

DEVELOPMENT OF SCENARIOS FOR DEMOCRATIC TRANSFORMATIONS OF SOCIO-ECONOMIC RELATIONS IN UKRAINE

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Abstract. *The purpose* of this research is a choice of descriptions, which is necessary to take into account for the development of scenarios for democratic transformations of socio-economic relations in Ukraine. The bases of this research are theoretical and practical aspects of the development of scenarios for the transformation of social and economic relations in the different regions of Ukraine. At the heart of the research *methodology*, there are methods of scenario, space-vector modelling, which was used for the search for an optimal variant of scenarios realization and satisfaction compromise of necessities for different scenarios. Also logical and economic-mathematical analysis was used for the exposure of connections between the necessities of population in different regions and their priority; SWOT-analysis was used for the exposure of factors, which positively or negatively influence on the satisfaction of regional population necessities; correlation analysis was used for the construction of optimum vector, what will satisfy all necessities and reflect on the level of relations. *Results.* The research confirms that efficiency of achievement for the chosen scenarios depended on the level of limitations for situations, in which the scenarios will be realized. Problems to be solved during the development of some scenarios are the determination of relevant variable indicators and degree of cooperation; the degree of controllability of the variable indicators; the level of boundedness in achieving the assigned tasks. The analysis of existent scenarios for the development of social and economic relations in Ukraine shows the presence of the three main components: external terms, instruments, and results which set limits in the development of events, show orienteers of achievement and compel to make decisions for the settlement of nascent instability. The importance of establishing the tightness of the connection between the availability of certain knowledge in society and the needs that they generate and vice versa is proved. In this research was offered the mechanism of searching a single optimal variant of the scenario realization, which will bring the best socio-economic effect according to orienteers, which are the main priorities in society. It is proved that today's reality in Ukraine is beyond those socio-economic relations existed in a world community. Scenarios of regions' development, which were formed without taking into account the real possibilities, existing in every separate region, instruments and facilities, can simply shut off society from important priorities and tasks. Such scenarios will not allow society to perceive adequately the state doctrines of development due to uneven development, information vacuum of the population, insufficiency of regions resource potential for self-providing of the further progress. *Practical implications.* The practical value of the research is grounded on methodical and pragmatic instruments for searching the compromise decisions during scenarios forming process for the design of social and economic relations in different regions of Ukraine, which unite the entire Ukrainian nation for the solution of priority tasks, which will provide a maximal socio-economic effect. *Value/originality.* The conducted research allowed getting some results, such as: the scenarios of socio-economic relations should be formed around national ideas; the process of scenarios development should detail implementation and realization of scenarios, on the basis of priority programs, which are satisfying the necessities of society. It is necessary to choose the priority of the programs according to the degree of its optimality and existent limits in the system of social and economic relations. Optimality is determined by the selected society land-marks, which characterize expectations of the population.

Key words: scenarios, transformations, priorities, necessities, compromise, optimum.

JEL Classification: A13, C02, R11

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1. Introduction

Any scenario can be interpreted as a series of interconnected extrapolations of the past, taking into account some projections (assumptions) for the future (Akcoff, 1985). This is a hypothetical sequence of events, which shows how the future state of the analysed object can be developed step by step from the existing or any given situation (Mukhin, 2009). Moreover, such a forecast of future situation in society presents the probability of occurrence of events with a certain share: 1) the implementation of planned democratic transformations or without them; 2) obtaining the expected effective or negative consequences from creative activity within the framework of modern socio-economic relations. Success, the degree of approximation of basic scenarios (without interference in the evolution of socio-economic relations) to the ideal (the most effective, desired, supporting the majority) depends on creative approaches to it, the level of creativity, the ingenuity of its developers' efforts. The degree of applied creativity depends on how deeply, qualitatively, and quantitatively the nature of the decision for the selected scenarios is evaluated.

Unfortunately, in the territory of the post-Soviet space states, the scenario analysis has not yet received a wide circulation; here the traditional methods of plans building and forecasts still prevail. Although in many other countries, scenario modelling is considered as one of the main tools for strategic forecasting (Lindgren & Bandhold, 2009).

Indeed, the scenario method is based on the use of logical-heuristic analysis in conjunction with formal approaches, including tools of economic and mathematical modelling. According to many experts (Zgurovskiy & Pereverza, 2009); scenarios method gives the opportunity to avoid the "tunnel vision", eliminates the problem of non-alternative events development concerning any object of research.

The situations for scenarios analyses are affected by different variables indicators that have varying degrees of relevance and control. Therefore, the result (P) of any scenario can be defined as:

$$P = f(K_n, H_n) \rightarrow \max, \quad (1)$$

where, f is a function of K_n -controlled and H_n -uncontrolled variables; \max is the desired maximum, to which the result tends.

The effectiveness of achieving the selected scenarios depends on the degree of constraints in the scenarios situations. Hence, the main problems need to be addressed when developing any scenarios:

- the definition of relevant variables indicators and the degree of interaction in the studied situations;
- the degree of control over variables indicators;
- levels of limited achievement for assigned tasks.

2. Results of previous researches

Starting to develop scenarios, it should be noted that today's economic foreign (Akcoff, 1985; Everett, 2009) and domestic (Ukraine 2030, 2017; Kolenda, Cherchyk L. M. & Gavryluk, 2013; Sotnichenko, 2015) science and practice, including the author's works (Calinescu, Antipov, Kushal, 2016; Calinescu, Alioshkina, 2016) have many different scenario approaches to the methodology of construction, the style of formation and structure of various systems connection and relationships in society, both at the state and at the regional, local level (the level of various economic entities).

The World Economic Forum in Davos forecasts three scenarios for the development of modern socio-economic relations in Ukraine (Ukraine 2030, 2017):

- 1) "back to the future", which provides unfavourable external socio-economic conditions but stable reforms in Ukrainian society;
- 2) "lost in a situation", predicting an unfavourable situation in both cases;
- 3) "the beginning of a favourable cycle", emphasizing the full positive impact on the situation in Ukraine from different sides.

These scenarios include three main components – external conditions, tools, and results, which set constraints in the development of events and designate the achievement benchmarks, make subsequent decisions to resolve the emerging instability.

But the conducted research "Forsythe-2016" in Ukraine predicts the development of events according to the following scenarios (Ukraine 2030, 2017): a) optimistic (with a probability of reaching 15%), b) "preserving the crisis" (respectively, the probability is 30%), c) "sovereign default" (30% respectively), d) "collapse" (5%).

The implementation of the above scenarios in the medium term (until 2020) made it possible to develop long-term scenarios of social and economic relations for the leading research institutions of Ukraine until 2030, namely (Ukraine 2030, 2017): "Balanced development", "Alien subjectivity", "Grey zone", "Disintegration" with the forecasted by the International Monetary Fund an annual development level of 3%. Of course, such prospects do not inspire much optimism, so there is a need to develop fundamentally new approaches to the formation of scenarios of socio-economic relations.

Proceeding from the foregoing, the purpose of this study is to determine the characteristics that should be taken into account for developing scenarios process in the context of democratic transformations of social and economic relations in Ukraine. Such characteristics in the construction of scenarios include: the degree of optimality, the achievement of satisfactory results, and the reduction of restrictions in the context of the implementation of the selected benchmarks for the democratic transformation.

3. Theoretical bases of scenarios development

The conducted studies confirm the truths expressed by the ancient Greek figure Sophocles in 400 BC that everyone should study in practice because although you think you know, there is no certainty until you check (Everett, 2009). Therefore, these studies are conducted within the framework of research topics, carried out at Volodymyr Dahl East Ukrainian National University “Development of democratic mechanisms for self-provision of society socio-economic transformations”, approved by the Ministry of Education and Science in Ukraine.

Any forecasting method, including the scenario method, should comply with the following principles:

- the principle of systematicity (consideration of the object of forecasting and all its components in conjunction with the surrounding environment, which exerts its influence and affects the process of vital activity of the object);
- the principle of consistency (forecasts for a short period for the investigated object should be logically interconnected within forecasts of its life activity for a long-term period);
- the principle of variance (assumes the presence of at least two variants of the forecast, corresponding to different states of object elements and components of its environment, the more options, the higher the probability of determining the most optimal forecast);
- the principle of verifiability (compliance with reliability and accuracy, as well as the validity of the forecast);
- the principle of adaptability (any forecast should be flexible, in case of changing conditions, it should be possible to adjust the forecast);
- the principle of efficiency (the cost of developing a forecast should be covered by the received positive social and economic effect from its implementation).

Experience in the development of various scenarios emphasizes the need to involve in this process and bring any scenario to the ideal state, using a wide range of innovative tools, diffuse (penetrating) technologies for making typical decisions that reduce time and resources. Although, for the application of existing historical domestic or foreign experience, certain prerequisites have to exist (Everett, 2009):

A. Knowledge, which formulates ideas about scenarios and their components. This is the knowledge that developers of any scenarios should possess.

B. Beliefs that population has, which are influencing on perception, support, and satisfaction degree of the developed scenarios to the citizens’ needs.

C. The availability of collective and collegiality in making decisions regarding the selection of scenarios from a certain set of alternatives, if there are differences in points of view on the formation and implementation of scenarios.

D. Confirmation – it is a practical test of valid scenarios that use innovative tools.

From this sequence of assumptions, the most important are the answer to the question: what is primary – the needs and their satisfaction in the process of socio-economic relations or innovative knowledge that need to be implemented into practice? It is impossible to answer this question unequivocally, proceeding from the fact that:

- on the one hand, people are so organized that they perceive with caution any changes, new knowledge, and even more innovative, until they are convinced that they meet their needs (Everett, 2009);
- on the other hand, needs are the result of dissatisfaction, an annoyance that it is impossible to have what you want (Everett, 2009). Sometimes needs arise when the positives of applying some innovative knowledge are known.

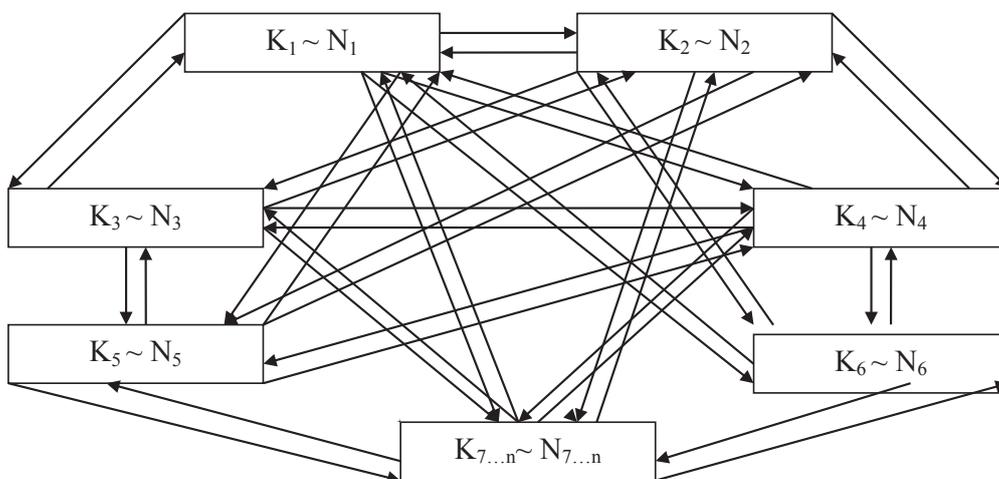


Fig. 1. Oriented graph of the relationship between the components of innovative knowledge and the needs

Source: developed by the authors, taking into account (Sotnichenko, 2015)

So, there is a relationship between knowledge and needs: knowledge creates certain needs of the population and vice versa, the needs arise because of the special attractiveness of some innovative knowledge. In this case, it is particularly important to establish not so much the prioritization of knowledge and needs as how to accurately determine the tightness of the connection between the availability of certain knowledge in society and the needs that they generate and vice versa. Fig. 1 presents a conditional relationship between the components of certain innovative knowledge and the needs that they can generate.

Fig. 1 presents expected connection and the mutual dependence of $K \sim N$ between knowledge (K) and needs (N) in the form of an oriented graph. Numbers from 1 to 7 and till n can be any area of innovative knowledge and related needs. For example, 1 – this is an area of economic knowledge that corresponds to socio-economic needs, $N_1 = \{N_{11}, N_{12}, N_{13}, \dots, N_{1n}\}$, namely N_{11} – presence of a developed labour market; N_{12} – presence of a developed transport infrastructure; N_{13} – presence of a stable functioning banking system, etc.

The oriented graph, presented in Fig. 1, shows possible links between the elements included in the composition of the scenario. The components correspond to the indicated vertices, and the arrows show the directions of the possible influence of all the elements on each other, as well as feedbacks.

Table 1
Matrix of compatibility for structural elements included in the scenario

Scenario structural elements	$K_1 \sim N_1$	$K_2 \sim N_2$...	$K_n \sim N_n$
$K_1 \sim N_1$	0	1	1	1
$K_2 \sim N_2$	1	0	1	1
...	-1	1	0	1
$K_n \sim N_n$	-1	-1	1	0

Source: developed by the authors, taking into account (Sotnichenko, 2015)

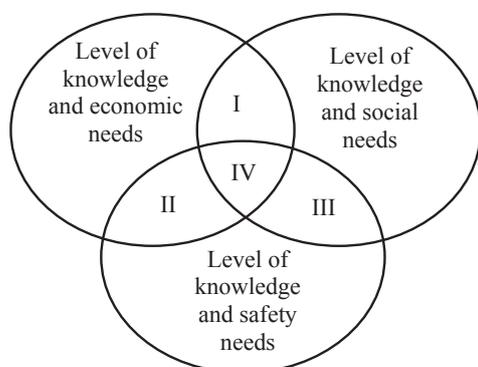
A similar graph can be represented by a matrix of incidents or a similar compatibility matrix (see Table 1).

It follows from the matrix (Table 1) that the intersection of a row and a column means obtaining some result with a positive, negative or zero value.

For any scenario, it is important to determine the limits that each structural element can reach, and find the optimal effect that can be obtained after the completion of its implementation. Fig. 2 represents schematically the process of searching for a single optimal variant of the chosen scenario that will bring the best socio-economic effect (optimum) to the benchmarks that are the main components and, at the same time, the main priorities in the society. The set of these components can be either universal or unique, depending on the situation, in which the scenario is prepared and implemented.

Each of the components has its limitations (optima), which are achieved through compromise solutions, using vector optimization tools (see Fig. 3). The trajectory described by the optimality vector (see Figures 3a, b, c, d) may have different directions but the main condition that it has to fulfil is to be maximally positive. If there is a negative trend, then it is necessary to seek compromises, establish a dialogue and, based on its results, develop incentive measures that will be interested for all stakeholders of negotiations. There are also options for changing and adjusting scenarios in accordance with the conditions for the transformation of socio-economic relations in the society.

It follows from Fig. 2 and 3, what the optimum can be achieved only if there is certain knowledge level of those principles that allows reaching a compromise. The emerging problems in scenarios implementation require a certain agreement, a search for a compromise. But not all participants of the scenario can perceive the existing problems. They may not even guess about their presence, so they do not try to coordinate them, make compromises, as they do not meet their needs. This is because the problems are subjective and,

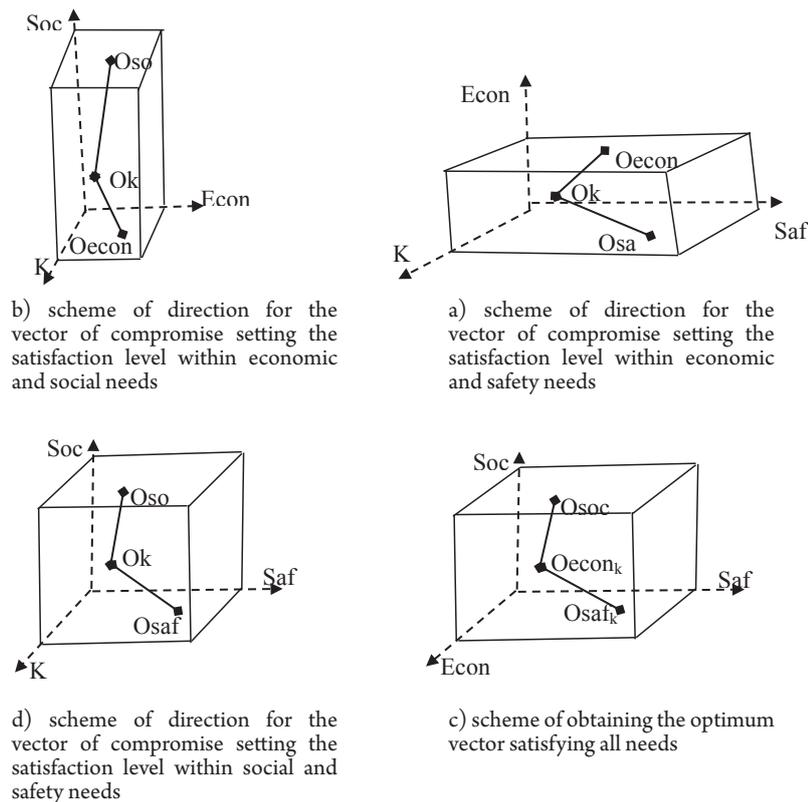


Notation:

- I – achievement of a compromise (a field of restrictions) in setting the level of satisfaction within economic and social needs;
- II – achievement of a compromise (a field of restrictions) in settling the level of satisfaction with economic needs and en-suring the safety of human life;
- III – achievement of a compromise (the field of restrictions) in setting the level of satisfaction with social needs and ensuring the safety of human life;
- IV – optimum, at which all differences in the level of needs are regulated.

Fig. 2. Expected scheme for achieving a unified optimum within the chosen scenario

Source: developed by the authors, taking into account (Kolenda & Cherchuk & Gavryluk, 2013)



Notation:

K – level of knowledge, which should be available when searching for compromises; Ok – optimum of knowledge;

E – economic needs; $Oekon$ – optimum of economic needs;

Soc – social needs; $Osoc$ – optimum of social needs;

Saf – safety of human life; Osa – optimum of life safety;

$Oecon$, Oso , Osa – trajectory that the optimal efficiency vector describes when implementing the selected scenario.

$Osock$, Osa_k , $Oecon_k$ – trajectory that describes a vector of optimal efficiency that satisfies all needs on the basis of the required level of knowledge.

Fig. 3. Approximate options of finding the best scenarios

Source: developed by the authors, taking into account (Kolenda & Cherchyk & Gavryluk, 2013)

as a rule, determined by the experts of a particular project – scenario element. Therefore, there are main requirements that have to be presented to the knowledge level for any scenarios:

- awareness of all the participants in the scenario about its essence, significance, and structural components;
- procedural knowledge, to which each participant aspires, based on those decisions that he/she should take concerning interesting for him/her procedures in the scenario;
- knowledge of the scenario basics, which all participants must have if they are convinced of its correctness and interested persons in its obligatory achievement.

Each of these knowledge levels, as well as the degree of competence of each participant, plays a significant role in the implementation of the scenario, the achievement of compromises at individual stages, the identification of those opportunities that allow removing certain limitations, overcoming barriers to obtaining the optimal, most effective result in

the process of democratic transformation of socio-economic relations.

4. The scenario of socio-economic transformation for Luhansk region in Ukraine

Today, the main problem of reformatting the society in Ukraine in the context of decentralization is vested on regional authorities. This issue is especially acute in the eastern regions – in the territory of the Ukrainian Donbas, where an open military conflict is taking place to this day, and a large number of internally displaced persons (because they left the zone of active hostilities). The socio-economic situation here has sharply deteriorated and the authorities face the task of forming an objective forecast.

The worst situation is in the Luhansk region, where according to preliminary data from the state statistical service, and according to calculations of expert analysts (Kramar, 2017), the level of gross regional product (GRP) in 2016 relatively to the same indicator in 2013

(the year before the start of the military conflict) was only 36,5%. For comparison, the same figure for the Donetsk region (which also suffers social and economic losses from the military conflict) is almost 42%.

Taking into account the above facts, it can be concluded that currently, the Luhansk region is a region that deserves the greatest attention from both local experts and national authorities. An attempt to predict the situation in this territory was made in October 2016, when the Strategy for Development of the Luhansk Region until 2020 was approved (Strategy, 2016) but it should be noted that this document raises many questions that will be discussed below.

To implement an objective forecast, it is always necessary to analyse the current situation in the region, study the dynamics of key development indicators for this territory. There are a lot of such indicators but we limit them to only six, presented in Table 2.

Indicators, presented in the table, were selected not by the chance. To achieve consensus, the interests of all participants in socio-economic relations have to be taken into account. The main participants are government bodies, business, and community. The interests of each group can be reflected through certain indicators. To implement the forecast, six indicators were selected, available from open sources of aggregated statistical information, which directly or indirectly reflect the situation in order to satisfy the interests of each group:

1) business interests:

- volume of sold products (goods, works, services) per one full-time employee. Over the past five years, this indicator behaves nonlinearly, and, unfortunately, the positive dynamics of 2014 was completely levelled by the failed 2015. According to preliminary data, the situation could be improved significantly in 2016 but such a positive result cannot be explained by an increase in labour productivity but the reduction in the number of staff by the end of the analysed period (in 2016, only 150,2 thousand people, compared with 526,8 thousand in 2012 (Main administration of statistics in Luhansk region));

- financial result of the enterprises' activities before taxation. We cannot even talk about positive dynamics,

in five years the losses of regional enterprises grew 4,3 times;

2) the interests of the community (the bigger part of the population that participates in economic relations as hired workers):

- the coefficient of staff turnover by dismissed. This indicator indirectly shows the level of comfort and safety at the workplace; in recent years, this indicator was at the level of 30-34%. The maximum value was fixed in 2014 when the population of the region left this territory massively in connection with the beginning of an open military conflict. In 2016, this indicator has slightly decreased but its level still remains high;

- average monthly nominal wage. Throughout the analysed period, this indicator shows a stable positive dynamics and it increased 1,5 times. However, we should not forget that during the same period, the inflation rate has sharply increased, and the national currency has depreciated in 3 times against the dollar. This fact affects the level and quality of life;

3) interests of authorities:

- gross regional product per capita. The complex indicator characterizing the volume of gross added value per inhabitant, produced in the region, indirectly indicates the welfare of the territory. However, according to the data, presented in Table 2, this indicator was reduced five times.

- a number of registered offenses; in fact, this is an indicator of social tension in the society. Its maximum value was fixed in 2014 when the peak of the activity of military operations. In 2016, it decreased almost 2.5 times compared to 2014, what was caused by the absence of offenses records on the region territory that is not controlled by Ukraine. But it is necessary to note that even in comparison with 2015, there is still a positive trend, which already indicates a stabilization of the situation, as well as a slow reduction of social tensions in the region.

To correlate our indicators with the scheme for constructing an optimum of social and economic transformation, we will determine their belonging to three groups of social needs. So, the economic needs of the region are reflected through indicators that represent

Table 2

Indicators of the socio-economic development in Luhansk region

Indicator	2012	2013	2014	2015	2016
Volume of products sold (goods, works, services) per one regular employee, ths. UAH	222,685	207,352	279,930	200,255	299,329*
Financial result of enterprises before taxation, ths. UAH	-5846538,2	-8357287,4	-46595667,5	-51543091,5	-25249824,0
Coefficient of staff turnover by dismissal,%	28,9	32,2	34,9	30,8	25,8
Average monthly nominal salary, UAH	3090	3337	3377	3427	4637
GRP per capita in actual prices, UAH	25950	24514	14079	10778	9163*
Number of registered offenses	26562	39757	29614	12537	12290

* – preliminary data

Source: (Kramar, 2017; Main administration of statistics in Luhansk region)

the interests of the business: the volume of sold goods (goods, works, services) per one regular employee and the financial result of the enterprise's activity before taxation. Social indicators correspond to the average monthly salary, and the gross regional product per capita since both indicators characterize the level and quality of life in the region. Safety of vital activity is reflected through the number of recorded offenses and coefficient of staff turnover by dismissed.

The next step is to identify the dependencies between the presented indicators. For this task, we use the coefficient of Pearson's pair correlation (Rudenko, 2012), which is calculated with the formula:

$$r_{xy} = \frac{\sum_{i=1}^n (x_i - \bar{x})(y_i - \bar{y})}{\sqrt{\sum_{i=1}^n (x_i - \bar{x})^2 (y_i - \bar{y})^2}}, \quad (2)$$

where n – number of observations;

x_i – i -th observed value of the independent random variable;

y_i – i -th observed value of the dependent random variable;

r_{xy} – coefficient of pair correlation.

The value of the correlation coefficient varies from -1 to 1. The closer the result to the boundary values, the stronger the relationship between the quantities. So, the closer the value of the coefficient to zero, the weaker the relationship. If the obtained coefficient is in the range from -0.5 to 0.5, then such a result is considered to be statistically insignificant and, in fact, there is no any correlation between the investigated factors. The positive value of the coefficient indicates a direct relationship; the negative value indicates a reverse relationship.

Table 3

Coefficients of pair correlation between economic, social indicators and indicators of safety in Luhansk region

	Econ ₁	Econ ₂	Saf ₁	Soc ₁	Soc ₂	Saf ₂
Econ ₁	1					
Econ ₂	-0,17	1				
Saf ₁	-0,23	-0,35	1			
Soc ₁	0,71	-0,10	-0,66	1		
Soc ₂	-0,52	0,79	0,19	-0,67	1	
Saf ₂	-0,27	0,50	0,61	-0,60	0,78	1
Econ ₁	volume of sold goods (goods, works, services) per one full-time employee					
Econ ₂	financial result of enterprises' activities before taxation					
Saf ₁	coefficient of staff turnover by dismissed					
Soc ₁	average monthly nominal wage					
Soc ₂	GRP per capita					
Saf ₂	number of recorded offenses					
	mediated relationship					
	stable relationship					
	strong relationship					

Source: calculated by the authors

The results of calculations for the coefficient of pair correlation are presented in Table 3.

The obtained results indicate the following:

1) the size of the average wage:

- directly heavily depends on the volume of products sold (goods, works, services) per one full-time employee ($r_{xy} = 0.71$), with its increase, the average wage in the region also grows;

- stable reverse dependence on the turnover ratio for dismissed ($r_{xy} = -0.66$). The lower the ratio, the higher the average monthly salary in the region. This phenomenon is easily explained. After dismissal, not every person immediately moves to a new workplace, moreover, in our society a whole "stratum" of the population has formed, which figuratively can be called "social and economic parasites" – people who knowingly do not seek a new job, receiving unemployment benefits. On the other hand, a decrease in the turnover ratio by dismissed testifies about satisfaction of both employers and workers, who gain positive experience, improve their qualification, labour productivity; as a result – an increase in the volume of sales per worker and increase in wages;

2) GRP per capita:

- directly depends on the financial performance of the enterprises in the region before taxation. This relationship does not require special explanation since this indicator is the source of formation for gross added value, produced in the region. According to the results of the correlation analysis, this particular relationship is the strongest ($r_{xy} = 0.79$);

- stable reverse dependence on the amount of wages ($r_{xy} = -0,67$). This relationship is easily explained since the gross added value of all types of economic activity in the region is calculated as the difference between the output and the intermediate consumption of each type of economic activity, among them is the wages cost. Thus, there is a need to find a balance between personal and social satisfaction of socio-economic needs for the sustainable development;

3) number of registered offenses:

- strong direct relationship with the GRP per capita ($r_{xy} = 0,78$). At first glance, it is the paradoxical situation, nevertheless, it is explained very easily within the framework of our mentality. No wonder we say "the appetites are growing with growing incomes". The temptation to "get everything at once" with an improvement in the social and economic situation in the region is increasing for both indigenous people and migrant visitors – seekers of a "bright future", among whom not all are law-abiding citizens. This phenomenon is easily confirmed by facts from the life of the state's capitals, where one of the highest gross regional product per capita but a huge number of "guest performers" who are hungry for quick profit and not always in a legal way. The loudest economic crimes are also recorded precisely in socially and economically developed regions.

- indirect direct dependence on the turnover personnel rate by dismissed ($r_{xy} = 0.61$). The connection is not very stable but it exists and it is explained quite simply: among all the dismissed there is always a certain part of the persons who fell under the reduction, were dismissed in spite of their own doing, not all dismissed immediately find a new place of work; this circumstance can negatively affect both the social status and the psychological state of a person, pushing him to inadequate actions and, ultimately, to offenses;

- indirect reverse dependence on the level of the average wage ($r_{xy} = -0.60$). Of course, we cannot talk about direct dependence in this case; it is understandable even without calculating the correlation coefficient. However, the lower the level of average wages, the greater the likelihood of offenses, both in the workplace and in everyday life, due to the growth of social tension.

The obtained results of the correlation analysis are also interesting because they support the idea underlying the construction of the optimum vector satisfying all needs (Fig. 3d). Correlation analysis confirmed that the presented scheme – an economic component of development is not the goal of territory development

but it is a basis, whose state reflects the level of social indicators and indicators of life safety.

For the formation of scenarios for the transformation of socio-economic relations in the territory of Luhansk region, a well-known tool is used – SWOT-analysis, which allows identifying factors that positively or negatively affect the indicators of interest. The Strategy for the Development of the Luhansk Oblast until 2020 presents the results of this analysis (Strategy, 2016), but they raise some doubts, first of all, because of the violation of the conduct methodology: in each group of parties there should be no more than 10 (in this variant, there are 16 weaknesses suggested by the developers), otherwise the procedure of further actions becomes much more complicated, it becomes cumbersome, loses its objectivity and leads, in the final analysis, to the dispersion of resources for problems elimination. So we have inefficient use of resources. Therefore, Table 4 presents a new version of the SWOT analysis.

The obtained SWOT-analysis results are presented in the form of a matrix (see Table 5).

The field of intersection between strengths and opportunities shows opportunities that can be amplified

Table 4
SWOT-analysis

<p style="text-align: center;">Strengths (S)</p> <ol style="list-style-type: none"> 1. High resource and natural-recreational potential. 2. The presence of a research and production cluster in Severodonetsk, Lisichansk, Rubezhnoye. 3. Restoring the work of all state institutions, social infrastructure facilities, educational institutions, moved to the territory controlled by Ukraine. 4. Significant potential for the development of agriculture (the availability of fertile soils, a large number of agricultural producers) 5. High concentration of qualified specialists – internally displaced persons who have an active civil position and ready to take an active part in the development of their region. 6. The presence of international and humanitarian missions providing economic, social, and technical assistance. 	<p style="text-align: center;">Weaknesses (W)</p> <ol style="list-style-type: none"> 1. A part of the region, including the regional centre, is not under the control of the Ukrainian authorities. 2. Significant losses of the material, technical, and information base required for the normal operation of public services and other displaced organizations, as well as for the operation of the industrial and agricultural regional complex. 3. Destroyed infrastructure of the region (problem of transport communication, energy, and water supply) 4. Loss of old economic relationships, markets. 5. Use in the production of obsolete energy-intensive technologies. 6. Unsatisfactory state of the environment (pollution of water, land resources) 7. The physical threat to the lives of civilians due to the presence of not neutralized military shells. 9. Absence of an integrated information field 10. Violation of human rights and freedoms.
<p style="text-align: center;">Opportunities (O)</p> <ol style="list-style-type: none"> 1. Completion of the military conflict. 2. Implementation of the national decentralization reform 3. The attraction of foreign specialists and specialists from other regions of Ukraine. 4. Implementation of SME development programs. Access to new markets. 5. Informatization of public life in the region and the process of its management. 6. The attraction of additional financial resources from state funds for the regional development. 7. The possibility of attracting additional financial resources through the participation in international donor programs for the social and economic development of regional communities. 	<p style="text-align: center;">Threats (T)</p> <ol style="list-style-type: none"> 1. Escalation of military conflict 2. Active decentralization in all spheres of life: an increase of already large number of responsibilities for local authorities 3. Emigration of youth to more prosperous regions of the country 4. The negative image of the region, as one of the most dangerous territories for visitors. 5. Low level of investment attractiveness of the territory. 6. Loss of trust on the part of the inhabitants of territories beyond Ukraine's control. 7. The negative impact of the national economic crisis. 8. Loss of political support from partner countries. 9. Formal nature and lack of financing for normative and legislative acts and programs to support internally displaced persons for housing need.

Source: developed by the authors on the basis of (Strategy, 2016)

Table 5

Matrix of SWOT-analysis of the socio-economic state of Luhansk region

	O1	O2	O3	O4	O5	O6	O7	O8	T1	T2	T3	T4	T5	T6	T7	T8	T9
S1																	
S2																	
S3																	
S4																	
S5																	
S6																	
W1																	
W2																	
W3																	
W4																	
W5																	
W6																	
W7																	
W8																	
W9																	

- the influence of the relevant strengths, weaknesses on the relevant opportunities or threats

Source: formed by the authors on the basis of (Zgurovskiy & Pereverza, 2009)

under the influence of strengths. The field of intersection between strengths and threats demonstrates, which threat can be neutralized, due to certain strengths. The field of intersection between weaknesses and opportunities demonstrates what opportunities are reduced under the influence of specific weaknesses. The last quadrant shows what threats are amplified under the influence of certain weaknesses.

Based on the results of the analysis, the following conclusions can be drawn concerning possible scenarios for the transformation of socio-economic relationships in the Luhansk region:

1. The impact of negative development factors (weaknesses) is more tangible than positive (30 negative versus 25 positive identified relationships). Therefore, the probability of a pessimistic scenario (absence of any vector of positive social and economic development) is slightly higher (55%) than optimistic (45%).

2. The key strengths of the region include: 1) a high concentration of qualified specialists – internally displaced persons who have an active civil position and ready to take an active part in the development process of their region; 2) the presence of international and humanitarian missions providing economic, social, and technical assistance.

3. The key weaknesses include: 1) destroyed infrastructure of the region (the problem of transport, energy, and water supply); 2) lack of an integrated information field; 3) violation of human rights and freedoms.

4. Based on the problems identified in the region, the most relevant optimistic scenario in the form of an optimum scheme oriented to the initial satisfaction of economic needs and safety needs. The main tool for the formation of this scenario is human capital, which is still available in the region. Therefore, the retention of specialists (and, according to the correlation analysis, a reduction of staff turnover coefficient by dismissed workers), as well as the active involvement of international technical assistance projects and grant schemes – tasks that will overcome the economic crises and safety problems, and in the future will form the basis for the satisfaction of social needs of the region inhabitants.

5. Conclusions

Conducted researches allow stating that scenarios for the development of social and economic relations in Ukraine are based in the majority on assumptions, which are predicted by international institutions. Today's reality in Ukraine goes beyond those economic theories, models, phenomena, and socio-economic relations that already exist in the world community (Rainer, 2015). The proposed development scenarios (Ukraine 2030, 2017), without taking into account the real opportunities in each region, tools, and means, can simply fence off society from those important priorities and tasks that will not allow them to perceive adequately the state

development doctrines due to uneven development, lack of public awareness, insufficiency of resource regions potential for self-sufficiency of their further development, etc. However, the completed study concluded that:

1. Scenarios of socio-economic relations should be formed around national ideas that emphasize the observance and protection of the citizens' interests, the uniqueness, specificity, and exclusivity of democratic transformations in Ukraine.

2. During the process of forming scenarios, it is necessary to take into account the world experience, which uses innovative tools that allow detailed implementation of scenarios, based on the priority of included programs that meet the needs of society.

3. Priority of programs should be chosen according to

the degree of their optimality and existing limitations in the system of socio-economic relations.

4. Optimality is established according to the targets, chosen by society, which characterizes expectations of the population.

The directions of further research will be related to the search for unique features that influence the structural elements and create the need to search for compromise solutions in the formation of scenarios for the development of social and economic relations in different regions of Ukraine, especially those that are adjacent to the areas of antiterrorist operations. And, at the same time, the search for unified compromise solutions that unite the entire Ukrainian nation for the solution of the only priority and important tasks that ensure maximum socio-economic impact.

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РАЗВИТИЕ СЦЕНАРИЕВ ДЕМОКРАТИЧЕСКИХ ТРАНСФОРМАЦИЙ СОЦИАЛЬНО-ЭКОНОМИЧЕСКИХ ОТНОШЕНИЙ В УКРАИНЕ

Аннотация. *Цель исследования* – выбор характеристик, которые следует учитывать при разработке сценариев демократических трансформаций социально-экономических отношений в Украине. *Предметом исследования* являются теоретические и прикладные аспекты разработки сценариев трансформации социально-экономических отношений в разных регионах Украины. В основе *методологии исследования* лежат методы сценарного, пространственного векторного моделирования – для поиска оптимального варианта реализации сценариев и нахождения компромисса при удовлетворении потребностей за разными сценариями; логико-эвристического, экономико-математического анализа – для выявления взаимосвязей между потребностями населения различных регионов и их приоритетности; SWOT-анализ – для выявления

факторов позитивно или негативно влияющие на удовлетворение потребностей населения региона; корреляционный анализ – для построения вектора оптимума, удовлетворяющего все потребности и отражения уровня отношений. *Результаты.* Исследование подтвердило, что эффективность достижения выбранных сценариев зависит от степени ограничений в рамках ситуаций, в которых реализуются сценарии. Проблемы, которые следует решать при разработке каких-либо сценариев, состоят в определении: релевантных переменных, степени их взаимодействия и подконтрольности, уровня ограниченности достижения поставленных задач. Анализ существующих сценариев развития социально-экономических отношений в Украине показал наличие трех основных оставляющих: внешние условия, инструменты и результаты, которые устанавливают ограничения в развитии событий, обозначают ориентиры достижения и заставляют принимать решения по урегулированию возникающей нестабильности. Обоснована важность установления тесноты связи между наличием определенных знаний в обществе и потребностями, которые они порождают и наоборот. Предложен механизм поиска единого оптимального варианта реализации сценария, который принесет наилучший социально-экономический эффект по ориентирам, являющимися главными приоритетами в обществе. Доведено, что сегодняшняя реальность в Украине выходит за рамки тех социально-экономических отношений, которые существуют в мировом сообществе. Сформированные сценарии развития регионов без учета реальных возможностей, существующих в каждом отдельном регионе, инструментов и средств, могут отгородить общество от тех важных приоритетов и задач; не позволяют обществу адекватно воспринимать государственные доктрины по причинам неравномерности развития, отсутствия информированности населения, недостаточности ресурсного потенциала регионов для самообеспечения своего дальнейшего прогресса. *Практическое значение* исследования состоит в предоставлении методико-прикладных инструментов поиска компромиссных решений при формировании сценариев развития социально-экономических отношений в разных регионах Украины, которые объединяют всю украинскую нацию для решения приоритетных задач, обеспечивающих максимальный социально-экономический эффект. *Значение/оригинальность.* Проведенное исследование позволило подтвердить полученные результаты: сценарии социально-экономических отношений должны формироваться вокруг национальных идей; процесс формирования сценариев должен детализировать выполнение и реализацию сценариев, исходя из приоритетности, включенных в них программ, удовлетворяющих потребности общества; приоритетность программ следует выбирать по степени их оптимальности и существующих ограничений в системе социально-экономических отношений; оптимальность устанавливается по выбранным обществом ориентирам, характеризующим ожидания населения.