could be identified as stagnation. If substantial internal disproportions help to maintain the system's equilibrium, the system is on the critical limit of sustainability. At modern terms, the concept of sustainability organically combines with the concept of potential. If the system's potential is rising, while the deviation of its statistically significant parameters is minimal, the system is sustainable [5].

The named criteria are definitely specified, deriving from the determination of demographic structure of society. Positive empiric experience gives an opportunity to refine the attributes of demographically sustainable system under conditions of globalization:

- automatic (absolute) elimination of the exogenous destabilizing factors' destructive influence (for example, emigration of the people with high qualification and immigration of low-skilled or unqualified workers and economically inactive population) by the means of built-in mechanisms, instruments and levers of social, educational, medical, fiscal, migratory, and cultural politics;
- operative perception of essential transformations in the society's structure with absolute maintenance of national identity, simultaneous adaptation to progressive external modifications (in particular, cultural diffusion) that are able to ensure a positive effect in prospect;
- permanent support of optimal or maximally close to such dynamic multiple proportion between the elements of endogenous environment (according to the theory of social stratification);
- inclusion into the globalization and regionalization processes, participation into the international division of labor;
- inertia and predictability of the population's size and structure.

There is a wide range of problems to be solved in the determination process of demographic sustainability (as a category) and its integration into the national economic strategy. Those problems stipulate and logically determine the possible tools for direct and mediated impact on both economic and biosocial facets of social ontology in the context of dual population dynamics under conditions of globalization.

In the Anglosphere two similar but not identical categories – demographic sustainability and stability – are used to define the system's equilibrium. The first category is suitable to characterize the plurality of demographic processes: it determines the dynamic equilibrium of probable changes in the structure of society.

Demographic sustainability is not integrated into the lexicon of Ukrainian science. So, there is an objective discrepancy between the chosen strategic priorities of development and the immanent potential of national economic. Economic growth and a qualitative increase in the level of social welfare require the implementation of an adequate socio-demographic policy. Therefore, it is expedient to examine demographic sustainability in the context of modern scientific schools and taking the specific conditions of Ukraine into account.

The assessment of the nature and scale of the demographic factors' impact on economic development was a controversial issue for a long time. The natural and mechanical aspects of population dynamics were studied separately. Regarding the natural movement, there were made some attempts to observe the effects of the changes in fertility and mortality rates on the economic growth rate. However, the investigation of pair correlations gave quite controversial results. The initial hypothesis about the dense interconnection between demographic and economic variables was not confirmed. Thus, some multiple correlation dependencies should be specified and panel studies should be conducted as well.

The convergence of demography and economics into a powerful interdisciplinary trend took place in the Western scientific colloquy at the turn of the 1970s and 1980s. J. L. Simon and R. Gobin, studying the relevant socio-demographic and economic interdependences for the developing countries, identified that increase in the fertility rate had a lagged effect on the economic growth. The results of social production, obtained in the late 1970's, were directly linked to the economic activity of individuals, who were born much earlier [15]. Scientists were unable to achieve a certain conclusion about the impact of demographic dynamics on economic growth in the short-term. But they made the hypothesis that such interrelation exists in the long-term.

On the basis of the international comparison of the rates of economic and population growth, R. D. Lee also did not detect a stable and statistically significant relationship between the mentioned indicators, but assumed that in the long-term demographic dynamics would have a substantial effect on the scale of social production [16]. A. J. Coale remarked that high rates of per capita income growth are typical to the societies with lower fertility and mortality rates, notably to the countries with a stable demographic structure [17]. The existence of the expected inverse interrelation between those parameters was not proved.

D. E. Bloom and R. B. Freeman noticed that countries with comparable rates of economic growth may fundamentally differ in terms of fertility and mortality, which does not give an answer to the question of the population growth's impact on the scale of social reproduction [18]. D. Blanche did not elicit a considerable connection between increase in the current fertility rate and economic growth. He found out that for the societies with lower mortality rates and higher average prospective life

expectancy, which is also considered to be an indicator of demographic sustainability, the income per capita growth rates are higher [19]. J. A. Brander and S. Dowrick [20] as well as R. Barlow [21] came to the conclusion that the optimal retrospective fertility rate determines the supply of labor and thus leads to acceleration of economic growth. The dependence between the current birth rate, on the one side, and the economic growth rates and investment activity, on the other, is negative. Increase in the current fertility rate intensifies consumer demand. The authors proposed to take the lagged effect of fertility on economic growth into account. The economic activity of the population should be evaluated regarding the methodology of the International Labor Organization (ILO).

A. C. Kelley and R. M. Schmidt consistently investigated the interdependencies between the changes in the aggregate population and the rates of economic growth in developed and emerging economies in order to identify the basic determinants of demographic change [22]. According to the results of their research, until the 1970s, the interrelation between those variables was absent. However, since the 1980s, two opposite trends showed up. For developing countries, the absolute growth of population influenced the growth rate of macroeconomic indicators mainly negatively. There could be a positive relationship between those indicators for advanced economies. The authors discovered the statistical significance of the population's growth rate, its total number at a discrete time and density. It was also found out that demographic changes in society had fundamentally different economic effects in the short- and long-term. D. E. Bloom and J. D. Sachs investigated the impact of the changes in the demographic structure of society on macroeconomic dynamics in developing countries [23]. The authors statistically confirmed the steady and relevant negative correlation between the rate of population growth and the change in the scale of social production for that sample of countries. They emphasized the need for integrated research, since demographic factors should be analyzed in an inseparable unity with agro-climatic zoning as well as sanitary and epidemiological factors. T. Lindh and B. Malmberg, within the framework of the neoclassical model of economic growth, analyzed the influence of the age structure in the Organization for Economic Cooperation and Development (OECD) countries on the corresponding rate of the social reproduction process during the 1950–1990s. Their study gives the grounds for modifying the socio-demographic policy [24]. N. Maestas, K. J. Mullen and D. Powell analyzed the US demographic statistics from 1980 to 2010. They found out that the aging of the nation slows down the growth due to a reduction in the supply of labor and decrease in production processes [2].

Migration as a factor of demographic sustainability is highlighted in a number of publications. J. Dolado, A. Goria and A. Ichino successfully integrated the statistical evaluation of migration into the Solow–Swan model of long-run economic growth [25]. The authors reached a conclusion that, for the OECD countries during the period of 1960–1990, the immigrants'

contribution to the accumulation of human capital played a role of a compensator (at least partly) for the negative effect of the dilution of capital and changes in the size and structure of the population. Later migration was included into the endogenous models of economic growth, especially in terms of the immigrants' contribution to the technological and innovation development. Y. von Hagen and U. Waltz studied migration processes on the endogenous development model for the two countries. They concluded that the nature of migration's impact depends on the specialization of each of the studied countries as well as on the training and level of competence of migrants [26]. At the same time, P. E. Robertson, using the Uzawa-Lucas model to analyze migration processes, proved that the influx of low-skilled or unskilled immigrants leads to a decline in economic development [27]. P. Lundborg and P. S. Segerstrom in a series of publications proved that free labor migration generally leads to acceleration of economic growth [28-29]. Professor L. Bretschger got the similar conclusion [30]. E. Boubtane, J.-C. Dumon and C. Rault examined the impact of migration on the economic development of 22 OECD countries over the period from 1986 to 2006 [3]. According to the scientists, firstly, there is a positive statistically significant influence of the human capital inflow on macroeconomic indicators; secondly, the permanent growth of migration flows leads to an increase in labor productivity.

As demographic processes have an objective historically predetermined and inertial nature, it is appropriate to consider the institutional mechanisms for achieving and maintaining sustainability in society under the influence of independent exogenous factors. Modern British researchers Anand and Sen, assessing the sustainable development prospects under conditions of the intellectual capital intensified production, relied on the theoretical statements of F. P. Ramsey. In their theory, development could be considered as sustainable, if there is no essential decline in public welfare. So, the possibilities of reduction in the population incomes, private consumption and volumes of physical capital are minimized. The authors renewed R. Solow's ethical and economical concept of "intergenerational equity". In that theory, mitigation was accepted to be one of the instruments, allowing to maximize total welfare of different generations, to achieve an acceptable social redistribution's level as well as to develop a conscientious attitude to non-renewable resources. The harm (that was done to the future generations) shod be minimized, involving some inner compensators [8].

Demographic processes and their impact on the national economy are also in the focus of domestic researchers. Academician S. Pyrozhkov developed the concept of demographic development, which reflected a number of actual demographic variables (in particular, fertility, mortality, migration etc.), the consistent study of each one was an independent scientific task [31]. The character of demographic processes required to use different cognitive techniques. However, a need to search for a universal, complex model of demographic processes (that would characterize their impact on the level of economic development adequately) was detected.

Academician E. Libanova focused on the category of demographic changes in the context of social development. According to the researcher, national demographic shifts should be considered in the context of regional trends in order to carry out a comparative analysis of their causes and consequences. At the same time, a long-term scientific forecast and a national strategy for economic growth should be developed as well. Demographic processes were considered by E. Libanova as the result of implemented national economic policy [7]. V. Steshenko explored the ways to overcome the gnostic crisis in the context of a new demographic knowledge's formation [32]. O. Gladun and A. Romanyuk developed a statistical methodology for assessing socio-demographic processes in a historical retrospective and approaches to identify possible demographic and economic losses of the country in the context of global crises [4]. I. Kurylo studied the problems of ensuring sustainable economic growth and modification of social policy under objective conditions of population aging [6]. E. Kachan examined the complex effect of factors, which influenced the labor potential's reproduction in the context of modern demographic changes [33]. Attention of domestic scientists was devoted to the reformation of redistributive processes' system. Nevertheless, demographic changes influences financial sector, in particular, pension provision and tax obligations.

Thus, demographic sustainability is simultaneously the consequence of a well-balanced national economic policy, the result of a long-term evolutionary social development as well as the evidence of controllability and predictability of socio-demographic processes. The initial hypothesis is the assumption that it is appropriate to ensure demographic sustainability as the basic condition for a long-run economic growth. In order to identify the factors of sustainability it is expedient to study the nature of the demographic processes' impact on the basic macroeconomic indicators. It can be assumed that the change in GDP per capita (as an indicator of the real economic growth) depends on a plurality of socio-demographic parameters in a way as it is shown in *model 1*:

$$\Delta GDPPC_i = f\left(\sum_{j=1}^{n} D_j\right), \quad (1)$$

where $GDPPC_i$ – GDP of the gross domestic product per capita in country i;
Dj – significant socio-demographic indicators in the country i.

In western estimation practice, the above mentioned indicators include the growth rates of the population size and density, the specific weight of economically active population in the general structure, fertility, mortality, and morbidity rates, etc. Those indicators could be used during the initial assessment of the demographic processes' impact on economy. Meanwhile, the results of such assessments are quite difficult to interpret due to the mutual inter-influence of the factors and the lagged effects. The aggregate productive capacity of the national economy is determined by the multi-factor production function. Under modern conditions, in the most general form, that function can be represented by *model 2*:

$$GDP_i = f\ (K_i, L_i, H_i, R_i, \tau_i), \quad (2)$$

where K_i – the amount of physical capital in country i;

L_i – the amount of labor force in country i;

H_i – the amount of human capital, which depends mainly on the availability of public education and healthcare in country i;

R_i – the volume of other resource determinants of production in country i;

τ_i – the level of technology that had achieved in the country i.

Arguments of this model require the use of various valuation techniques and a certain scientific abstraction in determining the scale and nature of the variables' impact on the result. Even the amount of physical capital (the classic object of analysis) undergoes permanent and tangible changes that affect on its productive potential, but. Those changes are not always adequately reflected due to the implemented accounting practices (even if they are close to the international standards).

The technological factor determines the effectiveness of a productive function. In general, it can be approximately estimated on the basis of multi-level comparative cross-country analysis. Therefore, empirical evolution of the demographic processes' impact on economic growth is carried out using the modified version of the production function (*model 3*):

$$^{\Delta}GDPPC_{i(t,t+n)} = f\ (GDPPC_{it}, X_t; Z_{(t,t+n)}), \quad (3)$$

where $\Delta GDPPC_{i(t,t+1)}$ – the potential change in *GDP* per capita level over the interval $(t, t + 1)$;

$GDPPC_{it}$ – the initial GDP per capita level in the country at time t;

X_t – significant actual economic and socio-demographic factors of influence at the beginning of the investigated period;

$Z_{(t, t+n)}$ – is a set of significant factors that have a long-term effect over the interval $(t, t+1)$ and acts both on economic and related development determinants, in particular on the stocks of savings, investment returns, social and political stability, and the like.

Due to the effect of the technological factor the nature of the binary dependence between $\Delta GDPPC_{i(t,t+1)}$ and $GDPPC_{it}$ is complex and ambiguous for interpretation.

The socio-demographic factors' impact on economic growth in general depends on:

- the general level of economic development of the state or region;
- both modern and retrospective (with the lagged effect) ratios of mortality and fertility;
- the nature and the general character of migration processes, in particular the educational and professional training and the level of competence of migrants, their production and business culture, etc.

Therefore *model 3* is modified in a certain way in *model 4*:

$$\Delta GDPPC_{i_{(t,\,t+n)}} = f\left[GDPPC_t, X_t, Z_t, \left\{D_{t,\,t+n}, D_{t,\,t+n} \times GDPPC_t\right\}\right] \qquad (4)$$
$$D_{t,\,t+n} = \left\{CFR_{t,\,t+n}, LFR_{t-15,\,t+n-15}, CMR_{t,\,t+n}\right\}$$

where $D_{t,\,t+n}$ – the socio-demographic factors that have a long-term effect effect over the interval ($t,\ t+n$) and act on economic determinants of development;
$CFR_{t,\,t+n}$ – the current fertility rate;
$LFR_{t-15,\,t+n-15}$ – the lagged fertility rate (taking the 15-year lag into account);
$CMR_{t,\,t+n}$ – the current mortality rate.

The impact of a retrospective birth rate is justified by the estimation methodology of the economically active population used by the ILO, because 15 years have to pass from the birth to the complete transformation into an economically active person. The proposed method is imperfect, it does not take the mortality of infants, children and teenagers under the age of 15 into account. Nevertheless, numerous empirical studies prove the validity of the hypothesis that there is a link between the retrospective fertility and the current level of social production efficiency.

The category of demographic sustainability complements the theory of intellectual capital. The owner of that capital is the person, characterized by the rational thinking, competence, good will, health and creative potential. So, that person is totally responsible for the effectiveness of the national economy's performance. Demography directly and indirectly affects on the efficiency of the national wealth accumulation.

Theoretically, it is possible to refine and to group together the following factors for ensuring demographic sustainability and optimal proportions of the reproduction process:

macroeconomic (real gross domestic product per capita based on purchasing power parity; real gross domestic product growth rate; average income and property differentiation of the population; inflation rate (consumer price index); total volume and compositional structure of public expenditures; government and private spending on human (intellectual) capital development, in particular on science and education, health care, spiritual and physical development, etc., adequacy and equity of the national fiscal policy's tax component);

socio-political (general development and democratic institutions quality of Rechtsstaat and civil society; level of the citizens' legal consciousness and culture; efficiency and transparency of the public administration system; general development level of local self-government bodies; institutions network of social infrastructure; the humanistic direction of socio-demographic policy; quality control of public services);

natural, in particular ecological and geo-climatic (the state of the environment; agro-climatic potential; natural resource potential; specificity of geographic location);

socio-demographic (general size and population density; sex-age structure of the population; share of economically active population as well as the share of people under the age of 15 and over 65 in the general structure; actual levels of employment and unemployment; the total fertility rate (current and retrospective, taking 15-year lagged effect into account); mortality rate, including persons of working age; average life expectancy at birth; migration);

socio-cultural (quality and accessibility of education; average years of schooling of adults is the years of formal schooling received; academic mobility, quality and availability of medical services; level of spiritual needs saturation of the population).

The assessment of demographic sustainability is objectively complicated by the mutual interrelation between those factors. For example, increase in the current fertility rate enhances the burden on the public finance system (forcing redistributive processes, inducing the overall consumer spending and reducing the level of savings and investment activity (especially in the context of weak institutional framework for financial relations) [34-35]. However, the intensification and changes in the consumption structure can play the role of an implicit lever of social production revitalization. The population aging is expected to have a negative effect on economic growth. Meanwhile, the quality improvement and permanent renewal of the medical services range, increase in their accessibility, in particular through the gradual implementation of the insurance medicine mechanisms, and other positive changes in the field of public health protection will predictably positively affect on the preservation of the population's creative intellectual potential and, therefore, compensate the mentioned destabilizing effect. There is a constant need to improve the methods for demographic sustainability assessment.

Conclusion. Demographic sustainability is the society's ability to support automatically and – using implicit compensators – to restore its own structure in the context of social stratification, regarding a set of significant parameters, including the economic activity level as well as educational, professional and competence training; demographic sustainability optimizes the production proportions of intellectual and physical capital, provides intensification and continuity of production, increases the population welfare. The complex of demographic factors, in particular the dynamics of population size and density, the share of economically active persons in its structure, fertility (current and retrospective) and mortality rates, average life expectancy, influences on a long-term economic growth. Under conditions of globalization, the problem of migration is actualized: the mismatches in the educational and qualification levels of emigrants and immigrants can disrupt the balance of productive forces. Demographic sustainability is a strategic task for the national socio-economic policy; it is the necessary condition to optimize the scale and proportions of public production. To achieve demographic sustainability, a tight coordination of social, fiscal, migration, and cultural policies is required.

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Непиталюк А. Демографічна стійкість та економічне зростання: питання теорії і методології.

Постановка проблеми. *Зміни чисельності та структури населення через природний та механічний рух визначають масштаби національного виробництва. Характер зазначених взаємозалежностей потребує вивчення з огляду на необхідність поліпшення системи публічного адміністрування та підвищення рівня добробуту. Формування національної макроекономічної стратегії вимагає інтродукції категорії демографічної стійкості як основи забезпечення ендогенного зростання.*

Метою *статті є аналіз, систематизація та розвиток теоретико-методологічних підходів до визначення категорії демографічної стійкості та окреслення її ролі у акселерації процесів економічного зростання в умовах глобалізації.*

Матеріали та методи. *Теоретико-методологічною базою дослідження є наукові праці зарубіжних та вітчизняних вчених з обраної проблематики. Багатоаспектний характер об'єкта і предмета вивчення зумовив інтродукцію системи методів та підходів, що дозволило забезпечити концептуальну єдність дослідження. Застосовано діалектичний, системний та структурний підходи, методи аналізу і синтезу, порівняння, узагальнення, наукової абстракції.*

Результати дослідження. *Емпіричний досвід доводить, що на зміну обсягу ВВП чинить вплив множина природних (загальна чисельність та щільність населення, частка економічно активного населення у загальній структурі, рівні народжуваності та смертності, середня очікувана тривалість життя тощо) та механічних (характер і динаміка міграції, рівень кваліфікації мігрантів тощо) факторів. Досягнення стійкого і прогнозованого стану соціального середовища та інтеграція демографічних змінних до моделі виробничої функції має підвищити результативність національного виробництва.*

Висновки. *Демографічна стійкість – це здатність суспільства автоматично підтримувати та (із застосуванням імпліцитних компенсаторів) відновлювати власну структуру в контексті соціальних страт за низкою значимих параметрів, зокрема щодо рівня економічної активності, а також освітньо-професійної та компетентнісної підготовки, на основі чого оптимізуються пропорції продукування інтелектуального і фізичного капіталу, забезпечується інтенсифікація та неперервність виробництва, підвищується рівень добробуту. Для досягнення зазначеного стану необхідна координація заходів соціальної, фіскальної, міграційної, культурної політики.*

Ключові слова: демографічна структура, демографічна стійкість, економічне зростання, економічна стратегія.

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THE BALANCED INDICATORS SYSTEM IN THE RISK MANAGEMENT

The possibilities of mutual use of concepts of a balanced system of indicators and risks management for ensuring effective strategic development of enterprises are explored. Comparison of the processes of constructing a balanced system of indicators and risk management system is carried out, their main similarities and differences are determined. The analysis of the differences and similarities between key performance indicators (KPI) and key risk indicators (KRI) in the process of performing their functions, respectively, in a balanced system of indicators and risk management. The relationship of approaches to the formation of KPI and KRI is determined. The methodical principles of an effective combination of managerial concepts of a balanced system of indicators and risk management have been developed.

Keywords: balanced indicator system, risk management, key performance indicators, key risk indicators, risk appetite.

Федулова И. Сбалансированная система показателей в управлении рисками. *Исследованы возможности взаимного использования концепций сбалансированной системы показателей и риск-менеджмента для обеспечения эффективного стратегического развития предприятий. Проведено сравнение процессов построения сбалансированной системы показателей и системы управления рисками, определены их основные сходства и различия. Проанализированы различия и сходства ключевых показателей эффективности (KPI) и ключевых индикаторов риска (KRI) в процессе выполнения ими своих функций, соответственно, в сбалансированной системе показателей и риск-менеджменте. Определена взаимосвязь подходов к формированию KPI и KRI. Разработаны методические основы эффективного сочетания управленческих концепций сбалансированной системы показателей и риск-менеджмента.*

Ключевые слова: сбалансированная система показателей, риск-менеджмент, ключевые показатели эффективности, ключевые индикаторы риска, риск-аппетит.

Background. In a modern market economy every management decision, especially strategic in relation to the future development of an organization, is always associated with a degree of uncertainty. In this regard, the problem of

forming a unified strategy, which would provide for an effective management system taking into account the risks associated with the stable economic activity of the organization in the long run, becomes more and more relevant.

Analysis of recent researches and publications. The concept of Balanced Scorecard (BSC), developed by the American economists D. Norton and R. Kaplan in the early 1990's, has become the most popular strategic management in recent years. The authors determined that the main task of building a BSC for enterprise management is to use it to implement an integrated strategy and budget process [1].

Continuing the development of this concept, some researchers studied a balanced system of indicators and determined the main theoretical and methodological peculiarities of its application in practice, in particular: M. Kizim, A. Pylypenko, V. Zinchenko [2], L. Malaretz, A. Shtereverya [3], Yu. Melnyk [4], representatives of the consulting company Horvath & Partners [5], etc. They substantiated the sequence of its implementation, its integration with the existing system of enterprise management, its business processes and providing the necessary tools for developers.

In addition, many scholars considered the possibility of integrating a balanced indicator system and risk management system [6-14]. In these studies, modern concepts of risk planning based on BSC were considered; the necessity and efficiency of their joint use for improving monitoring and control of the activities of enterprises were discussed.

Further research on the ways of combining these two management systems stems from the need to create a methodology for implementing this concept and its application for synergy and strategic unity. This requires a systematic approach to building a strategy for enterprise development taking into account different types of risks in the process of identifying target targets for development, performance indicators responsible for their achievement and developing measures that will help achieve the desired result.

The **aim** of this study is to develop methodological recommendations for combining the managerial concepts of a balanced system of indicators and risk management to improve the process of formalizing enterprise strategy.

Materials and methods. In the process of research methods of analysis and synthesis of scientific information have been used.

Results. Complexity, unstructuredness and unpredictability of the environment stimulated the search for effective tools of strategic analysis and management. There were certain preconditions for this. So, the volume of economic information is growing rapidly, much of it is controversial and belated. The orientation of enterprises to financial indicators in the formation of the strategy allows you to take into account only the past economic situation, that is, the results of earlier decisions. In the economy, the processes of integration are actively developing, which is manifested in increasing the size of enterprises, complicating their organizational structure. There is a desire of management of companies to strengthen the managerial function at the expense of organic coordination of interests of different groups: shareholders, consumers, partners, creditors. Instead, there is no complete information on the

various aspects of entrepreneurial activity which plays an important role in increasing the competitiveness of the enterprise. Traditional performance measurement (profitability, sales volume, etc.) is not enough to make long-term strategic decisions, since they are mostly focused on internal problems of the enterprise rather than on external ones. Factors of the environment are of increasing importance for the future development of the enterprise. Among them are the factors that affect the market situation, namely possible behavior of consumers and competitors in the future, possible changes in the industry and other components of the environment. In strategic management, enterprises increasingly focus on weak signals and cannot predict the main determinants of development.

The paradigm of determining the value and efficiency of the enterprise activity was changing. From the DuPont Model and ROIs that were developed in the first half of the last century, the number of tools such as economic value added (EVA), interest income, taxes and dividends (EBITDA), market added cost (MVA), aggregate stock return (TSR), cash flow return on invested capital (CFROI), etc.

The main idea of the concept of BSC is to provide management in concise and structured form as well as in the form of indicators system as the most important information for it. This information, on one hand, should be compact, and on the other, it is to reflect all the main aspects of the company. This information must be applied to four aspects of activity:

- *the financial focus*, considering the effectiveness of the company in terms of return on invested capital, as well as the attractiveness of its shareholders;
- *the development of the internal capacity* of the organization, internal operational efficiency;
- *customer satisfaction* with the utility of goods and services of the company, the image of the company in the eyes of consumers;
- *knowledge, skills, abilities and personnel training* that affects the organization's ability to perceive new ideas, its flexibility and constant improvement.

BSC effectively solves all these problems by managing key processes such as translating vision into strategy; communication and link; business planning; feedback and strengthening the knowledge of strategic management. However, modern science and practice of using balanced indicators do not pay enough attention to information about the various risks that accompany the functioning of any economic system.

At the same time a risk management system is emerging and actively developing. The precondition for the emergence and active introduction of risk management in the activities of enterprises is also the complexity, unstructuredness and unpredictability of the environment. The experience of enterprises that suffer from the crisis of development and bankrupt indicates the need for a preliminary assessment of possible adverse consequences and the development of measures to prevent them.

BSC ensures the integration of financial and non-financial indicators, taking into account the causal relationships between the resulting indicators and the factors under which they are formed. This allows for detailed monitoring of

the company's activities in strategic focus, increasing the efficiency and effectiveness of management decisions, controlling the most important financial and non-financial performance indicators that are targeted for the company and whose degree of achievement determines the company's movement according to a given strategy. The value of these indicators reflects the efficiency of both businesses in general and individually considered business processes, structural units and human resources.

Risk management also contributes to the achievement of key enterprise goals and optimal efficiency of the operation of the risk management system within the framework of corporate governance, optimal efficiency of distribution processes and the use of resources for risk management, forms timely and complete information and analytical support for processes of decision-making and planning of activities, develops processes settlement of the consequences of implemented risks.

BSC and risk management have many similar characteristics, which creates preconditions for their effective integration (*table 1*).

The success of a company is always due to the extent to which the company achieves its goals, which are determined in concrete performance indicators, and the achievement of efficiency is always associated with risk. Thus, there is much in common between the BSC and the risk management system.

It is impossible to talk about getting the result without taking into account the possible deviation from it. In ISO Guide 73, Risk Management – Vocabulary – Guide lines for use in standards, risk is seen as the state of influence of uncertainty factors on goal achievement [15]. That is, relative to the planned result – the goals to which the activity is directed, and determines the possibility of deviation from the foreseen goals for which the chosen alternative is carried out. There is a risk when an event is of practical importance and affects the interests of at least one subject. There is no risk without ownership and therefore requires the appointment of those responsible for the consequences of risk decisions. Risk management is aimed at identifying several alternatives to management decisions, the choice of which is carried out under conditions of use of scarce resources. All this can be seen in the BSC, which integrates into each division of the company and provides operational and strategic plans that cannot be taken without taking risks.

The "Gesetz zur Kontrolle und Transparenz, KonTraG Act", which is in force in Germany, makes joint stock companies implement an early recognition and risk management system. For the most part, the reason for the introduction of a balanced system of indicators is the need to reorganize the existing risk management system. In world practice, the concept of a balanced system of indicators is now recognized as one of the most effective management concepts, which allows you to translate the company's strategy into a balanced set of key indicators, broadcast its goals and objectives to the operational level.

Table 1

Comparison of Balanced Scorecard and ERM construction processes (enterprise risk management systems)

Balanced Scorecard	ERM
Goal targeting	
A vision is developed as a set of strategies for achieving long-term goals of the company. Transform vision and goals into strategies as perspectives and ways of organization development. Considered as a consensus among the top management of the company	Considered relative to the planned result - the goals to achieve which activities are directed, and determines the possibility of deviation from the foreseen goals, for which the chosen alternative is carried out. Considered as a consensus among the top management of the company.
Interaction and counseling	
Linking common goals with the objectives of the structural units and the functions of individual employees, involving all departments and employees in the process of developing strategies and balanced indicators assessing its achievements.	Conducting consultations with external as well as with internal participants in the risk management process. Identification of managers (owners, stakeholders) of risks, involvement of all departments and employees in the process of risk management
Definingcontext	
The external and internal characteristics of the company's activities, which to be assigned to the development of the strategy, are determined. Diagnosis and assessment of the current state of development	The external and internal characteristics of the company's activity, which will be assigned to the development of the risk management strategy, the conditions in which the process will be implemented, are determined. Diagnosis and assessment of the current state of development, conditions and requirements for activities.
Identification	
The key characteristics of the adopted strategies are revealed and indicators are developed that characterize their effectiveness. Performance indicators are also used as resource allocation criteria	It is determined where, when, why and how risky situations can prevent, weaken, delay or promote the achievement of planned results (goals) in all areas of the enterprise activity and indicators that it is possible to estimate
Analysis	
There are links of financial, investment, marketing and production plans of the company with the system of key indicators of the company's activities.	The consequences, the probability of their occurrence and, consequently, the level of risk, as well as the causes and factors of occurrence of risk situations are determined. Available tools (models and methods) for risk control are identified and evaluated
Assessment	
Evaluate and compare actual benchmarks with each BSC component or perspective. Measured results achieved and indicators reflecting the processes that ensure the achievement of these results	Quantitative estimates of the values of identified risks. Comparison of the results of the risk analysis (presented as risk levels) with the risk criteria for determining the acceptability of these risks
Balance	
The balance between financial and non-financial performance of the company, the balance of interests of shareholders and clients (external components of the system), and employees and business processes of the company (internal components of the system), the establishment of parity in the needs of all stewards	Balance between potential benefits and negative consequences. Balance of interests of shareholders and clients (external components of the system) and employees and business processes of the company (internal components of the system), establishment of parity in the needs of all stakeholders
Management	
Formation of a strategic plan for the implementation of selected strategies. Construction of a system of motivation and rewards based on key indicators	Formation of a strategic plan for increasing the potential benefits and reducing the number of potential risks. Construction of a system of motivation and rewards based on key indicators
Monitoring and internal control	
Constant monitoring of the implementation of the adopted strategies and achievement of the set goals by analyzing the deviations of the actual results from the planned indicators	Continuous monitoring of the effectiveness of all phases of the risk management process for continuous improvement of activities

Source: developed by the author

The use of BSC as an integrative basis for embedding risk management into the corporate governance system implies that its four projections reflecting strategic objectives and key performance indicators form the basis for systematic identification, classification and risk management of the company, accounting for company-relevant risks and their identification multiplier effect on BSC indicators. Such consolidation of key indicators of company efficiency and associated risks ensures synergy of financial and economic potential of the company and its risk potential, their influence on achievement of strategic goals of the company. Correlation of the objectives of the BSC and its key indicators with specific risks and their indicators will allow determining in advance the impact of risks on the achievement of strategic goals, which in turn will be timely taken into account and ensured by measures to reduce them.

The synthesis of special literature [5–15] and the practice of a number of firms has allowed to identify four fundamentally different approaches to the integration of risk management and a balanced system of indicators, the use of which allows for more reasonable management decisions:

- supplement of the classical BSC with the "Risks" unit;
- inclusion of risk related aspects in the system of strategic goals and indicators of the BSC;
- development of a special system "risk – BSC";
- BSC modification, based on the success factors of the company, – "expansion of the classical BSC".

The first version of integration implies the immutability of the four blocks of classical perspective of a balanced system of indicators. To do this all risk-management objectives, key indicators, their acceptable and target values as well as measures for their achievement are made in a special supplementary block. This approach violates the general logic of the division of all key performance indicators in separate perspectives that do not overlap, although they have cause-and-effect relationships. The risks identified in a separate perspective, in fact, are to be related to each of these perspectives and duplicate the possibilities of achieving their goals.

The second option for integration suggests that for each perspective, the BSC further develops additional indicators that analyze risks. In this version of integration there are preventive indicators which in advance reflect the dynamics of the development of strategic factors of success. Within this approach it is useful each prospect BSC determines its risks and their acceptable level, which is determined by the risk appetite for each sphere of activity.

The third variant of integration is based on the BSC modification, in which the structural blocks in the classical BSC are replaced by strategic success factors, which may vary depending on the specifics and needs of a particular company. For each strategic success factor, your own BSC is being developed. For strategic success factors, key indicators reflecting the potential of the company are being developed. For the risks there was specially formed the BSC that is consistent with these strategic success factors. The risks from the external environment are taken into account in a separate block of this BSC

"external environment". The hypothesis on which this concept is based is that the successful implementation of a company's strategy means its concretization and effective implementation at lower levels of management, which depends on more or less limited number of strategic factors of success. In this approach, success factors are associated with the strategic goals of the company and the BSC. This concept can be useful for enterprises with a certain market and technological specificity, where it is advisable to replace the classic BSC perspectives with key success factors. At the same time, the goals of enterprise development and risk management will take into account the specifics of the company's external and internal environment. Clarifying the context of risk will most fully determine the internal and external parameters that will be taken into account when identifying key success factors and potential development trends. Risk can have negative and positive effects that can, respectively, improve or worsen the results of activities, that is, achieving goals is considered simultaneously as opportunities and risks. In the "risk – BSC" system, an analysis of the capabilities, on one hand, and risk analysis on the other hand carried out. Thus, strategic success factors are opportunities for a company that is opposed to one or more risks.

The fourth integration option involves identifying strategic success factors for which each BSC is built. Special BSC is being developed for risks. For each strategic goal, not only the indicators but their target value is determined; also the risks that can affect the achievement of the goal. "Extended BSC" is developed both for the enterprise as a whole and for its individual strategic units, while each of the BSC units is supplemented by indicators of risks and factors of their influence. The advantage of this approach is that it defines the relationship between the company's strategic goals, key performance indicators and possible risks, and specifies the firm's strategy that promotes the effective implementation of the strategy.

Consideration is also given to the use of the BSC matrix together with the SWOT analysis. At the same time, for each prospect BSC analyzes opportunities, threats, advantages and disadvantages. This is useful in terms of a thorough analysis of effectiveness and risk, but does not define indicators for strategy formation and risk indicators.

Integrating risks into the system of key success factors BSC provides a clear understanding of the relationship of risks with the processes of operation and development of the company and increases the efficiency of risk management based on their productive differentiation and system integration. The control and responsibility for the achievement of individual goals is fixed by the specific employees of the company. Integration of BSC and risk management should be ensured in such a way that the benefits of both approaches persist, and the potential for integration is used most fully.

One of the key principles of risk management is *the principle of matching the strategy*. Corporate risk management functions as part of the overall decision support system for management in the process of achieving strategic goals

and aims at identifying events and factors that influence the achievement of the objectives. Risk analysis is used in the design and development of a development strategy, while the latter includes the definition of risk appetite of the company at the stage of choosing strategic alternatives and when setting goals. Risk management takes place in such a way that they do not exceed the company's readiness to take risks. All this allows for effective strategic management.

The risk management system as well as a balanced system of indicators is based on the use of indicators (so-called *early indicators*). In both systems, measures are needed to achieve the goals of reducing risks. Integrating a risk management system into a general management system is most effective if it is directly related to the strategic objectives of the enterprise. Establishing the link between measures developed within the framework of a balanced system of indicators and measures of the risk management system is carried out on the basis of analysis of measures that promote the achievement of strategic objectives with an acceptable level of risk.

The BSC authors conceptually distinguish indicators with target values within verbally formulated strategic goals, as well as strategic maps and strategic measures. It should be determined which aspects of the prospects of "Finance", "Clients", "Processes" and "Potential" will focus on the management's attention, where the main resources will be directed and how individual goals are interlinked. Causal chains ("strategic map") represent an important form of description of the strategy, through which it is possible to quickly inform employees about the measures necessary for implementation of the strategy. Identification of risks also involves a causal analysis with the definition of symptoms, causes and their consequences. Thus, the BSC can be considered as an organizational structure that enables to expand the capabilities of measurement, assessment and control at the level of strategic and operational management of a company with risk taking into account.

For a number of purposes, both in risk management and in the overall management of the organization, indicators *key indicators* are used. The differences between risk indicators, control and effectiveness of the strategy are often insignificant and may coincide.

The basis for the BSC is the so-called *key performance indicators*, or KPI. The main difference between the balanced system of performance indicators from an arbitrary set of indicators is that all KPIs that are part of a balanced system are, firstly, oriented towards the strategic objectives of the enterprise and, secondly, are interconnected and grouped according to certain features. KPIs should be easy to measure and have qualitative or quantitative expressions.

Key Risk Indicators (KRI) are quantitative indicators of risk sources (factors). They play an important role in the concept of risk management, act as a monitoring and risk control tool and help identify potential risk events. KRIs cover various types of performance indicators of the organization, provide useful information about potential risks that may affect the organization's goals.

The selection and development of the KRI begins with an analysis of the goals and the identification of the risks that may affect these goals, they act as early indicators of the dangers. KRIs allow monitoring of the dynamics of changes in the level of risk events for the reporting period, which is a signal for management to take the necessary risk management measures, and also outline the risk appetite of the organization.

Table 2 shows the differences and similarities between KPI and KRI indices in the process of performing their functions in management.

Table 2

Comparison of KPI and KRI

KPI в BSC (Stretch-Targets)	KRI in risk-management
All the participants in the business concern the matter	
Determine the possibilities and the level of achievement of the determined goal	Determine the possibilities and degree of deviation from the defined goal
Completely reflect the goal	Determine the current level of exposure and risk exposure in the future
Must be quantitatively measured	
Depending on the results of benchmarking, customer and employee surveys past performance data and business evaluation	
Determined by the team of senior management of the relevant unit	Leading specialists and top managers can be involved in the determination
It is the basis for identifying strategic measures and projects that contribute to the achievement of the targets	It is the basis for determining the measures that contribute to the achievement of the target indicators taking into account the established risk appetite
Adjustment of indicators and measures takes place taking into account available resources; is the basis of the budget	Must be simple in interpreting and controlling
Must correlate with already existing indicators (within the causal relationships)	Responsible for achieving the goal should be able to influence the value of the proposed indicator
Must have a time interval of achievement	Regulated by the concept of acceptable risk and determined risk appetite of the organization

Source: developed by the author.

There are lots of common features between KPI and KRI, because the risks and strategies of the company are interconnected. One does not exist without the other; they need to be considered in the complex. The essential difference between them is the establishment of risk appetite by the company's top management towards the targets. Risk appetite is: a strategic factor associated with the achievement of the goals of the organization; an integral part of corporate governance; multidimensional parameter, including the achievement of goals in the short and long term strategic planning prospects, promotes efficient allocation of resources, provides control over the level of risk, and determines the organization's attitude to risk.

After identifying the risks and identifying key risk indicators, they are assessed. To assess KRI, the probability of occurrence of a risk situation and its impact on the activity of an enterprise are determined.

Significance is an assessment of the seriousness of the consequences of a potential failure for the system, the subsystem, or for the consumer. This is applicable only for the consequences of this risky event (refusal, discrepancy). It is possible to evaluate on a scale from 1 to 10, where 10 is rank of the worst consequences.

Probability of occurrence is a quantitative measure of the probability of occurrence of an event, which is determined by the number in the range from 0 to 1, where "0" means the impossibility of the event, where "1" is obligatory.

In some techniques, the probability of occurrence is also defined as the ability to detect or establish presence, presence, fact of danger or its cause by the available methods of control. This is an assessment of the potential of proposed management actions to identify potential causes or to identify the next type of failure. A list of all applicable control measures is drawn up to prevent the occurrence of each outcome, and a rank is assessed that characterizes the possibility of preventing this effect.

The result of such an assessment is the risk assessment, namely the comparison of the results of the risk analysis (presented as risk levels) with the risk criteria to determine the acceptability of these risks in general and/or their values in particular. Risk assessment is necessary for further decision-making on the development of risk management measures. As a result of such a mapping, risks are mapped.

Matrix risk map is a graphical and textual description of a limited number of organizational risks located in a rectangular table, one "axis" of which indicates the force of influence or significance of risk, and the other – the probability or frequency of its occurrence. In cases where the qualitative-quantitative scale of probabilities and consequences is used to measure the risks, then the whole range of risks is divided into cells. Thus, the identification of key risk indicators that may be the cause or the risk or the best opportunity is being identified.

Conclusion. The practice of introducing a balanced system of indicators proves its effectiveness. The use of a balanced system of indicators, in addition to its direct task of evaluating efficiency, opens up the opportunities for strategic management of the company in conditions of instability and variability of results, as it allows the company to understand its goals and objectives. Allocation of indicators is impossible without a clear presentation of the strategy and course of the company. That is why management needs to prioritize strategic and operational goals. Then revisit them and choose the ones that most accurately reflect the requirements and expectations of all stakeholders. The part of a balanced system is, firstly, oriented towards the strategic objectives of the enterprise and, secondly, it is interconnected and grouped according to certain features. KPIs should be easy to measure and have qualitative or quantitative expressions.

The BSC and the risk management system together allow for constant monitoring. Such control will be very useful for the enterprise, since control processes are optimized with the control obligation. Accordingly, each interested participant contributes to the overall result, and the common goals correspond with the individual.

BSC and a combination of risk management systems make it possible for businesses to be more transparent and understandable for each employee. Building a strategic BSC map within the framework of risk management in details the activities allow to identify problem areas and prevent losses.

Despite all the difficulties, when implementing the project of creating a balanced system of indicators in combination with the system of risk management, the company achieves its goals: employees are introduced to the strategy, a mechanism for monitoring its implementation; there is motivation for both efficiency and prevention of hazards. The main benefit lies in the fact that all components of the company begin to work in a coherent way, as there is a unified understanding of the strategy at all levels of management, indicators are identified that are convenient for operational management, the basis for other development programs and reorganization of the management system.

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Федулова І. Збалансована система показників в управлінні ризиками.

Постановка проблеми. *В умовах невизначеності функціонування підприємств дедалі більшої актуальності набуває проблема формування стратегії, яка б передбачала обґрунтування напрямів розвитку, ефективну систему управління і врахування ризиків.*

Аналіз останніх досліджень і публікацій *показав, що найбільшу популярність у стратегічному управлінні останніми роками набула концепція збалансованої системи показників (Balanced Scorecard – BSC). У деяких публікаціях розглянуто можливість інтеграції системи збалансованих показників і ризик-менеджменту. Існує необхідність розроблення методичних засад їх сумісного використання для покращання моніторингу і контролю діяльності підприємств в умовах ризику і зростання їх ефективності.*

Мета *статті полягає в розроблені методичних рекомендацій щодо поєднання управлінських концепцій збалансованої системи показників і ризик-менеджменту для покращання процесу формалізації стратегії підприємства.*

Матеріали та методи. *В процесі дослідження використано методи аналізу і синтезу наукової інформації.*

Результати дослідження. *BSC і ризик-менеджмент мають багато схожих характеристик, що створює передумови для їх ефективної інтеграції. Досягнення успіху компанії завжди пов'язано з тим, наскільки компанія досягає своїх цілей, які визначені у конкретних показниках ефективності її діяльності, а досягнення ефективності – з ризиком. Таким чином, між BSC і системою ризик-менеджменту є багато спільного. В основу BSC покладено так звані ключові показники ефективності, або KPI (Key Performance Indicators). Ключові індикатори ризику (KRI – Key Risk Indicators) – кількісні показники джерел (факторів) ризику. Між KPI і KRI існує багато спільного, так як ризик і стратегії компанії взаємопов'язані. Суттєвою відмінністю між ними є встановлення ризик-апетиту вищим керівництвом компанії до цільових показників.*

Висновки. *BSC і система управління ризиком у поєднанні надають можливість зробити бізнес більш прозорим і зрозумілим для кожного співробітника. Побудова стратегічно карти BSC в рамках управління ризиками деталізує діяльність, дає змогу виявити проблемні місця і усунути втрати.*

Ключові слова: збалансована система показників, ризик-менеджмент, ключові показники ефективності, ключові індикатори ризику, ризик-апетит.

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FISCAL MECHANISM FOR ECONOMIC REGULATION

The essence and significance of the budget mechanism in support of processes of economic development and social stability are highlighted. The main principles of functioning of the budget mechanism for economic regulation are determined. The analysis and estimation of dynamics of weight indicators of the redistribution of gross domestic product through the budget system of Ukraine in 2008–2017 have been made. The expediency of further development of the methodological principles of the budget policy of the country has been substantiated.

Keywords: budget, budget mechanism, fiscal policy, budget system, functional finance, economic growth.

Шаповал М. Бюджетный механизм регулирования экономики. *Раскрыты сущность и роль бюджетного механизма в обеспечении процессов экономического развития и социальной стабильности. Детерминированы основные принципы функционирования бюджетного механизма регулирования экономики. Проведены анализ и оценка динамики удельного веса перераспределения валового внутреннего продукта через бюджетную систему Украины в 2008–2017 гг. Обоснована целесообразность дальнейшего развития методологических основ бюджетной политики государства.*

Ключевые слова: бюджет, бюджетный механизм, бюджетная политика, бюджетная система, функциональные финансы, экономическое развитие.

Background. Sustained economic growth and the increase on its basis the level of public welfare is a priority task of realization of the state financial policy. The budget as a central element of the public finance system is historically one of the most important and most effective mechanisms for ensuring the endogenous development of the economy.

Well-considered and substantiated managerial decisions of financial institutions in the field of fiscal policy contribute to the growth of employment, business activity, and intensification of investment in the real economy. At the same time, it is necessary to form a balanced budget, gradually reduce the debt burden on the budget, to coordinate the social

priorities of society development with the possibility of their financing without violating price and financial stability. Of particular importance is the issue of the permanent increase of the efficiency of budget expenses, optimization of expenditure powers in accordance with changes in the macroeconomic situation. The current budget priority is to improve the quality of human capital, which requires the allocation of sufficient appropriations for education, science, and innovation infrastructure. The question of configuring the model of decentralization of the budget system for strengthening the financial capacity of the territories and leveling up of inter-regional disproportions of socio-economic development remains open for discussion. In the context of institutional transformations, the problems of further development of theoretical and methodological principles of the budget mechanism for regulation of economic development are of particular relevance, in order to increase the effectiveness of its functioning.

Analysis of recent researches and publications. Problems of the budget mechanism regulating economic development were studied by foreign scientists: P. Arestis [1], A. Auerbach, Yu. Gorodnichenko [2], R. Barro, X. Sala-i-Martin [3], J. Buchanan, P. Masgrave [4], O. Jorda, A. Taylor [5], J. Stiglitz [6], U. Unal [7]. The specifics of the implementation of the regulatory potential of the budget mechanism in a transformational economy were thoroughly investigated by domestic scientists, in particular: T. Bogolib [8], V. Demyanyshyn [9], L. Lysyak [10], A. Mazaraki [11], V. Makohon [12], I. Chuhunov, M. Pasichnyi [13–14] and others. The variability and uncertainty of the economic environment cause necessitates of further fundamental and applied research in the realm of the implementing the regulatory function of the budget system in the context of the development of financial relations.

The **aim** of the article is to develop theoretical and methodological principles of the budget mechanism of regulation of the country's economy, taking into account the institutional transformations of the public finance system.

Materials and methods. The theoretical and methodological basis of the research is the scientific work of domestic and foreign scientists on the problem under consideration. Its multidimensional nature conditioned the use of a set of methods and approaches, which allowed to ensure the conceptual unity of the study. The dialectical, systemic and structural approaches, methods of analysis and synthesis, comparison, generalization, scientific abstraction were applied.

Results. The budget mechanism acts as a system-building category of public finance, a deep examination of its essence and functions takes place in a complex way with the study of the concept of budget. If the budget is a significant factor in endogenous development, then the appropriate mechanism should be considered as a way of enhancing and targeting the process of expanded social reproduction. Historically, the budget was treated as the main financial plan of the state or a specific administrative-territorial unit,

a centralized fund of the corresponding resources, the monetary expression of the depiction of expenditures and incomes. At the present stage, the traditional functional approach to the disclosure of the economic content of the budget mechanism must be organically complemented by the institutional aspect of the system of public finances.

Improvement of the budget mechanism is in line with the overall development of the national economy. The potential of the budget as a tool for macroeconomic regulation directly depends on the conditions and output of production, the level of development of economic relations. According to domestic researchers, in the context of institutional reforms, fiscal policy acts as an adaptive superstructure of economic regulation, which ensures the adequacy of managerial measures for endogenous and exogenous changes in the environment [11]. Elements of the budget mechanism are responsible for the integrated implementation of financial policy in the key areas such as income; expenditures; inter-budgetary relations; managing budget deficits and public debt. These structural components are in multiple interactions. The quality of fiscal policy depends on way, balance and rationality of their combination, which is determined by its real ability to influence social and economic processes. Under certain circumstances, it is allowed to increase the budget deficit in order to stimulate aggregate demand and economic development. However, the budget deficit may be passive and caused by sharp cyclical fluctuations in the economy. For example, during the period of the global economic recession of 2008–2009, a significant imbalance between the budget and the public finance system was recorded, as the overall deterioration in the socio-economic situation led to a simultaneous reduction in business activity of business entities, a decrease in tax revenues and an increase in the level of budgetary expenditures [1]. The accumulated world experience in managing budget deficits shows that the desire to limit the deficit without taking into account the state of socio-economic development deepens structural imbalances in the country's financial system. The main directions of the fiscal policy in the sphere of regulating the budget deficit in the medium-term perspective are ensuring budget balance during the economic cycle, reducing the share of government debt in gross domestic product. In the context of the limited possibilities of attracting state loans, it is important to form the forecast indicators of the budget deficit, based on the principles of macroeconomic stability, sufficient level of substantiation of the volume and structure of sources of financing the budget deficit, and the priority of domestic borrowing [11]. Professor I. Chugunov notes that the main objective of the functioning of the budget mechanism is to ensure economic growth on the basis of institutional and investment development, optimal structural transformation, effective use of potential (in particular, natural resource and intellectual), as well as creation of favorable framework conditions for sustainable increase of scales of national production, including through the development of high-tech

industrial infrastructure, support, development and implementation of progressive technology [13]. In the context of deepening budgetary decentralization, the successful functioning of this mechanism is aimed at strengthening the financial basis of local self-government bodies, which requires a series of institutional changes in the budget system. It depends on the choice and implementation of methods of fiscal and tax regulation in the economy, the definition of long-term budgetary priorities and the use of the medium-term indicative planning system.

A general idea of the scale and significance of the budget mechanism and its role in regulating economic development can be formed by estimating the proportion of the redistribution of gross domestic product through the budget system (*table*). The budget architectonics of budget expenditures should provide the solution of the main tasks of social development, which involves taking into account the influence of budgetary expenditures on the effectiveness of economic transformations, mutual coherence and the substantiality of the necessary financial resources on the tasks performance of public administration and local government [12].

Table

Level of redistribution of gross domestic product through the budget system of Ukraine in 2008–2017, %

Year	Consolidated budget		State budget		Local budget	
	Share of income in GDP	Share of expenditures in GDP	Share of income in GDP	Share of expenditures in GDP	Share of income in GDP	Share of expenditures in GDP
2008	30.07	31.21	23.39	24.37	6.68	6.84
2009	28.82	32.46	22.14	25.60	6.68	5.86
2010	28.07	33.72	21.47	27.09	6.60	6.63
2011	29.54	30.90	23.32	24.72	6.22	6.18
2012	30.53	33.75	23.72	27.12	6.81	6.63
2013	29.08	33.22	22.28	26.50	6.80	6.72
2014	29.74	32.96	22.50	27.11	7.24	5.85
2015	32.79	34.19	26.89	29.01	5.90	5.18
2016	32.85	35.07	25.86	28.74	6.99	6.33
2017	34.09	35.43	26.60	28.14	7.49	7.29

Source: calculated by the author on the basis of reports from the State Treasury of Ukraine and data from the State Statistics Service of Ukraine [15; 16].

Throughout the analyzed period, the scale of GDP redistribution through the state budget significantly exceeded the corresponding indicator for the system of local budgets. Thus, the state budget revenues ranged from 21.47 % of GDP in 2010 to 26.89 % of GDP in 2015. As a result of the deepening of fiscal decentralization processes, this indicator was somewhat reduced, accompanied by a corresponding increase in the level of GDP redistribution through the system of local finances. The State Budget expenditures ranged from 24.37 % of GDP in 2008 to 29.01 % of GDP in 2015. On average, 23.82 % of GDP was redistributed through the revenue part of the state budget over the specified period, of which 26.84 % of GDP was spent on expenditures.

Local budget revenues without transfers accounted for 5.90 % of GDP in 2015 to 7.49 % of GDP in 2017; respectively, expenditures without transfers, from 5.18 % of GDP in 2015 to 7.29 % of GDP in 2017, which may indirectly indicate an increase in fiscal decentralization processes. In general, in 2008–2017, local budget revenues accounted for 6.74 % of GDP, while expenditures were 6.35 %. That is, the annual fluctuation of the indicators was moderate and quite predictable. These indicators were characterized by stability, even with significant institutional changes in the implementation of fiscal policy. The statistics show that about a third of the gross domestic product is redistributed through the public finance system in Ukraine. Adequate and effective operation of the methodical tools of fiscal policy can ensure economic growth in the long run. In order to implement the above, it is necessary to improve the quality of budget institutions, develop budgetary mechanisms, and adaptively change policy in accordance with economic cyclicality.

The high weight of the gross domestic product reallocation through the budget system is not the only criterion for the effectiveness of the functioning of the budget mechanism, but is characteristic of a specific group of countries with a high level of institutionalization of fiscal relations, in particular for such OECD participants as Denmark, Iceland, Norway, Finland, Sweden. A high level of fiscal decentralization and institutional traditions of self-organization of territorial communities are characteristic of all of these states. Thus, the level of fiscal decentralization in Denmark (62 %), Sweden (49 %), Finland (39 %) is the highest among OECD countries, and they are among the top 20 in terms of ease of doing business in the World Bank ranking. This allows to use efficiently financial resources by consolidating the connection between the demands of the territorial community (quite homogeneous) and the ways of satisfying them. The powerful role of the public finance system in redistributing GDP in this case is backed up by adequate institutional provision of administrative processes in the projected economic environment (for example, Sweden has adopted the practice of setting a ceiling for the next three years in nominal terms, which remains unchanged even at a certain level of inflation) [17].

The budget mechanism integrates heterogeneous organizational and economic forms of fiscal support for social development, in particular methodical tools for stimulation and restriction [14]. It is not identified with the budget process, it is not represented solely by the interaction of economic agents, it is not personified solely by formal and legally-regulated norms, rules and practices of mobilization and use of financial resources, but is amplified and complemented by informal and customary-traditional elements of the environment for the implementation of fiscal policy. The budget mechanism really represents the corresponding state or regional concept of sustainable development, reflects the direct orientation of public financial relations in solving global and regional-specific socio-economic problems. The budget execution of the role of the economic regulation tool

through the budget mechanism depends on non-economic factors, in particular the electoral expectations of the society. The experience of developed and emerging economies testifies about the need to eliminate the impact of the political cycle on the budget process by establishing rational institutional constraints on the key parameters of fiscal policy [9].

The current stage of development of domestic fiscal policy requires the formation of a fiscal mechanism that would provide favorable conditions for administering a sufficient amount of taxes, maximizing non-tax revenues and increasing the efficiency of the use of the relevant resources, which should be proof of the growth of quality of life and the level of public welfare.

In the Western discourse it is assumed that the basic principle of the construction of a budgetary mechanism is "conventional wisdom" [1], which is based on a number of logical theoretical and methodological provisions, in particular:

- budgetary regulation is an effective, historically justified and reasoned way of influencing the structure and volume of aggregate demand, as well as the level of economic (in particular, investment) activity of business;
- the main task of using the budget mechanism is to balance, stimulate and sustain economic development, whose success can be assessed on the basis of a specific system of indicators, for example, according to the methodology of the Stability and Growth Pact, which is applied in the EU and establishes institutional constraints on the critical size of the budget deficit and public debt of participating;
- it is expedient to permanently coordinate monetary (aimed at ensuring price stability and counteracting uncontrolled inflation processes) and fiscal policy in the context of the use of built-in automatic macroeconomic stabilizers.

The balance between the components of the budget mechanism of regulation and stimulation of social development is adaptively determined by the budget architectonics, the priorities of the national economic strategy and the phase of the economic cycle [13]. State regulation in the field of expenditures is a special subsystem of the budget mechanism, which is actively used in the context of the economic decline in order to restore the positive dynamics of national production. However, unjustified increase in budget expenditures, which provokes an increase in deficit and debt, reduces the recovery potential of the national economy. Therefore, in the conditions of decline and recession, in order to achieve positive dynamics of production of real gross domestic product, it seems expedient to rationalize measures in the area of budget expenditures planning in terms of their redistribution in favor of increasing the share of productive ones. The issue of assigning expenditures to a category of productive is one of the debates in financial science. We agree with R. J. Barro and X. Sala-i-Martin, that expenses for human capital, transport, energy and social infrastructure, security and public order, etc can be considered as productive [3].

The system of budgetary regulation of economic development can be based on the concept of functional finance in relation to ensuring financial stability of the budget system [10]. In developed and transformational economies, there is a practice of introducing institutional constraints not only on the budget deficit and public debt by volume and sources of coverage, but also in relation to the structural balance of social and investment components of public expenditures, taking into account obligations to the public. The concept of functional finance, proposed in the early 1940s by American economist AP Lerner, relies on the provisions for the development and implementation of national fiscal policy in accordance with the needs of society in technological progress under the influence of the innovation spiral [18] Architectonics of functional finance integrates financial institutions, markets, specific products/services and appropriate organizational and economic infrastructure, based on regulatory fiscal rules and accounting systems. By its nature, functional finance is devoid of any ideology. It is assumed that financial functions are allocated rationally between the government, local authorities and economic actors [19].

In a series of works, Lerner consistently denied the doctrine of sound finance and argued that attempts by the government at any cost to ensure a balanced budget could lead to a critical imbalance of the national economic system at all levels and have extremely negative consequences for society. At the same time, the researcher did not call for a conscious imbalance of the budget mechanism, but stressed the need to rationalize the activities of all economic actors through the introduction of fiscal rules. These rules are derived from the function of fiscal policy, which is to ensure a high level of aggregate demand. It should be borne in mind that the increase in unemployment generally violates the macroeconomic equilibrium, and the calculation of the optimal level of public spending should be made taking into account the system of resource constraints and the probable lack of production capacity, which is reflected in the reduction of the aggregate supply in accordance with the production function 1:

$$Q = f(L, K, \tau), \tag{1}$$

where Q – the volume of the national supply for available resources;
L – the volume of attracted human capital resources;
K – the volume of attracted physical capital resources;
τ – the level of scientific and technological progress.

If the volumes of private savings, private investment demand and imports into the country are in some way determined by the real aggregate consumer demand, then in order to regulate the target level of consumer demand, a fiscal rule presented in the form of a balance macroeconomic model 2 may be applied:

$$G_{sp} - T = PS - Inv + I - Exp,$$

$$\begin{cases} PS = f(AD_t), \\ Inv = f(AD_t), \\ I = f(AD_t), \end{cases} \quad (2)$$

where G_{SP} – the amount of budget expenditures of a certain period;
T – tax receipts;
AD_t – target level of aggregate demand;
PS – volume of private savings;
Inv – volume of private investments;
I – import;
Exp – Export.

There are multiple interconnections between the elements of the given model, and the task of implementing a well-balanced fiscal policy is to develop an appropriate fiscal mechanism that could provide optimal proportions and maximize the scale of social production. The balance of model 2 depends not only on budgetary policy instruments, but also on its timeliness and coordination with mechanisms and levers of monetary regulation of the economy, first of all, the central bank discount rate. In the concept of functional finance, mechanisms of unconditional management and rationalization of the budget deficit are built, when the objective of fiscal policy becomes not an imperative balancing of the budget, but, on the one hand, the development of a tax policy favorable to the business environment and society as a whole, the intensification of consumer and investment demand, on the other hand, the improvement of the compositional structure of public expenditures, the increase of the burden of productive expenditures in terms of the cost of human development and the steady growth of the interests intellectual capital.

Under conditions of insufficient development of the institutional environment of the financial system, an alternative method to functional finances is used to balance the budget on an annual basis. The positive dynamics of macroeconomic indicators in the short and medium term is achieved by increasing the efficiency of budget expenditures in comparison with the fiscal impact of its revenues. Moreover, the higher the modulus is the difference between these indicators, the higher the effectiveness is shown. Support for sustainable economic growth through the use of the concept of annual budget balancing, without taking into account cyclical fluctuations in the long-term prospect, is impossible. In addition to classical budget levers, informal institutional tools should be used to change the model of social behavior in terms of financial responsibility and consciousness formation. The foreign experience of budget regulation measures should be systematized and taken into account in the development of domestic fiscal policy. However, copying measures that were previously implemented abroad is inappropriate. Successfully applied methods of budget regulation should serve not as a template, but as a strategic benchmark for national authorities.

Justification of the main principles of functioning of the budget mechanism requires the coordination of budgetary and social priorities of the country, the consolidation of the relationship and strengthening the effectiveness of institutional mechanisms of state financial regulation. Budget regulation in the form of designing and implementing productive expenditures determines the quality level and accessibility of public services in the spheres of education, science, health care, spiritual and physical development, social protection and population provision. However, the system of public finance in most modern economies is not a universal or sole source of social activity. In the context of functional finance, a logical combination of state and market models and financing methods of the indicated sphere, the deepening of the processes of demonopolization and the promotion of a free competitor is presented in order to increase the fiscal efficiency of budget expenditures and maximize the satisfaction of demand for such services in the society.

The Budget Code of Ukraine (Article 7) lays down ten basic principles for the construction of a budget system, the actions of which are subject to the budget mechanism. In particular, these are the principles of unity of the system, balance, independence, completeness, reasonableness, efficiency and effectiveness, subsidiarity, purposeful use of funds, fairness and impartiality, publicity and transparency [20]. This list is not exhaustive, it is expedient to supplement it with the principles of consistency, alternatives and flexibility as well as neutrality.

In order to ensure the validity and consistency of the functioning of the budget mechanism, it is important to improve the medium-term budget planning system. The main functional parameters and indicators of the budget mechanism should be determined not only for the next budget period but for at least two years following it. It allows not only to improve the quality of macroeconomic planning, but also to optimize the financial and economic activities of economic actors, increase the efficiency of management decisions in the field of public finances, improve the investment climate in the state, etc. The alternative and flexibility of functioning of the budget mechanism involves the formation of variable scenarios of budget policy, taking into account economic cyclicality. First, limit values should be set for indicators that are characterized by high annual volatility. Secondly, the budgetary mechanism should adapt to changes in the external economic environment and globalization trends of development. Implementation of fiscal adjustment should not reduce the effectiveness of the reproductive process and the value of public services provided by the budgetary sphere should be affordable and accessible to the public.

Comprehensive and efficient regulation of the economy requires the introduction of promising budget planning and forecasting with the consolidation of a system of effective indicators of implementation of the main directions of the chosen strategy. The system of strategic forecasting and planning as the basis for the selection of priority fiscal policy vectors is intended to provide structural modernization, increase of competitiveness and reorientation of the economy to predominantly endogenous factors of growth.

Conclusion. In today's context, attention paid to the functional purpose of the budget mechanism as a component of the system of financial regulation of the economy is increasing. The use of tools and levers of the budget mechanism aims to achieve long-term macroeconomic stability and support the processes of economic development of the country. Effectiveness of budget policy measures depends on the overall level of their validity and compliance with the stage of the economic cycle, the degree of coordination with other components of state financial policy, the quality of the institutional environment and the model of socio-economic development of the state. The substantiation of the basic principles of functioning of the budget mechanism requires harmonious coordination of budgetary and social priorities of the country, consolidation of interconnection and strengthening of the efficiency of adaptive regulatory mechanisms of the country's financial policy. It is important to introduce a promising budget planning with the fixing of the limit values of the main weighting budget indicators relative to the gross domestic product. In order to increase budget efficiency, it is significant to conduct a comprehensive assessment of the impact of budget expenditures on the dynamics of the aggregate of social and economic indicators, and to develop the budget for subsequent budget periods, based on the results of this assessment. The budget deficit management system should take into account the basic principles of functional finance to achieve the financial sustainability of the budget system.

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Шаповал М. Бюджетний механізм регулювання економіки.

Постановка проблеми. *Економічне зростання та підвищення рівня суспільного добробуту є пріоритетною задачею реалізації державної фінансової політики. Обґрунтовані управлінські рішення фінансових інституцій у сфері бюджетної політики сприяють зростанню рівня зайнятості, підвищенню ділової активності, інтен-*

сифікації інвестицій у реальний сектор економіки. Актуальною є проблематика подальшого розвитку теоретико-методологічних засад бюджетного механізму регулювання економічного розвитку задля підвищення результативності його функціонування.

***Аналіз останніх досліджень і публікацій** показав, що мінливість та невизначеність економічного середовища обумовлює необхідність подальших фундаментальних та прикладних досліджень у царині реалізації бюджетною системою її регулюючої функції в умовах розвитку фінансових відносин.*

***Метою** статті є дослідження та розвиток теоретичних і методологічних засад бюджетного механізму регулювання економіки країни, враховуючи інституційні перетворення системи публічних фінансів.*

***Матеріали та методи.** Теоретичною та методологічною основою дослідження є наукові праці вітчизняних та зарубіжних вчених з проблеми, що розглядається. Застосовано діалектичний, системний та структурний підходи, методи аналізу і синтезу, порівняння, узагальнення, наукового абстрагування.*

***Результати дослідження.** Бюджетний механізм виступає системотворчою категорією публічних фінансів, глибинний розгляд його суті та функцій відбувається комплексно із дослідженням поняття бюджету.*

Основні функціональні параметри та індикатори бюджетного механізму мають визначатися не лише на наступний бюджетний період, а принаймні на два роки, що слідують за ним. Це дозволяє поліпшити якість макроекономічного планування та оптимізувати фінансово-господарську діяльність економічних суб'єктів, мінімізувати вплив політичного циклу на публічні фінанси, поліпшити інвестиційний клімат в державі.

Комплексне та ефективне регулювання економіки вимагає запровадження перспективного бюджетного планування та прогнозування із закріпленням системи однозначних результативних показників реалізації основних напрямів обраної стратегії. Система стратегічного прогнозування і планування як основа обрання пріоритетних векторів бюджетної політики покликана забезпечити структурну модернізацію, підвищення конкурентоспроможності та переорієнтацію економіки на переважно ендогенні чинники зростання.

***Висновки.** В сучасних умовах зростає увага до функціонального призначення бюджету як інструменту фінансового регулювання економіки. Використання інструментів і важелів бюджетного механізму має на меті досягнення довгострокової макроекономічної стабільності та підтримку процесів економічного розвитку країни. Результативність заходів бюджетної політики залежить від загального рівня їх обґрунтованості й відповідності стадії економічного циклу, ступеню координації з іншими складовими державної фінансової політики, якості інституційного середовища та моделі соціально-економічного розвитку держави. Важливим є запровадження перспективного бюджетного планування із закріпленням граничних значень основних вагових бюджетних показників відносно валового внутрішнього продукту. З метою підвищення бюджетної ефективності важливим є проведення комплексного оцінювання впливу видатків бюджету на динаміку сукупності соціальних і економічних індикаторів, розробка бюджету на наступні бюджетні періоди, ґрунтуючись на результатах даної оцінки. Система регулювання дефіциту бюджету має враховувати основні засади функціональних фінансів щодо досягнення фінансової стійкості бюджетної системи.*

Ключові слова: бюджет, бюджетний механізм, бюджетна політика, бюджетна система, функціональні фінанси, економічний розвиток.

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INFORMATION ENVIRONMENT OF THE UNIVERSITY'S FOR THE TRAINING ADVERTISING PROFESSIONALS

The analysis of the term "university information environment" is performed in the research, starting from the analysis of the general concept of "environment" through the formation of the term "educational environment". The need to use modern distance learning tools in all areas of education, such as distance learning courses, cloud services, etc., has been identified. It is established that building of the educational process in an university requires combination of all potential of the modern achievements of information technologies and totality of teachers experience, that envisages the use of environmental approach and has to provide the preparation of future specialists good for creative professional activity. It is proved, that in accordance with modern requirements, the educational process should take place in conditions of constant access to the Internet, for use in the training the Cloud services and Internet technologies.

Keywords: informational environment, vocational training, educational process, ICT, computer advertising technologies, environmental approach.

Брюханова Г. Информационная среда университета при подготовке специалистов по рекламе. *В исследовании проанализирован термин "информационная среда университета", начиная от анализа общего понятия "среда" через образование термина "образовательная среда". Определена необходимость использования во всех сферах образования таких современных средств дистанционного обучения, как дистанционные курсы, облачные сервисы и т.д. Установлено, что построение учебного процесса в университете требует сочетания всего потенциала современных достижений информационных технологий в совокупности с опытом преподавателей, что должно обеспечить подготовку способного к творческой профессиональной деятельности будущего специалиста по дизайну рекламы. Доказано, что в соответствии с современными требованиями образовательный процесс должен происходить в условиях постоянного доступа к интернету для использования в обучении облачных сервисов и интернет-технологий.*

Ключевые слова: информационная среда, профессиональная подготовка, учебно-воспитательный процесс, ИКТ, компьютерные рекламные технологии, экологический подход.

Background. Numerous social and economic changes considering future development of the society, change of the value orientations on the transition from XX to XI century make the system of the higher education of Ukraine to perfect existing methods and search the new ways of activation of the necessary changes in formation of the educational technologies for the further providing of qualitative preparation of the future specialists in different spheres of life. In the conditions of rapid development of digital technologies, education cannot use old methods of training specialists. There is a direct connection of the processes of informatization of higher education with the mechanisms of training specialists. With the advent of the information environment, the university expands its range of education and training facilities, and replaces paper textbooks, methodologies and magazines with distance learning courses, the electronic deanery and Cloud services. All this has a positive impact on the quality and accessibility of education for different student groups.

The problem of informatization of education at the university in relation to the training of advertising design specialists has some aspects. Often, material support does not meet the requirements of implementing a fully-fledged information environment. The educational process is necessary to provide specially equipped classrooms with Internet access, powerful computers with modern software according to the needs of professional direction. Teachers must have not only professional experience but also an understanding of the necessity of using digital technologies and the desire to use them for learning students of modern information technologies.

Definition of the concept "The information environment of the university" needs an analysis of the concept's matter it derives from – the information environment, the information environment of the higher educational institution. Often there is complication of definition of widely used concepts that are intuitively clear.

Analysis of the last researches and publications. S. Sysoeva studies European requirements for the criteria of the effectiveness of professional training of specialists in the pedagogy of higher education [1]. Innovative educational model in higher education in Ukraine studied councils scientists, including V. Bykov, A. Gurzhiy, M. Shishkin [2] and others.

To our opinion, in these works the necessity of application of innovations in professional training and introduction of a common educational environment of vocational education in the conditions of European integration is emphasized.

V. Kremen and V. Bykov studied the issue of computerization and informatization in the system of education in the work "Categories "space" and "environment" [3]: features of model representation and educational application by many other scientists. Importance of IEE of the higher educational institution reviewed with M. Bratko in the field of management of professional training of specialists in the educational environment of the

University College, A. Kobysa in the paper "Application of the informational educational environment in the educational process of the Vocational School" [4]. S. Titov studies the development of means and methods of communication and information interaction in the information and educational environment of the educational institution [5].

The **aim** of this research is to analyze the essence of the concept of "information environment University" and consider the factors that influence the mechanisms of modern education in the university.

Materials and methods. In the course of the research the materials of scientific researches on the given subject were used. In this work, general scientific methods such as analysis and synthesis, analogy and modelling, as well as empirical method are applied.

Results. The specificity of the profession of a designer envisages that a student already on the first course masters certain skills of possessing computer environment and software for the tasks completion. Therefore, to attract such a student to exploit facilities of informational environment will be considerably easier, than a student, who studies, for instance, fine art or another sphere not connected with a computer environment.

But, before to proceed the analysis of the exploitation of the environmental approach in advertising design-education, it is important to determine the concept of the environment in general and the informational environment of the university in particular.

The concept of the environment. The ancient Greek philosophers understood environment as the whole, which parts are the surrounding world, people and also their cooperation, from anc.gr. – nature.

Historically, the concept "environment" comes from such areas of knowledge as chemistry, biology or chemistry, which give it a different value, that in general is determined as surroundings, where objects and subjects cooperate, and different phenomena occur.

According to a number of sociologists, the notion of "human environment" generally consists of natural and artificial conditions, where a person defines himself as a natural and social being. There are two interrelated parts of the environment in the social ecology: natural (air, earth, stones, plants, etc.) and social (relations in a society where a person realizes himself as a person).

Although a few types of influence of environment on a certain object are determined, its essence is determined by totality of main factors and this influence can be well-organized or elemental.

Taking into consideration, that part of environment of a man is a social environment, psychological and pedagogical researches pay serious attention to its study.

In general, the concept of environment unites in itself the natural and social constituents of human existence.

L. Maksymova considers that different types of environment: natural, anthropogenic, vital, form general environment of a man's life that influences on his/her development together with different factors [6].

The concept of the educational environment. The educational environment is closely connected with a socio-cultural environment, and, thus, is a part of the social and in general vital environment.

As an informational environment we understand the surrounding world of a man full of information; on the one hand, his/her own information activity and on the other hand – creation, transformation, consumption of information in other contiguous spheres of activity.

The organization of educational environment in the higher educational institution for effective professional preparation is one of the major tasks of the higher school.

As M. Bratko classifies, in the English-language scientific space among the publications, that have to do with the themes of educational environment of the higher school, researchers apply different determinations of this concept [7]: educational environment; educational climate; academic environment; study environment; learning environment.

In opinion of the Norwegian scientist A. Abualrab [8], the educational environment is the key subject of the educational politics and researches in the field of higher education at the present stage.

*The concept of the information environment***.** The concept of the informational environment. The concept of informational environment has to include the elements of the educational environment and informational constituent as the use of ICT and the services of different searching systems, such as Google, Bing, Yandex and others.

In the information sphere information and informational infrastructure are combined. These are collection, forming, distribution and the use of the information that is put into practice by certain subjects; these are also the systems of regulation of the proper public intercommunications and totality of relations, which are created by the formation and the use of the informational resources in the process of creation, collection, editing, gathering, accumulation, storage, search, distribution and giving to the consumer the documented information. In addition, the informational sphere is involved in the process of creation and usage of informational technologies and means of its providing; for defense of the information and rights of the subjects that participate in informational processes and informatization.

Assisting to the information exchange, carrying out the transfrontal, interactive and mobile contacts of various subjects of the economic activity, uniting different types of such activity in the only spatially-communicative and sociocultural environment, finding out actual necessities and interests of subjects of the economic activity at determination of the information politics, creating the centers of the new geopolitical intercommunications

and competition, changing the character and value of socio-economic relations in the spheres of politics, culture, science, religion and others, informational space fulfils communicative, integrating, geopolitical and social functions, which are important for existence of the modern society.

The concept of the information environment of the university. The studies in the modern higher educational institutions need the obligatory usage of ICT, and the web-site of the university, except the general information, has to provide the students with the access to the educational content – Wiki, Moodle and to the services of any searching engines (Google, Yandex, Yahoo, Bing and others).

The widespread determination of this concept – information educational environment (IEE) is the integral system, made from many subsystems that carry out its functions, using the modern information-technological and education-methodological facilities for the needs of the participants of the educational process.

According to the definition of O. Sokolova, the informational environment of the institution – is one of the parties of its activity, that includes organizing-methodological facilities, the integrity of the technical and programmatic means of preserving, editing, transmission of information that provides prompt access to the information and fulfils the educational scientific communications.

As the informational environment of the university we understand the unity of the quantitative and qualitative pedagogical possibilities of the educational environment of ICT, which are actualized as a result of professional preparation of the specialists. The information environment of the university represents the totality of constituents, each of which is responsible for its sector of specialist preparation. The material constituent of the educational environment consists of material and natural components of the environment, which can be involved for the specialist preparation.

The spiritual possibilities of the environment have cultural, moral, ideological, psychological components that are formed on the basis of cooperation of different factors.

The structural possibilities of the educational environment consist of the people organization, which combines material, personality and spiritual pedagogical possibilities of the environment.

The information constituent combines in itself modern information technologies, network services, searching systems and others. The usage of ICT, electronic educational courses, electronic textbooks and others are the parts of it.

The facilities of the information environment of the university for the training design specialists. The today's situation at the market of labor sets the teachers of the higher school the task of specialists preparation of a high degree of readiness to quick adaptation to the change of conditions and

facilities typical for professional activity of a modern designer. Such a teacher needs a capacity for permanent professional growth and self-perfection; capable of critical thinking, to see a problem in the whole; constantly to be "in the trend" of the modern design, to exploit information technologies for development of professional abilities and skills.

The organization of the educational activity in a university requires creation of informational environment and introduction of the modern innovative forms into the educational process. The usage of ICT in professional institutions for preparation of future specialists in design allows more reasonable organization of educational process during theoretical, laboratory and practical lessons. It gives additional possibilities in development of new textbooks, training aid, electronic educational complexes from different disciplines, in creation of information- reference database and the remote access to the educational resources, in giving and usage during professional preparation of designers the actual information from history of design and modern development of its different spheres, in relation to the features of technological processes, knowledge of present-day advertisement technologies and materials.

For improving the quality of the education in the higher educational institutions of advertisement design the newest educational and scientific-technical technologies, aimed at forming of knowledge, abilities and skills of specialists have to be applied, and an information environment has to provide the information necessities of all participants of the educational process.

Modern software allows to form for future qualified advertisement design specialists not only professional knowledge and skills but also creative competence that includes ability to analyze the newest processes in design, to use modern advertisement facilities in professional activity, to be able to analyze the advertisement market condition, to use the acquired knowledge about technological processes in polygraphy, to orient in the present-day market of advertisement services.

The presence of IEE allows a teacher to use cloudy software products and cloudy services, giving possibilities to attract to work individually or during the lessons with the group of students an electronic wall Padlet, electronic disks e-Disk, cloudy storages with support of office suite MS Office Web Apps: Microsoft Office 365, Microsoft One Drive, Google, Yandex, Dropbox and others.

The system MOODLE is a free software product with an open code, which is spreads on terms of GNU GPL license and can be modified in accordance with the necessities of a user; it has a well organized system of technical support and is accompanied by plenty of documentation, in particular, in Ukrainian; it can be installed without unnecessary difficulties on any platform that supports PHP (Linux, Windows, MacOS); it is important that, taking into account the achievements of the modern

pedagogics, the system is turned to cooperation between students and teachers and is provided with various facilities of discussion, having specialized forums and chats.

Google resources. The company Google gave the service developed on the base of Google Apps. It represents a control system of the studies (CSS) of Google Classroom. This system is very similar on purpose to Moodle [9].

Allowing the teachers to use the integrated instruments of the Google Apps package, in particular, Google Drive and Gmail, the service Google Classroom is advantageously different from its predecessors, remaining a separate control system of studies at the same time.

The groups, being a basic element of CSS Google Classroom, taking into consideration its functions and structure remind forums, allowing the users to deal with other users during communication within this group. It is also convenient to use groups, spreading the rights for access to the educational courses. At the same time, there is possibility to use an additional e-mail account and work Disk intended for the usage only in educational activity, keeping thus separately personal and working documents.

Google Classroom gives the possibilities for creation the tasks integrated from Google Drive, for the common work with the projects, using bilateral connection between a student and a teacher, having the opportunity to communicate real-time and for the cross evaluation of tasks in the groups.

The conditions of the class, giving the users an universal working instrument, providing them with a comfortable interface and all possibilities necessary to the participants of the educational process, are comfortable for work of a teacher, and a student.

The possibilities of using the cloudy services are especially needed to the teacher for maintaining and further work with large volumes of data from different information sources, basic and additional literature, methodical materials important for preparation and giving lecture, practical, laboratory or seminar lessons.

E-learning course (ELC). Attracting the students to the active work with various visual aids, using computer models, electronic educational courses intensify students' mental work and give enormous possibilities as to organization of interactive studies. The use of developed ELC allows not limiting in the educational process only by the discussion of the theoretical questions and doing laboratory works in the computer class. Due to maximal activation of individual work of the students it is possible to use more rationally allotted for the study of corresponding disciplines during lecture time, paying more attention to the key and problem questions of the courses.

The modern realities require the revision of the traditional approaches to the design specialists preparation, and large value for development of the design-education, especially during the preparation of competitive design

specialist of the print products, acquire development and use of electronic educational courses, in particular for mastering "Technologies of printing", as one of the major special courses.

Knowledge, which is modern today, becomes out-of-date already in a few years, which is why there is a need of permanent, according to life requirements, increase of the qualifying level for a competitive specialist, and for forming of the all-round developed personality of a competent specialist it is a necessity to turn to the innovative system of education.

Studying the special course of "Technologies of printing" the students have an opportunity to use all advantages of ELC. In addition, the environment MOODLE, where was created this course, gives the students possibility of access to the database of additional materials on every topic of the studying module, to every practical task created by the teacher [10].

For developing ELC, for example, for the course of "Modeling and design of packing", it is necessary to take attention that the part of text information is the most necessary and important for a consumer. That is why the text part is the most important part of the composition construction of the packing design, and it must paid special attention to the modern tendencies of typographic and supported by graphic elements. Its role in successful advancement of the product at the market is enormous, and in lecture materials of the course serious attention must paid exactly to typographic.

In the distance course of the lecture additional resources give materials, which acquaint a student with modern tendencies in advertisement and help to master knowledge necessary for them for the further developments [11].

It is important to emphasize this important element of information-educational environment of the University as a media library. For example, in the KNUTE (Kyiv National University of Trade and Economics), a library is created that gives users access to the enormous potential of Internet educational resources for all areas of study and research. The multimedia library is equipped with modern computers with access to the Internet and the fund of multimedia documents of educational-cognitive value, electronic teaching aids, methodical instructions, free access to the sites of domestic and foreign libraries, information resources of different countries.

According to the definition of M. Moiseieva informational education environment (IEE) of the educational institution has five modules: value-purpose-oriented, programmatic-methodical, information-knowledge, communication, technological [3].

A. Kobysia, studying such structure of IEE, defines the content and filling of each of these modules according to its basic functions [4].

The content of the value-purpose-oriented module is defined by the totality of educational aims and values; this is a task of the educational institution, qualifying features of the graduating students of different professions, plans of realization of educational, methodical work, timetable of the industrial practice and others.

In the programmatic-methodical module there is necessary information as to the strategies, forms and programs of preparation, these are plans among which there are educational, training, plans of realization of educational, methodical work, timetables, timetables of the industrial practice.

Information-knowledge module is a system of knowledge and abilities, which presents basis of professional activity of a specialist and information important for efficiency of studies, these are electronic study-methodical complexes from different disciplines.

The communication module dedicated to the forms of cooperation between the participants of the pedagogical process: teleconferences, round tables, webinars, communication through forums, chats, teleconferences with the help of the radio of the educational institution, press and others.

The technological module includes those studies facilities, which used in an information educational environment, for example new information technologies, including communications networks [4, p. 55].

For professional preparation of the advertisement designers in Borys Grinchenko Kyiv University the system ELC is used, it includes all professional disciplines. For example, already work out by the author electronic courses from such disciplines as "Computer design technologies", "Technologies of polygraphy" [10], "The sign systems in design", "Modelling and design of packing" [11].

The results of the research. Determined the origin and meaning of the term "information environment University" and put forward scientific hypotheses scientific hypothesis about the dependence of the quality of education using modern ICT and "cloud services" and the development of information educational environment using computer internet technology.

According to the results of this research, a set of proposals was developed, in particular: creation and improvement of the university's information environment; introduction of distance learning tools in the educational process; equipping computer audiences with modern computers with the installation of advanced software; equipping the entire territory where the training takes place, free access to the Internet; providing free access to internal educational services for students and university lecturers, not only at the university, but also outside.

Conclusion. To analyze the concept of "the information environment of a university" in relation to preparation of advertising design specialists, we can conclude, that this concept has absorbed all experience of the scientific working from physical and chemical environment to the modern meaning. It is unity of quantitative and qualitative pedagogical possibilities of IEE with the use of computer internet-technologies, that are actualized because of the professional specialist preparation and are totality of the parts, each of which is responsible for the preparation sector of the specialist.

The advantage of Google services during design specialists preparation is that giving access to all-round electronic information, they release

us not only from unnecessary papers but also allow to combine selectively in the process of studies the traditionally separated stages of study, fixing and mastering of the educational material.

The information environment of the university gives an opportunity to apply different methods of the educational process structure; individual approach is possible, together with the simultaneous use of individual-group methods and forms of studies. In addition, the use of information technologies allows, rationally building the lessons, to save time; the presence of interest, visual aids and interactivity of the information, availability and simplicity of actions at high end-point assists to increase the motivation to the studies and the better mastering of information.

The use of Google Classroom and Moodle in higher educational institution systematizes and puts the work of all participants of educational process on a higher level.

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Брюханова Г. Інформаційне середовище університету при підготовці фахівців з реклами.

Постановка проблеми. *В умовах швидкого розвитку цифрових технологій інформатизація вищої освіти вимагає удосконалення механізму підготовки фахівців. Потрібне інформаційне середовище, яке змінить асортимент та властивості засобів надання освіти: поява дистанційних навчальних курсів, електронного деканату та хмарних сервісів, що позитивно впливатиме на якість та доступність освіти.*

Аналіз останніх досліджень і публікацій *показав, що проблема ефективності професійної підготовки фахівців, попри наявність окремих наукових доробок, потребує додаткової уваги і професійного підходу науковців.*

Мета *статті – проаналізувати сутність та різні аспекти поняття "інформаційне середовище університету", визначити та розглянути його складові, а також запропонувати використання механізмів їх впливу на підвищення якості сучасної освіти в університеті.*

Матеріали та методи. *У процесі дослідження використано матеріали наукових розвідок за цією тематикою. Застосовано такі загальнонаукові методи, як аналіз і синтез, аналогія та моделювання, а також емпіричний.*

Результати дослідження. *Визначено походження і значення терміна "інформаційне середовище університету", а також висунуто наукові гіпотези про залежність якості освіти від використання сучасних засобів ІКТ та "хмарних сервісів", а також розбудови інформаційного освітнього середовища з використанням комп'ютерних інтернет-технологій.*

За результатами цього дослідження розроблено комплекс пропозицій, зокрема: створення та вдосконалення інформаційного середовища університету; запровадження в освітній процес засобів дистанційного навчання; оснащення аудиторій сучасними комп'ютерами із встановленням прогресивного програмного забезпечення; оснащення всієї території, де проходить навчання, вільним доступом до мережі інтернету; забезпечення вільного доступу до внутрішніх освітніх сервісів для студентів та викладачів університету не тільки в університеті, але і за його межами.

Висновки. *Проаналізовано поняття "інформаційне середовище університету" стосовно підготовки фахівців з дизайну реклами, що увібрало в себе весь досвід наукового опрацювання від фізичного і хімічного середовища до сучасного значення його як єдності кількісних і якісних педагогічних можливостей інформаційного освітнього середовища з використанням комп'ютерних інтернет-технологій. Інформаційне середовище університету надає можливість застосування різних прийомів побудови освітнього процесу; можливим є індивідуальний підхід разом з одночасним використанням індивідуально-групових методів і форм навчання. Використання Google Classroom та Moodle у закладі вищої освіти систематизує та виносить на більш високий рівень роботу всіх учасників освітнього процесу.*

Викладені концептуальні положення потребують подальшого наукового дослідження в напрямі поглибленого використання можливостей хмарних сервісів для навчання.

Ключові слова: інформаційне середовище, професійна підготовка, навчально-виховний процес, ІКТ, комп'ютерні рекламні технології, середовищний підхід.