

## Forecasting of cross-border regions development: scenario approach



### Collective monograph

Vasyl Kyfiak  
Carmen Năstase  
(editors)



Universitatea  
Ștefan cel Mare  
Suceava

Facultatea de  
Științe Economice și  
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Chernivtsi Institute of  
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# **Forecasting of cross-border regions development: scenario approach**

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Vasyl Kyfiak  
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Editors,

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**Reviewers:**

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The monograph covers theoretical, methodological and applied aspects of scenario forecasting of social and economic development of cross-border regions. Scientific research contributed to the systematization and synthesis of theoretical provisions of scenario forecasting, determination of scenario approach methods and peculiarities of their use in the development strategies of cross-border regions. Based on the comprehensive analysis of the socio-economic development of cross-border regions, the positioning of the regions of Ukraine according to the level of effectiveness of the use of development potential and the state of social development of cross-border regions (on the materials of cross-border regions of Carpathian region) was assessed.

Attractive dominant of optimistic scenario of social and economic development of cross-border regions is substantiated in this work, priority directions and scenario mechanisms of their implementation are proposed. Based on the example of trade enterprises of the region the Strategy for the Development of Competitiveness has been developed.

Research is intended for employees of local self-government bodies, specialists in regional economics, scholars and students.

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## DEAR FRIENDS!



In front of you is the monograph of the composite authors of Chernivtsi Institute of Trade and Economics of KNUTE and Stefan cel Mare University in Suceava, in which on the basis of scientific research, use of modern approaches, complex analysis and testing, a scenario approach for the forecasting of social and economic development of cross-border regions is offered.

This is a great scientific work, where, based on the example of the Carpathian region, the conceptual foundations of cross-border regions cooperation in the context of the development of scenarios for the social and economic development of the cross-border regions were formed and peculiarities of scenario forecasting methods in the development strategies were determined. The positioning of the cross-border regions according to the level of the efficiency of economic potential is made. Priorities and attracting dominants of optimistic scenario of socio-economic development of cross-border regions were set up.

Carpathian region is a hinterland cross-border region of Ukraine with an extremely complicated history, the largest variety and differentiation of natural conditions and resources, a diversified industrial and agrarian structures of the economy and a developed recreational and tourist economy. It takes advantageous economic and geographical position in the contact zone of Ukraine with Poland, Slovakia, Hungary, Romania, Moldova, and is a part of the Euroregions "Carpathian" and "Upper Prut".

That is why this scientific research is extremely important in developing concepts and strategies based on the use of available economic, human and natural resource potential, favorable geographic and geopolitical location, to achieve a qualitatively new level of

efficiency and competitiveness of the economy and a significant increase of one of the main parameters of social -economic development of the cross-border region - the life standard of the population in this region.

***Head of Chernivtsi Regional Council, I. MUNTIAN***

## DEAR FRIENDS,

As a professional working in cross-border cooperation in the last twelve years I salute the issuing of this monography as a more than welcome initiative that is illustrating a good result of the partnership in one of the most important fields – research.



After two generations of cross-border programmes funded by European Union that mainly supported projects in economic and infrastructure area it is a great benefit that there are cooperation projects outside the frame of the European Union's support.

In the spirit of the general assumed objective of cross-border areas development, both economic and social, the forecasting that combines theoretical developments and economic practice and the scientific well-argued possibility of scenario choices smooths the process of a general model formulation with the expected results of needed economic changes, determining the necessary resources for their achievement. This is a mandatory step before field work on specific cross-border regions that may use the theoretical background in order to prepare their own tools for development.

Nevertheless, both in the scientific background preparation and in the field application of the research results, some important principles are compulsory: partnership, joint preparation, joint working teams, joint use of available resources and a strong joint orientation toward the objective of cross-border region development.

The present monography proves to be a good model of cooperation in the spirit of the above mentioned and a brick for consolidation of the Romania-Ukraine border area.

***Executive Director Marcela SLUSARCIUC,  
Regional Office for Cross-border Cooperation Suceava for the  
Romanian-Ukrainian Border***





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## **PREFACE**

Factors which will update the need for in-depth research of forecasting socio-economic development of the regions of Ukraine are: avoiding the centralized model of governance in Ukraine; ensuring the capacity of local self-government and building an effective system of territorial organization of power in the state; full implementation of the principles of subsidiarity, universality and financial self-sufficiency and the provisions of the European Charter of Local Self-Government.

Particular attention is needed to the development of cross-border regions. The borderline location and the availability of contact facilities contribute to the development of cross-border trade, joint production activities, in particular, specialization and cooperation of production, construction of transport infrastructure, increase of efficiency of use of natural resource, labor, industrial, scientific potential, which in general requires justification of strategic prospects for its socio-economic development.

An important component of the mechanism of regional economic policy is forecasting which combines theoretical developments and economic practice. The choice of a scenario approach to forecasting socio-economic development of cross-border regions enables not only to formulate a general model with the expected results of economic transformations, but also determines the necessary resources for their achievement.

Economic indicators of regions of Carpathian region, state social standards, ethnic and national peculiarities of the regions, the state of cross-border cooperation, in particular, Carpathian and Upper Prut Euro-regions, etc., became the basis for forecasting social and economic development of cross-border regions.

The monograph is presented in such a way as to give the reader the best idea of the possibility of using the scenario approach in forecasting socio-economic development of cross-border regions and selecting scenarios for their further functioning.

The paper focuses on theoretical and methodological principles of scenario forecasting of socio-economic development of cross-border regions, their complex analysis and positioning, selection of appropriate scenarios and their implementation.

An important place is devoted to the references after each section. This will allow any reader interested in a more detailed study of scenario forecasts to form the information base he needs independently.

The author's team consisting of Doctors of Sciences, Professors V. Kyfiak, Yu. Koroliuk, V. Luchyk, S. Luchyk, candidates of sciences, associate professors I. Losheniuk, O. Verstiak, B. Korop tried to draw attention to the use of scenario forecasting methods in their studies. When developing strategies for the social and economic development of cross-border regions.

## **THE ECONOMIC DEVELOPMENT OF BORDER REGIONS**

Ukraine and Romania share a complex history long borders and common interests, after Romania has joined the EU, the Cross border cooperation between both countries evolved drastically. Beyond the practical aspects and the procedures, the cross border cooperation needs common bases of understanding and common cultural characteristics than can facilitate the exchange at several levels and developed a long lasting strategy. In the last years the European Union is putting considerable efforts for developing the cross border cooperation with the neighboring countries. Institutions, projects and associations has been mobilized for several years.

Romania and Ukraine as example of two countries that share important borders, common history and close structure of the institutions. That attracts the interest for a comparison between the Romanian and Ukrainian Cultures and explore the potential helpful common characteristics and the possible source of conflict divergences.

Economic Integration and Economic Development of Border Regions, is one of the most importance not only for our regions, but also to help us understand the process of European Integration and some of the main European Union policies. Understanding this process may also help us understand some internal developments in our own countries, and help us make better informed decisions.

In a world of cooperation, the Interest subnational processes of cooperation across state borders has been brought to the center of states preoccupations by the political and economic changes that occurred after the second world war and the cold war.

In order to give a right definition to the cross border cooperation, we might need to start by defining what a “cooperation” is. One of the most accurate definitions says “Cooperation is the process of working or acting together for a common purpose or benefit”<sup>1</sup>. Applied on a cross border level, we can say that CBC is the cooperation across borders between two or more countries or regions. To the European commission there is a difference between direct and indirect CBC. The direct CBC being a cooperation between countries and regions sharing the same borders in order to generate benefits and reach common goals. We can distinguish three types of CBC, cooperation within local cross-border spaces; cooperation between regions beyond local borders; and transnational networks concerning cities or groups of cities.

The European commission considers the cross border cooperation as “a key element of the EU policy towards its neighbours. It supports sustainable development along the EU’s external borders, helps reducing differences in living standards and addressing common challenges across these borders.”<sup>2</sup> The European commission actually uses the CBC to promote cooperation between EU countries and their neighboring countries sharing a land border or sea crossing. They use partnerships, common projects and Funding to reinforce the CBC with neighbours that share their borders or the same sea basin.

To the EU, the CBC has mainly 3 objectives:

- Economic and social development in border areas;
- Facing common challenges (environment, public health, safety and security);

---

<sup>1</sup> Steven Blockmans, Adam Lazowski (2006), *The European Union and its Neighbours: A Legal Appraisal of the EU’s Policies of Stabilization, Partnership and Integration*, ch.6, pp. 273-274; [http://www.europaforum.or.at/data/media/med\\_binary/original/1073901820.pdf](http://www.europaforum.or.at/data/media/med_binary/original/1073901820.pdf)

<sup>2</sup> [https://ec.europa.eu/neighbourhood-enlargement/neighbourhood/cross-border-cooperation\\_en](https://ec.europa.eu/neighbourhood-enlargement/neighbourhood/cross-border-cooperation_en)

- Setting better conditions for persons, goods and capital mobility.

For all the objectives to be attained, projects need to be implemented and communication between both sides of the borders should be held. And this is where an understanding of both Romanian and Ukrainian culture and their approaches can be helpful for a more effective collaboration.

European integration is mostly about the creation of a common market, by eliminating barriers to the free movement of goods, services, capital and workers. It is well known, from the writings of great economists such as Adam Smith, that free international trade can allow countries to specialize in the production of those goods in which they are more efficient, which in turn leads to gains in productivity and higher standards of living. The European Union common market can be seen as a trade liberalization initiative, which in principle would contribute to the achievement of these benefits.

But the effect of EU liberalization on economic development is not so clear-cut, because the kind of liberalization the common market provides is of a special kind: it is discriminatory. European integration means the elimination of barriers with other EU member states, while the barriers with third countries are maintained and, in some cases, increased. It has been argued sometimes that the EU is very open inside its borders but much closed to third countries. The proponents of this argument have even coined the expression of a “Fortress Europe”.

With the contribution of economists such as Jacob Viner, we now know that discriminatory trade agreements such as the EU produce not only positive effects, what is known as “trade creation”, but also negative effects that are known as “trade diversion”. Trade diversion means that trade is diverted from a more efficient exporter towards a less efficient one by the formation of a free trade agreement or a customs union.



When a country applies the same tariff to all nations, it will always import from the most efficient producer, since the more efficient nation will provide the goods at a lower price. With the establishment of a bilateral or regional free trade agreement, that may not be the case. If the agreement is signed with a less-efficient nation, it may well be that their products become cheaper in the importing market than those from the more-efficient nation, since there are taxes for only one of them. Consequently, after the establishment of the agreement, the importing country would acquire products from a higher-cost producer, instead of the low-cost producer from which it was importing until then. In other words, this would cause a trade diversion.

The relative size of the trade creation and trade diversion effects will depend of who the most efficient producer was before European integration took place. If the most efficient producer was already inside the EU, the increase in trade will represent pure trade creation. If the most efficient producer was outside the EU, trade diversion will have a greater weight. It is thus important to know who the natural trading partners are before a decision on European Integration is taken.

There have been several empirical studies, some of them financed by the European Commission, to assess the net welfare effect of the single market in terms of trade creation and trade diversion. Almost all of these studies conclude that European Integration has had a net positive effect for EU member states.

But all these studies have in common that they look at the welfare effects of integration in the EU single market from a national perspective. They calculate the difference between the trade creation and trade diversion effects at country level, neglecting any regional differences inside member states.

This makes sense if we have regard to the fact that, in the simple model presented above, all Romanian consumers benefited from lower prices after EU integration, and it was only the government's finance that lost from the reduction in tariff revenue

from its imports from Ukraine. As this revenue accrues to the national government, no region should be particularly harmed.

A simple gravity model of trade can help us understand that the distribution of trade creation and trade diversion effects will not be evenly distributed across regions inside the same country, and that border regions can be the ones that benefit the most (EU internal border regions) or suffer the most (EU external border regions) from European integration.

This has important implications for the economic development of regions like Chernivtsi as a consequence of the process of integration of Ukraine in the European Union. The argument presented so far means that the region of Chernivtsi, as an EU internal border region, is likely to be among the winners from European integration.

Also the region of Suceava is likely to benefit greatly if Ukraine proceeds with its current European integration trend. The negative trade diversion effects that we saw in the last years will be turned around into trade creation gains if the barriers to trade with Ukraine are eliminated.

But the argument developed so far can also help us understand the regional cleavages that the European integration process has produced among Ukrainian regions, which has literally divided the country around this issue. The argument developed here may help us understand some of the sources of this division. Border regions such as Donetsk or Lugansk, if the process of Ukrainian integration continues, risk becoming EU external border regions, with all the risks associated to the new peripheral status.

The European Union has a well-known policy of structural funds to assist regions in economic difficulty, and the North-East region of Romania is well aware of that, but not everyone may agree that this is the optimal solution. In a time of deep economic crisis and national divisions inside the EU, the faith some have in such policies is also limited.

An appropriate neighborhood policy is essential for the future of the EU. European integration is an important process with important potential gains, but it is also important for the EU to have an appropriate neighborhood policy that maximize these gains. Border regions like Bukovina know the importance of this and have a special role to play in this debate.

***prof. Ph.D. Carmen NASTASE***  
***dean Faculty of Economics Sciences and Public Administration***

## FOREWORD



In front of you is the monograph of the composite authors of Chernivtsi Institute of Trade and Economics of KNUTE and Stefan cel Mare University in Suceava, in which on the basis of scientific research, use of modern approaches, complex analysis and testing, a scenario approach for the forecasting of social and economic development of cross-border regions is offered.

This is a great scientific work, where, based on the example of the Carpathian region, the conceptual foundations of cross-border regions cooperation in the context of the development of scenarios for the social and economic development of the cross-border regions were formed and peculiarities of scenario forecasting methods in the development strategies were determined. The positioning of the cross-border regions according to the level of the efficiency of economic potential is made. Priorities and attracting dominants of optimistic scenario of socio-economic development of cross-border regions were set up.

Carpathian region is a hinterland cross-border region of Ukraine with an extremely complicated history, the largest variety and differentiation of natural conditions and resources, a diversified industrial and agrarian structures of the economy and a developed recreational and tourist economy. It takes advantageous economic and geographical position in the contact zone of Ukraine with Poland, Slovakia, Hungary, Romania, Moldova, and is a part of the Euroregions “Carpathian” and “Upper Prut”.

That is why this scientific research is extremely important in developing concepts and strategies based on the use of available economic, human and natural resource potential, favorable geographic and geopolitical location, to achieve a qualitatively new level of efficiency and competitiveness of the economy and a significant increase of one of the main parameters of social -economic development of the cross-border region - the life standard of the population in this region.

***Head of Chernivtsi Regional Council, I. MUNTIAN***

## FOREWORD

As a professional working in cross-border cooperation in the last twelve years I salute the issuing of this monography as a more than welcome initiative that is illustrating a good result of the partnership in one of the most important fields – research.



After two generations of cross-border programmes funded by European Union that mainly supported projects in economic and infrastructure area it is a great benefit that there are cooperation projects outside the frame of the European Union's support.

In the spirit of the general assumed objective of cross-border areas development, both economic and social, the forecasting that combines theoretical developments and economic practice and the scientific well-argued possibility of scenario choices smooths the process of a general model formulation with the expected results of needed economic changes, determining the necessary resources for their achievement. This is a mandatory step before field work on specific cross-border regions that may use the theoretical background in order to prepare their own tools for development.

Nevertheless, both in the scientific background preparation and in the field application of the research results, some important principles are compulsory: partnership, joint preparation, joint working teams, joint use of available resources and a strong joint orientation toward the objective of cross-border region development.

The present monography proves to be a good model of cooperation in the spirit of the above mentioned and a brick for consolidation of the Romania-Ukraine border area.

***Executive Director Marcela SLUSARCIUC,  
Regional Office for Cross-border Cooperation Suceava for the  
Romanian-Ukrainian Border***

# **CHAPTER 1. THEORETICAL AND METHODOLOGICAL BASIS OF SCENARIO FORECASTING OF SOCIO - ECONOMIC DEVELOPMENT OF CROSS-BORDER REGIONS**

## **1.1. Theoretical basis of scenario forecasting of socio-economic development of cross-border region**

Scenario forecasting of socio-economic development of cross-border region requires the elaboration of appropriate theoretical providing, in particular: investigation of conformities to regularity of economic processes of regional development taking into account terms, characteristic features and determination features of cross-border territories, establishment of forecasting principles, elaboration of plans, grounding of perspectives and variant forecasting of its future economic development. It is significant to ground theoretical principles of scenario forecasting and alternative ways of socio-economic development of cross-border region taking into account its economic, natural-resources, labour, scientific potential, value priorities and necessity of maintenance natural environment for future generations.

Separate theoretical aspects of scenario forecasting are investigated on the basis of statistical and informative data in Chernivtsi region using situational and complex analysis, synthesis, induction and deduction and other scientific methods of research. Using induction, as a scientific method of research, will provide the realization of situational analysis of indexes of different types of economic activity. Using deductive method of scientific research assists in integral consideration of factors of influence on a region and its meaning for the certain type of activity. The pre-conditions of elaboration of scenarios forecasting of socio-economic development of cross-border region are set on the example of the Chernivtsi region. On the basis of natural-resource, economic,



labour and scientific potential and frontier possibilities competitive advantages and priority ways of socio-economic development of Chernivtsi region are determined. It is reasonable to offer an integrated strategy of Chernivtsi region development in a period till 2020 taking into account theoretical bases of scenario forecasting.

Forecasting of socio-economic development of the region foresees the scientific grounding of the possible state of the region in future, alternative ways and terms of its achievement. Development of forecasts is based on the scientific methods of cognition of the economic and social phenomenon and using numerous methods, means and facilities of economic forecasting.

Elaboration of different scenarios of socio-economic development of regions under the conditions of civilization changes foresees the investigation of theoretical principles and further development of the methodological approaches to the grounding of scenario forecasting that aims to achieve socio-economic progress in future. Separate research is necessary for theoretical basis of scenarios elaboration of socio-economic development of cross-border region. There is an obvious necessity for: - research of conformities of economic processes of the regions development taking into account conditions, specific character and features of cross-border areas; - the formation of forecasting principles and working out plan; - grounding of perspectives of economic development and future socio-economic development.

In modern economic science theoretical and applied approaches for selection choices and grounding of scenarios of socio-economic development of regions are adequately presented. These problems were widely investigated by Ukrainian and foreign scholars. For example, such scientists as Gaponenko and Pankhyrin (2004) state that the following issues are very important for forecasting of socio-economic development of the region: - determination of the aims of development; - analysis of regional environment; - definition of strengths and weaknesses of the region; - using new local advantages; - elaboration of development conception; - working out plan of certain actions and realization of

strategy; - analysis of an efficiency and effectiveness; - adjustment of aims and methods of their achievement [1, p. 199].

Dorohuntsov, Piturenko, Oliinyk (2000) examine regional development not only through the prism of natural and geographical conditions, but “review regional development in a certain combination of socio-economic, demographic, cultural, ecological and other features” [2, p. 93]. Such approach is also supported by the scientists V. Lushyck (2012), who offers systematic and complex development of the region in the way of economic integrity, social orientation and ecological safety that is extremely important for a cross-border region [3, p. 3].

Today economic activity and its connections with a culture play a significant role in regional development. Scientist as Huggins and Thompson (2014, December 6) based on the results of multidimensional spatial analysis of data from cities in Great Britain indicate that “differences in rates of entrepreneurship are strongly influenced by the community culture present in the areas” [4, p.732]. Moreover, Petrakis, - the author of “Economic growth and cultural changes” also addressed to this problem. He, except basic factors of influence on the economic growth, points out cultural background as a part of other factors that takes an important role in economic growth. The results of his research show, that “cultural background positively affects annual growth rates” (Petrakis, 2013) [5, p. 154]. Another scholar Wu analyses the influence of culture on modern economic achievements and progress. We examine the interactions among the three dimensions and shed light on some old debates” [6, p. 158].

Significant contribution to economic forecasting and modeling of Ukrainian regions is done by academician of NAS of Ukraine - Bakaiv. Under his direction the methodology of construction complex of models of forecasting of socio-economic development of regions in Ukraine was worked out in International Research and Training center of information technologies and systems UNESCO/MPI NAS of Ukraine and Ministry of education and science of Ukraine. This methodology takes into account

influence of main macroeconomic factors and gives an opportunity to get prognoses that represent the alternative variants of the development (Bakaiv, 2008) [7, p. 87].

Another academician of NAS of Ukraine - Gaiec offers to pay considerable attention to forecasting and design of development of innovative and active enterprises financed by innovative-oriented projects that stimulate economic growth and realization of structural reforms in the regions (Gaiec, 2003) [8, p. 128].

Implementation of scenario forecasting of regional development is reflected in works of Capello, Camagni, Chizzolini, Fratesi (2008).

They consider that recommendation of strong regional policies or long-term development strategy is a result of elaboration of scenario (Capello, Camagni, Chizzolini, Fratesi, 2008) [9, p.2]. At the same time Carter and La Rovere think that scenario is a successive and plausible description of possible future (Carter & Rovere, 2001) [10, p.190].

With regard to the development of cross-border regions these problems were investigated by the following scientists: Barbier, Gradus, Lithwick etc. Barbier (2005) considers the following: "it is always optimal for an economy to choose the maximal variant of border expansion and collaboration, which can guarantee a direct economic boom... The cross-border oriented economic development is characterized as a model of capital investment, technological innovation, social and economic development and dependence on "open" new borders" [11, p. 286].

In particular, Gradus and Lithwick (1996, May 7) say the following: "frontiers are intimately linked with territorial definition. At the macro level frontier areas are those areas that are formally recognized at both meso- and micro levels and are spatially limited areas (territories) connected with mutual usage of existing and potential resources, solving of intergroup conflicts and mutual functioning in the single market" [12, p. 27].

“Understanding of reasons of economics growth and development remains central task of economy” [13, p. 769] considers Williamson (2012, December), who dedicated his own researches to formal and informal activities, economic, political, social and legal institutes of certain region.

At the same time, studying the issue of scenario forecasting has not got sufficient development in Ukraine, especially in part of theoretical grounds of the use of method of scenarios in the development of strategies on middle- and long-term perspective in cross-border regions.

It is significantly important to ground theoretical principles of scenario forecasting and alternative ways of socio-economic development of cross-border region taking into account its economic, natural-resource, labour, scientific potential, valued priorities and necessity of maintenance of natural environment for future generations.

Vermenych (2003) offers to carry out the research activity in a cross-border region on the basis of the interdisciplinary approach aimed at the study of conformities of process of regionalization of country taking into account natural-geographical, historical, ethno-cultural, economic, and social-demographic factors. [14, p. 66-67].

Research of theoretical bases of scenario forecasting of socio-economic development of cross-border region is held on the basis of analysis of works of Ukrainian and foreign scholars who determine the essence of cross-border region, its specific character and show theoretical-applied approaches to the choice and grounds of scenarios of socio-economic development of regions. Attention is paid to the sense of frontier aspect and aspect of periphery and to their influence on elaboration of scenarios of strategic development. On the example of Chernivtsi region, as a cross-border region, it is planned to study economic situation and to define the basic types of economics.

The use of induction, as scientific method of research, will provide realization of situational analysis of indexes of different types of economic activity in Chernivtsi region and their influence

on general socio-economic state of the region. The deductive method of scientific research will assist in integral consideration of factors of influence on a region and their meaning for the certain type of activity.

The study of exogenous and endogenous connections of the region, establishment of advantages of Chernivtsi region, totality of receptions and ways of thinking on the basis of analysis of retrospective data and prognosis analysis will allow defining the methods of socio-economic forecasting.

The basic principles for the determination of the basic principles of forecasting and developing of variant scenarios of socially-oriented economy of the cross-border region will be the main components of Chernivtsi region economic and regional characteristics of economic activity, the nature of the use of natural resources, and economic value priorities of the region, as well as a competitive advantage of the region.

It is known that the basis of forecasting of socio-economic development of the region is the supposition of future state of regional economy and largely predetermined by its past and present states. The future carries in itself the elements of uncertainty. It is explained by a presence of not the only, but multiple possible developments. It is important that the action of economic laws in future depends not only on the past and present state of economy but also on administrative decisions that must be accepted and realized in future.

Scenario forecasting, as one of intuitional methods of economic forecasting, is based on determination of logic of development of regional economy based on a certain situation (making of problems solution algorithm). Ukrainian scholar V. Luchyck considers that multilevel character of regional development aims can be presented as the following algorithm:

- Forming general aim of state development and its regions, and strategic aims that are connected with it;

- Forming of certain aims of regional development and their sequence with the strategic aims of a macro level;
- A construction of hierarchy of regional development aims, their estimation and working out in detail in time and space;
- A design and choice of quantitative values of aims [3, p.108].

The basic purpose of scenario forecasting of socio-economic development of region is the determination of general aim of regional development, successive reflection of decision of the determined tasks, discovering of possible barriers and disadvantages.

As for scenarios of socio-economic development of cross-border region, they must take into account character of social, economic and ecological problems on balanced resources usage, features of cross-border cooperation, mentality of habitants of region, ethnic relations and spatial development in general.

Kravtsov considers that a cross-border region is a region with a state boundary and is characterized by wide possibilities of interregional and cross-border cooperation with neighbourhood regions and states” [15, p.7].

Milashowska (2010) determines that the cross-border region is a part of economic territory of sovereign state that borders on one or a few foreign countries, it is characterized by geographical integrity, specific natural and climatic and economic-social terms, placing and development of productive forces, participating in a cross-border cooperation and international division of labour [16, p.72].

In our opinion, a frontier region is administrative and territorial unit that is situated on the following after the state level and located directly along a state boundary. This determination is consonant with the determination of “region” concept by the Assembly of European Regions, where the region is determined as the territorial public legal unit-subject, formed at a level that is

directly below the state level, and conferred with the authority of political self-government. A region will be determined by national constitution or by legislation that guarantees its autonomy, originality, competence of authority and organizational structure [17].

Thus, the peculiarity of cross-border regions is that they have close intercommunication with contiguous territories of the neighbourhood states, and territory that belongs to them is under the influence of the state boundary. The contact function of cross-border region foresees the necessity of creation of corresponding terms for the stable functioning of social, communal, trade, transport, bank-financial infrastructures with the aim of steady socio-economic development of frontier territory.

Chernivtsi region as a cross-border one certifies that two interrelation aspects, such as frontier aspect and aspect of periphery have significant influence on socio-economic development.

A frontier aspect (border with Romania and Republic of Moldova) is related to the implementation of barrier, contact, diffuse and other functions, which are characterized by openness and penetrating and are expressed as effects of alienation, coexistence, cooperation and integration. Chernivtsi region belongs to cross-border regions with the high degree of contact that is confirmed by:

- Length of state boundary with Romania and Moldova by an extent of 404,4 km, including: with Romania - 226,4 km, with Republic of Moldova - 178 km, that makes almost 48% of all border area;
- Large quantity of persons, who cross the borders with neighbourhood cross-border countries;
- Existence of car and railway ways of regional, state and international importance;
- A number of check-points;

- Connection of 7 districts of the region to state boundary (Passport of Chernivtsi region) [18].

The aspect of periphery is conditioned by remoteness from the centre. Chernivtsi region, as a peripheral area of Ukraine, became the social-economic center in a particular sense, and the border and cross-border relations have considerable influence on its life. And if to take into account the work of the Euro-region “Upper Prut” and simplified procedure of crossing the border with Romania for inhabitants, who live in a 30-kilometre zone from the border, which will come to force in 2015, thus the concept of cross-border cooperation provides not only a collaboration of nearby regions for both side of a border, but as single economic space [19].

On the example of Chernivtsi region, can be observed that important pre-condition of elaboration of scenarios forecasting of socio-economic development of cross-border region is an analysis of natural-resources potential, state of socio-economic situation, and possibilities of expansion of economic cooperation with the cross-border regions of nearby countries.

Natural resources of the region are the basis for elaboration of different scenarios of socio-economic development. Professor Rudenko (1999) investigated natural-resource potential of Chernivtsi region. So, he considers that in comparison with national, mineral resources of Chernivtsi region is 0,658 %, land resources - 6,354 %, forest resources - 1,596 %, water resources - 2,324 %, fauna resources - 0,027 %, recreational resources is 1,744% (Rudenko, 1999) [20, p.107]. There are 4 oil-and-gas bearing deposits on the territory of the region (Lopushnianske, Chornoguzke, Krasnoilske, Sheremetivske). Here are such considerable natural minerals as gypsum and anhydride, quartzite, slates, kitchen salt. The north and east districts of the area are rich on marls and limestone. Mineralogical resources of Chernivtsi region include the deposits of mineral waters as “Izhevsk”, “Matsesta”, “Borzhom” and “Naftusia”. The inexhaustible supplies of curative mineral waters of various chemical compositions are



connected with geological structure and tectonic terms of the region (especially in the south part). Over 60 deposits of mineral waters are found out and, it is known, that these curative mineral waters can be used for treatment of many diseases.

Region has many components of recreational resources, that is why Chernivtsi region is potential recreational region of multi-field cognitive rest and balneal treatment. Three balneal health-resorts operate on the base of mineral springs are in villages Brusnytsia, Sherbyntsi and in Chernivtsi city. Correlation of natural recreational resources on 1 square km of the territory to 1 inhabitant is accordingly in 1,4 and 1,8 times higher than the average in Ukraine.

Chernivtsi region belongs to the industrially-agrarian category of regions in accordance with the structure of production. During the last years economic activity of area shows stable increasing in many indexes, it is due to the active supporting of traditional types of activity. Thus, industry and agriculture occupy a leading place in the economy of Chernivtsi region.

Over 250 industrial enterprises are located in Chernivtsi region. Such types of economic activity prevail in a structure of realization of industrial products such as: supply of electric power, gas, pair and conditioned air, production of food products and drinks, light industry, machine engineering, chemical and petrochemical industry, its part in the general volume of the realized products of area in the last year was 86,6% (An investment passport of Chernivtsi region, 2013) [21, p. 11].

Assortment of industrial products that is produced in a region constantly broadens and conquers new markets. For example, the production of petrochemical equipment is the leading in machine engineering; the production of saw-timbers, plywood, furniture is the leading in forest and woodworking industry; the production of brick, tarred roofing paper, ceramics, reinforce-concrete constructions is the leading in industry of building materials; the production of sewing and knitting wares, cotton fabric are leading in the textile industry; the production of

sugar, bakery goods, alcohol, sunflower-seed oil, meat, milk, fruit and vegetable can food is the leading in food industry.

Industrial potential of the area is presented as old and new industrial enterprises, the volume of production is 0,45% of a national volume.

No less important influence on socio-economic development of the region has agriculture. In 2013 the products of agriculture produced more than 4514.5 million UAH, that is 1,8% of a national index (Annual statistics of Chernivtsi region, 2014) [22, p. 195].

Trade, restaurant, hotel and tourist business are actively developed in a region. A volume of services in 2013 is 1622927 UAH (Annual statistics of Chernivtsi region, 2014) [22, p. 275].

A gradual increase of important economic indicators in the area is basis for development of positive scenario of socio-economic development of the territory in future. Gaffeoa and Canzian (2011) consider that dynamics of basic economic indicators and mechanisms of public expectations play a key role in determination of the efficiency of current macroeconomic affairs of stabilization [23, p.660].

The situational analysis of indexes of different types of economic activity in Chernivtsi region supports the determination of their influence on general socio-economic development of the region and is a basis for elaboration of corresponding scenario forecasting with regarding to priority and significance of every direction. Such approach allowed using the objective method of scientific research that fits the most for system description of interests, aims, resources, tactician of economic actors of cross-border region and connections between them. Establishment of certain factors of influence on the development of the region gives an opportunity to pass to their synthesis and generalization of properties that is characteristic for the objective method of research.

Labour potential plays an important role in strategic forecasting and in elaboration of different scenarios of socio-economic development. According to statistic data in Chernivtsi

region in January, 2014 the population was 908 500 people. There were 423 000 of economic active population, and 365 800 people of working age. Employment of population of region in different types of economic activity made 391 600 people (Annual statistics of Chernivtsi region, 2014) [22, p. 360]. And it is important to consider that profitability and potential of the region is increasing if the personnel shows not only socio-economic class, but high potential of human resource (Anderson & Miller, 2003) [24, p. 17].

Considerable scientific potential is concentrated in Chernivtsi region. Here the research institute of thermo-electricity of NAS of Ukraine, Chernivtsi departments of institute of world economy and international relations of NAS of Ukraine, institute of material science of NAS of Ukraine, Chernivtsi affiliation of Institute of organization of the use of land and Kyiv institute of automation, carry out their activity.

The peopleness is carried out by 17 higher educational establishments of I - IV of degrees of accreditation, where there are 225 doctors of sciences, 1172 candidates of sciences, 197 professors, 724 associate professors (Annual statistics of Chernivtsi region, 2014) [22, p. 461]. Besides, 19 doctors of sciences, 93 candidates of sciences (Investment passport of Chernivtsi region) [21, p. 323], work in scientific establishments.

The feature scenario forecasting of socio-economic development of cross-border region is that cross-border territories are combined by general history, cultural acquisitions, ethnic relations, traditions, customs, and ceremonies. For example, Ukrainian authoress Olga Kobylanska and Romanian greatest poet Mighai Eminescu were born in Romania, but studied and spent greater part of their life in Chernivtsi (Ukraine). And there are a lot of such examples.

Petro (2006) considers that correct combination of cultural symbols and traditions can allow region reformation. Thus even societies with little democratic traditions have potential for objective political and economic growth, because the use of key

local cultural symbols and traditions of the past can convert the “load of the past” into powerful changes of resources [25, p. 957].

Scenario forecasting of socio-economic development of cross-border region forecasts the study of the issue connected with dynamics of living standards of the population, incomes, demography, consumption of foodstuffs and life-support goods, development of social infrastructure and etc.

Complex analysis of the combined factors influence the development of cross-border region and their importance for the certain type of activity gives an opportunity to apply the deductive method of scientific research. Advantage of deductive method of research is integral consideration of factors of influence on a region, which allows investigating the system effects of influence on input parameters into output parameters.

Researches certify that economic politics in a region is directed to expansion of connections with the cross-border regions of the nearby states, creation of start-ups, realization of innovative projects, taking in of investments including foreign investment in the fixed asset of priority industries in the economy.

Thus, taking into account economic, natural-resource, labor and scientific potential, frontier aspect and aspect of periphery, it is necessary to offer the next basic competitive advantages of Chernivtsi region for elaboration in forecasting scenarios of socio-economic development of the region:

- The economy of the area is aimed at the innovative-investment model of development, cross-border cooperation and development of transit networks;
- Favourable economic-geographical position on crossing ways of Central, East and South Europe, borders with Moldova and European Union (Romania);
- The functioning of the European region “Upper Prut”;
- The powerful scientific and educational centre;
- The climate is moderate to mildly continental;
- Good ecological situation.

Scenario forecasting of socio-economic development of cross-border region has two basic aims:

1. Forecasting and previous analysis of quality changes that can appear as the result of economic, technical or organizational events, under the conditions of vagueness of their realization.
2. Development of the region and establishment of a set of problems that can appear on the way to the achievement of this aim, terms determination towards the achievement of desirable aim.

It is important to make analysis not only of internal environment but also PEST- analysis (scan-out of environment). It is, in particular:

- A strategic analysis of political situation and political stability, current legislation, system of government control of the economy, estimation of risks of investments, action of public organizations and other;
- General economic situation analysis is a set of conditions of state's economy, credit and financial principles of cross-border region, investment climate, currency-financial terms and other factors;
- A strategic analysis of social factors of environment is an analysis of cultural and demographic factors, structure of consumption, lifestyle of population, tradition, customs, ceremonies and other, and also possible changes in these areas;
- Scientific and technical progress, technical innovations, modern changes in technologies of economic industries, using of international technologies and others like that.

Priority directions of socio-economic development of cross-border region appears as a result of such complex research, possible scenarios are elaborated and resources are determined necessary for their realization that must provide the economy growth and solving of social problems as an end-point.

The analysis of retrospective data and forecasting analysis, study of exogenous and endogenous connections of the region, set of Chernivtsi region advantages, and totality of means and ways of thinking, give an opportunity to define the methods of socio-economic forecasting and work out the different variants of scenarios. Such methods include:

- Intuitional methods of forecasting which are used in those cases, when it is impossible to take into account influence of many factors. Experts' estimations are used in this case;
- Searching methods of forecasting are the extrapolation and design, mapping and forecasting of analogies;
- Normative methods of forecasting, essence of which flows out of the determination of necessary facilities for the achievement of the corresponding state predictable scenario.

Thus, based on the main constituents of the economy of Chernivtsi region and taking into account the regional features of organization of economic activity, character of the use of natural-resource potential, important priorities of the region (multiethnic, dominant groups of ethnos, common language and religion), and also certain competitive advantages of the region, it is significant to offer such basic principles of scenario forecasting of the development of social-oriented economy:

- Principle of territory (geopolitical and geographical location of areas);
- Principle of scientific character (a grounds of forecast is taking into account objective conformities of socio-economic life of cross-border region);
- Principle of estimation of modern development of the economy in cross-border region;
- Systemic principle that forecasts complex approach in forecasting and corporate strategic planning;

- Principle of alternativeness of possible ways of regional development of the economy;
- Principle of being eco-friendly;
- Principle of combination of cross-border area location and rational use of all types of natural resources;
- Principle of coordination of cross-border public, collective and personal interests taking into account a multiethnic region, dominant group of ethnos, general ideology including languages, religions and others peculiarities.

Using methods and principles of socio-economic forecasting and development on their basis of a few scenarios of cross-border regional development, it is offered to work out the integrated strategy that will overcome all scenarios and will provide minimization of risks regardless of realization of events in future. Such Strategy of the development of Chernivtsi region in a period till 2020 must be elaborated taking into account the theoretical bases of scenario forecasting of socio-economic development, which foresees the optimal mastering of natural resources, expansion of cross-border cooperation, effective use of transit through the region and development of modern infrastructure.

A scenario method is directed to the forecasting and more difficult processes: dynamic development of international relations between neighbouring countries, including cross-border regions and their separate problematic directions. And that is why development of different possible scenarios of socio-economic development gives an opportunity to form the models of recommendations that will become the basis of further activity of regional and state authorities towards realization of one of the scenarios.

It is focused on setting up tasks and suggestions for local government of cross-border regions in elaboration of certain measures, acceptance of optimal current and perspective plans, based on the worked out scenario of socio-economic development

of cross-border region and estimation of made decisions taking into account their consequences in the forecast period.

## **1.2. Methodology of scenario forecasting of social and economic development of the regions**

The economic development of Ukrainian regions is characterized by the significant interregional differentiation; therefore the development of a scenario for regional development should be based on the implementation of systemic regional forecasts, which are differentiated by directions, sectors and time frames. When national aims are being formulated and implemented, their territorial dimension must be processed, considering not only national, but also regional priorities. Thus, a core of the methodology of scenario regional forecasting holds understanding and uses those laws, which operate not only in the state level, but also on its elements.

During the development stage of new market conditions in our country a choice of strategic economic management's methods, based on the timeliness and reliability of the received economic forecasts enacts an important role. It is impossible to obtain accurate forecasts for the solving increasingly complex tasks that our state faces without becoming proficient in modern scientific methods of modelling and forecasting.

Since the forecasting process is always carried out in conjunction with the planning and programming of state's development and its separate territories, the tasks presented in strategies, concepts, programs and other documents of the state level should be fulfilled also by the regions. First, it is related to the fact that a region is considered as a subsystem of the state, which takes over all the properties that belongs to the system in general.

The structural changes that have taken place in our country over the last decade have created the prerequisites for changes in the state regulation system of the regions' development. Thus, in



recent years the autonomy of the regions has increased, which are increasingly responsible for the results of regional economic development. However, the responsibility of state power is determined not only by responsibility for separate indicators of social and economic development, but also for choosing a strategic course and direction of state's development in general and its regions.

The experience of European and other countries worldwide on topics of regional development policy leads us to the conclusion that the actions of central and regional authorities have high risks to become partial and inconsistent, and finally not effective without a strategic approach. In addition, it will lead to the situation where some territories and regions suffering from a severe economic downturn will be facing a lack of resources. Therefore, all available resources must be used with a maximum effect.

The strategy forms the basis for an action plan (programmes) that determines what exactly will be done, how many resources should be allocated to achieve these goals, as well as which entities will take on obligations for their implementation. The search for effective models of regional socio-economic development determines the need for strategic planning use at all levels of public and local governments to find the most optimal regional development strategies, considering the priorities defined by "The Strategic for Sustainable Development Ukraine-2020" [26], "The State Strategy of the Regional Development of Ukraine to 2020" [27], and the Law of Ukraine "On Stimulating the Development of Regions" [28].

The strategic planning ensures a definition of goals and values of economic indicators for the main and most important directions of socio-economic development of the country and its regions. It can be successfully used not only in the development of comprehensive programs for socio-economic development of the regions, but also in the implementation of anti-crisis measures in

the regions, as well as in the management of large-scale infrastructure projects and other areas of regions' development.

It should be noted that the strategic issues of Ukrainian regional socio-economic development often not being considered as highly priority aims. The domestic science is not yet sufficient for theoretical research in the field of planning regional development, which is explained, firstly, due to the poor attention of scientists to this problem, and secondly due to the insufficient development of the planning itself.

The main issue to which the strategic plan of regional development today corresponds is how to overcome the crisis, to increase the level of inhabitants' well-being and make a proper foundation for its further improvement. The advantage is given to the implementation of all transformations - the creation of conditions that will ensure a decent quality of human life.

The starting point of any strategic plan should be an assessment of the real situation of a citizen in all aspects of its activities, the degree of its compliance with modern trends in developed world and the correlation with the goals. The level of region's social development is determined by its economic development.

Therefore, first, the economic development of the region is being planned, the key issues of which are:

- Attraction of new production capacities to the region;
- Renovation of production structure;
- Development of existing production lines, and, above all, the development of the life support infrastructure for the population;
- Creation of new high-paying jobs.

By definition of Gaponenko, the cycle of strategic planning of the economic development of the region can be represented as follows:

- Define goals for development;

- Analyze the external environment of the region's development;
- Define strengths and weaknesses of the region;
- Use of existing and creating new advantages on the local level;
- Prepare a concept of the development;
- Develop a plan of concrete actions and implementation of the strategy;
- Analyze efficiency and effectiveness, as well as adjust goals and methods for achieving them [29].

Some methods of the strategic planning, which are described in business planning, are already being widely used by the regional authorities. However, administrations of cities and regions still require a full implementation of all constructive elements of strategic planning and strategic management.

Due to the Law of Ukraine “On State Forecasting and Developing Programs of Economic and Social Development of Ukraine”, the term “plan” is practically not used, and it is replaced by the term “program”. The draft definition of the term “program” itself yet is not given. However, as you know, the process of programming differs from planning by defining a sequence of concrete measures for implementation of plans [30].

The prepared forecasts for the development of regions, in turn, could serve as guidelines for the formation of state’s regional policy strategies. However, the serious trouble for forecasting the priorities of the regions’ social and economic development is a lack of formalized procedures for achieving multidirectional aims of functioning of the individual regional subsystems. The informational incompleteness and the impossibility to quantify the goals and priorities of economic and social policies reduce the effectiveness of management decisions and the justification of the choice of strategies.

The increase of uncertainty and instability in the political and economic situation has led to a raise in the demand of using the

scenario approach for micro and macro forecasting. The more complex the structure of the investigated system, the higher the uncertainty of its development, which leads to a high probability of errors in the implementation of forecasts, even in the short term. The situation of uncertainty is determined by the incompleteness of the input data about the investigated system, the uncertainty of the processes occurring within the system, and the influence of the external environment as well as of the internal and external disturbance forces on it.

Consequently, there is a need in simultaneous implementation of many options of forecasting future situations. This principle is a fundamental in the transition from traditional extrapolation to scenario approaches.

Due to the mentioned statement, the development of forecast scenarios pursues two main objectives connected to uncertainty:

- The maximum possible reduce of uncertainty;
- Selected hypotheses, e.g. scenario variants of the system's development consequently should form a complete group of events.

The scenario method involves the creation of scripting technologies that provide a higher probability of developing an effective solution in those situations where possible, and minimizing the expected losses in those situations where losses are inevitable.

The scenario forecasting is a method for implementing an integral study of complex developing objects. This definition serves as the basis for the formation of a holistic procedure for conducting a complex scenario study on the object of forecasting. The conducting of a scenario study is a filling of object with a real content, which inherent only to this object. The whole set of procedures of this approach is based on a combination of meaningful logical-heuristic approach with formal methods of

studying systems, primarily, by means of economic and mathematical modelling.

Usually they are organized externally as interactive procedures, which involve the intelligence of researchers at different stages of the calculations. The characteristic of this forecasting tool is its strict orientation towards the goal of forecasting. They allow to distinguish the studied system from the functioning environment, determine the list of essential relationships, dependencies, indicators, parameters for the study, as well as to evaluate the functional and pragmatic suitability of certain mathematical methods of describing and examining the properties of the studied object. In general, the goal of scenario forecasts can be finalized to the following three basic statements or their various combinations:

- Observing the development of the system under various hypotheses related to the mechanism of formation of this development;
- Detection of critical situations, e.g. “bottlenecks” in the development of the system;
- Development and evaluation of effective strategies for solving problems of future development.

The first two objectives of the study correspond to the passive function of forecasting, while the latter reflects its active component. Thus, as any method of a scientific knowledge, the scenario forecast realizes all main functions of scientific research: descriptive, explanatory and predictive functions.

In general, the construction of scenarios is aimed at solving two main problems: a description of key aspects connected to the development of studied object and a preparation of completely different variants of its dynamics; a comprehensive analysis and evaluation of all options, as well as the study of its structural features and possible implications of implementation.

Therefore, a scenario is always considered as dynamic, e.g. when the “history” of the studied object is being investigated in

time and space. Consequently, in such space, a separate scenario is vector or trajectory, which shows a change in the characteristics of the system during the given series of iterations.

For choosing methods, the depth of prevention forecasts is an important indicator too. It is necessary to know the duration of the evolutionary development cycle of the forecasting object in addition to the absolute value of the mentioned indicator. For such purpose, you can use the dimensionless index of depth forecasting  $\tau$  by found by Bilokon [31]:

$$\tau = \frac{\Delta t}{t_x},$$

where  $\Delta t$  – an absolute time of prevention;

$t_x$  - a magnitude of the evolutionary cycle of the forecasting object.

To include also discounting, you should use following actions. The forecasting period is divided with the points  $\bar{t}_i, i = 1, 2, \dots, k$  into the equal intervals, afterwards the projective value of the model  $y(t)$  is being calculated at the point  $\bar{t}_1$ . Later, the input data are being changed as follows:

$$\begin{aligned} t_{i-1} &= t_i, (i = 2, 3, \dots, n), t_n = \bar{t}_1 \\ y_{i-1} &= y_i, (i = 2, 3, \dots, n), \quad y_n = \hat{y}(t_n), \end{aligned}$$

where  $\hat{y}(t_n)$  – is an estimated forecast values.

For the described input data, the forecasted value of the model is located at the point  $\bar{t}_2$ . The process continues until the predicted value of the model is found at the point  $\bar{t}_k$ .

The formalized forecasting methods effective when the depth of the forecasted warning lies at the verge of the

evolutionary cycle ( $\tau \gg 1$ ). When there is a “jump” during the forecasted period in the development of the object ( $\tau \approx 1$  or  $\tau \ll 1$ ), the scenario approaches are particularly effective in reducing the forecasted errors.

The goal of choosing an optimal strategy for the development of the region will be to choose an exact scenario that would provide an optimal value criteria that determines its position in a predefined time horizon. For such criteria, we can select only one indicator, for example, a gross regional product per capita, an income in the region per capita, or an integral index, is calculated a set of determined indicators.

The problems Ukraine faced are linked to the lack of a well-defined scenario for its political and economic development. The multi-vectoring direction in politics does not always provide a positive result in the end. The absence or unwillingness to implement the strategy of economic development on the state and regional levels has led to a disbalance of all sectors of the economy, as well as to the decline in industrial and agricultural production.

The implementation of the social and economic development policies in Ukrainian regions can be successfully implemented via using so-called 3D policies format - democracy, decentralization, and deregulation.

First of all, through the building a democratic society, there is an opportunity to ensure economic democracy, where social and economic relations are realized via economic interests, also guarantee control over political power, economic rights and freedoms, as well as economic power in general.

Regarding the decentralization of power, this process in Ukraine should have been completed long time ago. In a market economy, the importance of regional level power is highly increasing. The region's situation is always dual: there are centrifugal and centripetal trends that appears mainly in politics and the economy.

The economic independence of region is based primarily on its contribution to the satisfaction of internal needs of region and is determined by the degree of its autonomy from natural resources and raw materials from the other regions or countries. The economic policy of the state is aimed at strengthening the country's single economic space. Obviously, the economic policy of the state and regions should not resist each other.

Regarding the political independence of the regions, a local self-government in Ukraine is a completely independent from the state authorities. However, in fact, it still subordinated to regional state administrations and oblast councils. The President of Ukraine, based on the recommendation from the Cabinet of Ministers of Ukraine, appoints heads of regional state administrations, acts as a representative of the state in relations with regional authorities, as well as advocates national interests together with the interests of regions. As a guarantor of state sovereignty and national security, the President of Ukraine may suspend the actions of regional authorities if they threaten the territorial integrity of Ukraine, provoke separatism or any other centrifugal tendencies. The proposed changes to the Constitution of Ukraine in relation to state administrations do not weaken the influence of the state center on the regions, and in some aspects, even strengthen it more.

The experience of European countries is indicative for solving problems of effective development related to the self-government in regions. Local self-government is established there as a separate part of local authorities, is completely independent and separate from the state, and from the triad of the main authorities. In addition, local self-government is a main example of civil society's development: from the individual citizens and small groups to even self-governing communities of multimillion cities [32, p. 171].

Therefore, to carry out an effective reform of local self-government system, there should be adopted a number of legislative acts on local self-government based on the principles of priority of rights and freedom of citizens in terms of local self-government, clear legal regulation of communal property issues,



revenues of local budgets, as well as guarantees of the rights of local self-government bodies in relations with local executive authorities. The existing organizational and regulatory structure of statehood tightly links local government authorities with the functioning of central ones, what often limits their development. There should be developed a clear distribution of competences and responsibilities between the local governments and executive authorities, and between local government bodies at different territorial levels, in addition to required implementation of improvements in the legal and judicial protection of rights of territorial communities, bodies and officials of local self-government. The territorial communities should have sufficient material, financial and other resources to ensure that they can properly serve their duties.

We cannot also ignore such obstacles for the development of local self-government as constant confrontation between the legislative and executive branches of power, the lack of professional qualification of local council members, etc.

Thus, currently the institutional system of Ukraine is focused not on the needs of local self-government, but solely on the needs of its functional development. There is no doubt that the effectiveness of the reform of the local self-government system depends on the proper support from the state. The state must be responsible for development and provision of the corresponding state social standards. The implementation of such strategy involves creation a system of financial levers of management of relevant processes at different levels of management vertical. The local authorities should be responsible for ensuring proper conditions for the accelerated growth of the welfare of the inhabitants in their regions, for the establishment and development of the middle class society, with applying a system of regional norms at the level of medium and rational social standards.

The systematic approach to regional development expands the theoretical and methodological basis of functioning of

representative and executive authorities, creation of geoinformation and monitoring control systems, as well as systems of forecasting and program calculations, etc.

Regarding the deregulation of the economy, we need to admit that every government in Ukraine has declared about its implementation, and related creation of comfortable conditions for doing business and attraction of investors to Ukraine. Also real deregulation of the economy will also facilitate the release of Ukrainian economy from the shadow, which will significantly increase the state budget with a following increase the social standards of Ukrainian population.

The forecasting of regional development is based on the general principles of prognostication and territorial forecasting. Among these principles, particular importance holds systematic and consistency, variability and continuity, as well as the reliability and accuracy of forecasts. The territorial forecasts are used in the development of schemes for economic and social development as well as for the financial situation of the regions, the development and placement of industries, for integrated schemes of productive forces development and distribution.

At the same time, we can't prepare regional forecasts only for the macroeconomic indicators, they must play an active role in shaping the strategic objectives and components of state policy. Specifically, regions should be guided by all tendencies and challenges that influence their development.

Therefore, for preparation of a scenario forecast for the regional development, it is necessary to use a combination of forecasting, strategic planning and programming methods. The process of developing a scenario is realized on the basis of diagnostic analysis and is connected to the forecasting process. It gives an opportunity to evaluate the most probable course of events and possible consequences and intended to highlight key moments in the development of the studied object and develop different variants of its dynamics, as well as for a comprehensive

analysis and evaluation of all variants or study of its structural features and possible consequences of its implementation.

### **1.3. Conceptual framework of cross-border cooperation in the context of scenarios of social and economic development of cross-border regions**

Research of problems of border regions development and the creation of effective regional socio-economic policy is a significant part of modern scientific discussions. At the same time providing sustainable socio-economic development in the conditions of modern civilizational changes, increasing role of regionalization, decentralization of economic regulation necessitate the rethinking of the basic mechanisms, approaches and tools of influence on the functioning of cross-border socio-economic systems.

Nowadays cross-border cooperation is considered as the new “engine” for regional development. Beginning from the middle of the last century, this kind of cooperation has extended in the countries of Western Europe, where many years’ experience of strengthening and deepening relations between neighbouring territorial communities and authorities has already accumulated. It is hard not to agree with I. Zhurba (2008) about the fact that “knowledge and understanding of neighbour is as important as building trust. The variety of problems and potential development opportunities on both sides of the border in the Europe’s space leads to the fact that cross-border cooperation becomes inevitable, because it serves for implementation of the principles of international law in clearly defined regional aspect” [35, p.17].

International experience shows the positive impact of cross-border cooperation intensification on economic system, which is manifested by the growth of volumes of foreign economic activities, the promotion of local revenues, the decentralization of power, the development of socio-economic infrastructure, the

efficient use of resource provision and overcome the status of peripheries. Along with national and world economies, border economic system is becoming as an independent powerful of scientific and practical studies object, which is considered in the context of improving both the competitiveness and integration of its subjects with the globalized world economy.

The attention of many domestic and foreign scientists is concentrated on the study of processes, which occur in the border regions. The basis for investigation of problems of regional international cooperation and border regions cooperation is made by such Ukrainians scientists, as P. Belenky, B. Budkin, N. Vnukova, M. Doleshniy, I. Zhurba, V. Zasadko, A. Kiryukhin, E. Kish, L. Korolchuk, Y. Makogon, N. Mikula, V. Pila, I. Studennikov, T. Tereshchenko, O. Chmir, I. Shkola and others. The significant contribution to the study of economic aspects of cross-border cooperation was introduced by such well-known foreign scientists, as F. Albanes, T. Boris, L. Vardomsky, S. Guzzinni, V. Jooassin, A. Coman, T. Komarnitsky, M. Malabotta, M. Perkman, M. Spark, R. Ratti, G.-M. Chudi and others.

The term “cross-border cooperation” (transborder cooperation) was first legally interpreted and documented in European Outline Convention on Transfrontier Cooperation between Territorial Communities and Authorities, signed on May 21, 1980 in Madrid between the member states of the Council of Europe.

According to the Article 2 of European Outline Convention on Transfrontier Cooperation between Territorial Communities and Authorities transfrontier (cross-border) cooperation is considered as any concerted action designed to reinforce and foster neighbourly relations between territorial communities or authorities within the jurisdiction of two or more Contracting Parties and the conclusion of any agreement and arrangement necessary for this purpose [36]. According to the Convention cross-border cooperation has two characteristics:

- 1) Neighborhood cooperation across the border;

2) Regional and local level of cooperation [35, p.11].

Thus, the presence of a border is a defining feature of cross-border cooperation development. From our point of view, in this context, we should pay attention to the theory of boundary by S. Guzzinni (2000), who considers the existence of three evolutionary models of the boundary. At the same time the administrative and territorial status of the border areas are not taken into account. According to the theory of the boundary, the following three models are distinguished:

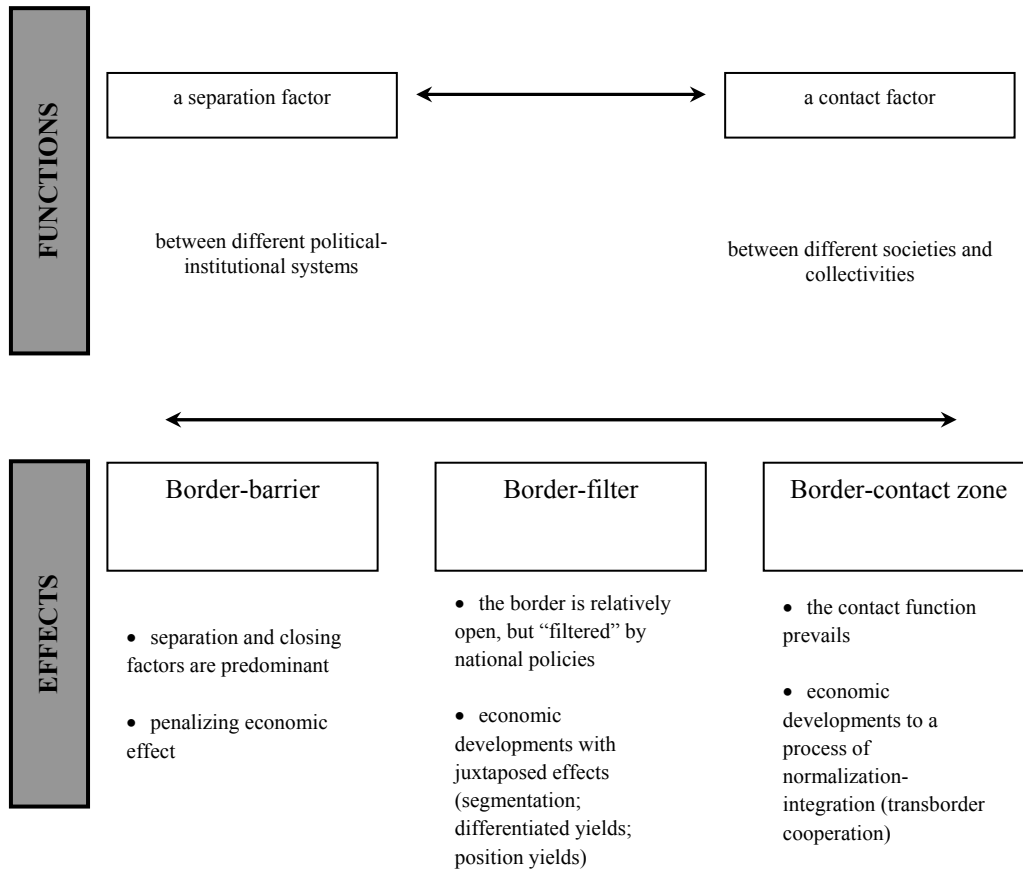
- Border cooperation as a system of limitation regulated international relations (premodern);
- Border cooperation as a system of extended but regulated international relations (modern);
- Cross-border cooperation as a system of extended liberalized relations (postmodern) [3, p. 74 – 75].

Remigio Ratti indicates that “a frontier is a dual concept, it is at the same time a separation factor between different political institutional systems and a contact factor between different societies and collectivises. So, this double function of separation and contact is very useful to have in mind. Unfortunately, this double function, this concept is not very well prepared to be translated into practice” [38] (fig. 1.1).

Taking into account the above-mentioned features of the interpretation cross-border cooperation and the main its features, it should be considered in two aspects. Thus, from our point of view, cross-border cooperation is:

- The set of relationships, that emerge and develop in neighbouring border areas, characterized by common interests and equality of participants, regional level and multifaceted spheres of interaction;
- The process of equalization of the social and economic development of the border areas on the institutional and functional bases, that provides the achievement of national goals through the advocacy of regional interests.

The Border is a dual concept; it is at times:



**Fig. 1.1. Border Typology by R. Ratti: Functions and Effects of the Border**

Source: [38]

The combination of these two components provides an integrated development of the border areas of the cross-border partners, which ultimately contributes to the harmonization of geo-economic and geopolitical development of the world economy [40].

In the terms of civilization changes it would be preferable to conduct scientific investigations of problems of social and economic border regions development with formation, as a result, different scenarios of their development. The formation of the

scenarios for forecasting socio-economic development of border regions allows analyzing structural imbalances in the development of border areas, to estimate the economic potential and identify priority economic trends. The applying of scenario forecasting approaches will enable to identify perspective alternatives to the socio-economic development of the border regions, substantiate and offer effective strategies of their socio-economic development. All these meet the needs of modern global and state development.

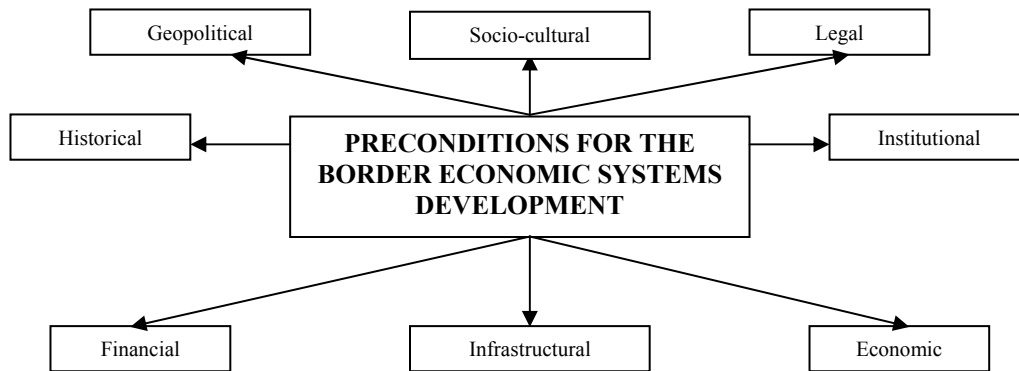
The inherent economic system is formed in the border regions. Border economic systems are turning into a leading link of the world economy in terms of globalization and regionalization increasing role. Despite the border economic systems are often identified as peripheral and problematic, they are characterized by a high level of communication ability, because they have the opportunity to use both internal and external recourses for development. Thus, the main strategic goal of cross-border cooperation is achieving higher indicators of economic growth and social development than the average country level, achieving a new quality of socio-economic growth that will ensure the stability and balance of border regions development in the cross-border aspect.

Geopolitical, socio-cultural, legal, historical, institutional, financial, economic and infrastructural factors are determined as the main preconditions for the border economic systems development (figure 1.2.).

On the basis of a comparative retrospective analysis it was established that historical preconditions forms a powerful background for the future development of border economic systems. For example, during the long historical period Ukraine has the close socio-economic and socio-cultural relationships with cross-border partners along the perimeter of state border.

Equally important are the geopolitical conditions, which take into account geographic location, the existence of common borders with neighbouring countries, as well as the directions of the formation of the country's foreign policy. The legal preconditions as the part of the legislative framework development for cross-border

cooperation and the conclusion of bilateral agreements with neighbouring countries influence the effective development of border economic systems.



**Fig. 1.2. Preconditions for the border economic systems development**

The legal preconditions are closely connected with the institutional preconditions formed through the state participation in international regional organizations, the creation of joint intergovernmental commissions and the formation of various cross-border cooperation promoting structures. In particular, Ukraine actively participates in the activities of the Assembly of European Regions, the Congress of Local and Regional Authorities of Europe the Council of Europe, the Association of European Border Regions and others. At the state and local self-governmental levels contacts are being established with the Committee of the Euro regions of the European Union, the relevant structures of the Council of Europe and the EU, the Council of European Municipalities and Regions, the association of the largest European cities. The creation of bilateral intergovernmental authorities is the important in institutional preconditions. In particular, Ukrainian-Slovak Center for Cross-Border Cooperation “Karpaty”, Ukrainian-Slovak Intergovernmental Commission on Cross-Border Cooperation, Ukrainian-Hungarian Intergovernmental Commission on Cross-Border and Border Cooperation,



Intergovernmental Coordination Council on Interregional Cooperation between Ukraine and the Republic of Poland and others have been created.

Economic preconditions combined with financial support form the basis for the development of the region, determining its competitiveness and directions for future cooperation.

Despite the detailed above-mentioned list, border regional socio-economic systems have such key feature that needs to be taken into account as the existence of a border infrastructure in the role of an integral subsystem.

To develop strategies for social and economic development of border regions, should be taken into account the following features of border economic systems, such as barrier existence and contact ability. From other side, the necessity of mainstreaming forming a strategy of social and economic development of border regions causes the following factors:

- Disproportionally of social and economic development of border areas;
- Availability the border as a barrier for the social and economic development of the region;
- Constancy the areas, which allows to accumulate additional resources and opportunities for their development;
- Necessity the holding of analyze the presence of risk in border areas with neighbouring countries for the security of national interests.

The definition of the main areas for the development of scenarios for cross-border cooperation and socio-economic development of border regions should be based on the following principles:

- **The partnership principle** means the joint and equal participation of border regions of the cross-border partners in defining ways of solving common problems and achieving common interests;

- **The principle of cross-border coherence of objectives** implies the compatibility of cross-border partners objectives;
- **The cross-border impact principle** - is the focusing of the conceptual theses on the development of all elements of the socio-economic system of the cross-border region and the system as a whole;
- **The complexity of the approach principle** means the need to consider and forecast the consequences of the concept implementation in the economic and social spheres of the cross-border region;
- **The authenticity and substantiate principle** implies the conceptual foundations formation for the development of transboundary - coordinated strategies for the social and economic development of border regions on the basis of analytical work on strategic documents of socio-economic development of the border regions of Ukraine and its cross-border partners, national development strategies, principles of the European Charter for Border and Cross-Border Regions, initiatives of the New European Neighbourhood Policy and the Eastern Partnership Program, Strategy Europe 2020 and others.

As a result of the scenarios formation of social and economic development of the border regions, it could be spoken about the creation of transboundary - coordinated strategies of social and economic development of the border regions. Association of European Border Regions notes, that to be effective now and in future, cross-border cooperation has to be more wide-ranging and characterised by joint activities from the beginning:

- All aspects of daily life in the border regions should be included: economy, work, leisure, culture, social affairs, housing, planning, etc.;

- It has to take place on a daily and regular basis, and involve partners from all areas and on both sides of the border from the beginning;
- It should be conducted on all levels: national, regional and local [39, p.13].

The challenge of this situation was the formation for the first time in Ukrainian practice, follow strategies of cross-border development:

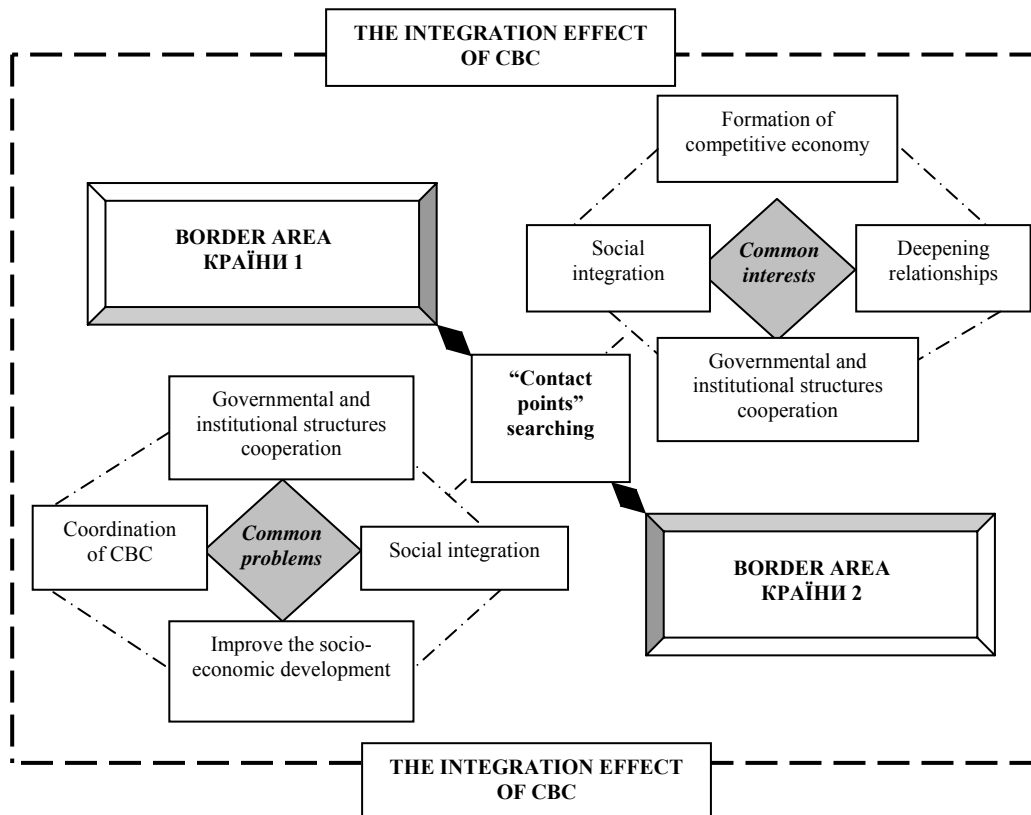
- The development strategy of cross-border cooperation “Carpathians 2004 – 2011” [41];
- Polish-Ukrainian strategy of cross-border cooperation on the period of 2007-2015 years [42];
- The development strategy of Ukrainian-Slovak cross-border cooperation till 2020 year [43];
- Strategy of cross-border cooperation of Lublin province, Lviv region, Volyn region and Brest Region on the period of 2014-2020 years [44].

Thus, it should be taken into account the integration effect of cross-border cooperation as the conceptual basis of cross-border cooperation in the context of the development of scenarios for the socio-economic development of the border regions.

The formation of the integration effect of cross-border cooperation is a result of cooperation of adjacent border areas through joint appearance between “contact points” (fig. 1.3.). These include advisable common interests and problems on the base of which cross-border relations between any border areas are built.

Integration effect is a synergistic combination of the following results of cross-border cooperation:

- Social integration – interactivity and interaction of all spheres of borderland population that involves the formation of a separate social environment of cross-border regions with their own system of values, common cultural and historical heritage;



**Fig. 1.3. Formation of the integration effect from the development of cross-border cooperation**

Source: [40]

- Governmental cooperation, institutional structures and mechanisms that produce effective practice solutions to common problems and implementation of local competitive advantages;
- Formation of competitive economy by developing cross-border cooperation in priority areas, mobilizing available resources to enhance economic potential of regions and effective combination of transnational corporations forms;
- Improve the socio-economic development of border areas as a result of cross-border solutions to shared problems;

- Coordination of cross-border cooperation as a result of actual cross-border issues and the development of further cooperation mechanisms;
- Deepening relationships as a result of the coordination of joint cross-border initiatives for joint interests and expansion of further cooperation.

Thus, the integration effect of cross-border cooperation is a result of systemic integration, which involves strengthening the relationship and complementarities between border economies joining efforts of its participants, ensuring the implementation of competitive advantages of cross-border regions and creating joint multifunctional space for cooperation based on solving common problems and implementing cross-border interest in the political, social and cultural spheres [40].

In this context the main tasks of formation the conceptual foundations for coordinating strategies of regions' socio-economic development in the cross-border aspect are following:

- Intensifying the social and economic development of the border regions;
- Cross-border coordination of strategic goals of social and economic border regions development;
- Identification of intensification priorities of cross-border cooperation and expansion of communication border regions capacities in the cross-border aspect;
- Reducing the barrier function of the border and increasing the border management effectiveness;
- Increasing the socio-economic development of the border regions and obtaining the synergistic cross-border effect from this kind of interaction;
- Levelling the negative effects of exo- and endogenous factors;
- European integration processes promotion;
- Ensuring the participation of Ukraine's border regions in international interregional cooperation programs, in

particular the Eastern Partnership Program, in the initiatives of the European Neighbourhood Policy in the perspective of 2014-2020, etc.

To form scenarios of socio-economic development of Ukraine's border regions it is advisably to consider the following directions of cross-border cooperation:

- Cross-border trade cooperation;
- Investment and industrial-technical cooperation;
- Cooperation in the sphere of border areas development on the basis of their natural resource potential, socio-economic, migration and ecological situation, level of the development of engineering and transport infrastructure, preservation of historical-architectural and cultural heritage;
- Transport and communications cooperation;
- Cooperation in the sphere of rational use of the natural resources and environmental protection.

Thus, the scenario forecasting of the social and economic development of the border regions will help to transform the borders from the barriers into functional development space.

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## CHAPTER 2. SCENARIO FORECASTING METHODS IN STRATEGIC DEVELOPMENT OF CROSS- BORDER REGIONS

### 2.1. Potential of the methods of regional development of scenario administration

It is generally known that scenario analysis principles began to form in 1950's owing to the efforts of Rand Corporation analysts.

Indisputably, the system analysis methodology being formed at that time contributed to the scenario analysis development. The main factor was the ontological ability of the system analysis to combine different methodic instruments to solve the administrative problems. So, scenario analysis has obtained the characteristic to use a wide spectrum of forecasting methods and methods that help to describe quantity-formalized systems and the one of not clear nature.

Today methods of scenario analysis together with methods envisaging peculiarities of the system analysis methodology and other forecasting technologies provide the administrators with accurate answers in three aspects: what will happen (nature), what can happen (explorative) and what aims can be reached (normative) [1].

The main methodological basis of the scenario analysis is distinguishing its 5 phases [2]: 1) identification of the scenario field; 2) identification of key factors; 3) analysis of key factors; 4) scenario generation; 5) scenario transfer.

*The first phase* forecasts detection the general aim of the scenario analysis. In our case it is the realization of main aims of regional policy. The identification of aims on this phase (in the system analysis we speak about aims as system forming factors) allows describing the administration system by means of differentiation: the object, subject and environment.

Key factors identification (*the second phase*). This phase has two stages. The first one is the system parameterization. The

second one is the environment parameterization. Undoubtedly the process of parameterization cannot be clear (formalized numerical) and unclear. As to the clear parameterization we speak about the statistic parameters selection on the basis of regional and national statistics indices.

We should take into account that the system indices defined by the administration aims should be considered as the system parameters. The environment parameters are the most effective factors.

*The third phase* presupposes the system analysis of the most effective factors. There are used numerical and expert methods of the factor analysis. The estimation of the factor's influence extent on the system is of high importance.

The factors inspection on the subject of the influence significance and inter-correlation is allowed. In the case of its presence the factors may aggregate.

When there is the analysis of clear parameters, the third phase forecasts the elaboration of the adequate model (in our case – economic and mathematic):

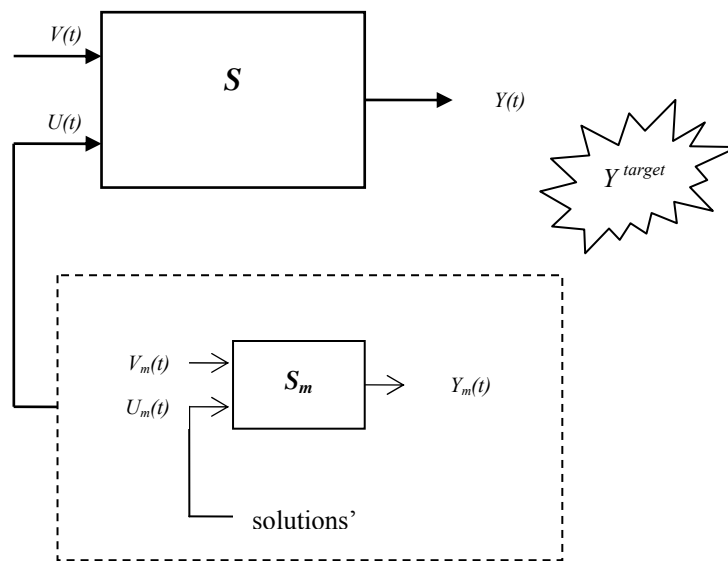
$$S(t) = F\{X_i(t); Y_j(t)\},$$

where S is the system (its state in the present moment of time t), F is the model functional, X indicates inner parameters (resource potential), Y indicates the parameters of environment.

*The fourth phase* is the scenario generation. Undoubtedly, this phase is completely administrative and is based on the conceptions and knowledge of a person who makes decisions as to the further future course of events.

To find solutions to the given task, as to any administrative task, there the adequate model of the regional SES should be used, taking into consideration all endo - and exogenous influence factors on its behavior. One of the most effective description examples of

such process belongs to F.P. Tarasenko [3], according to whose works, some system  $S$  and its model  $S_m$  can be graphically represented in the form of a scheme, as in Fig. 2.1. Let's suppose that the system, as well as its model, is interpreted by "the black box" with the input  $V(t)$  ( $V_m(t)$ ) and output  $Y(t)$  ( $Y_m(t)$ ). Besides, to realize the administration principles in the system and in the model there are also the governing entrances  $U(t)$  ( $U_m(t)$ ). The target of the system is defined by reaching the output  $Y^{target}$ . Practically, the administration process, in this interpretation, comes to the choice of such governing input signal scenario that will lead to reaching the aim at the end.



**Fig. 2.1. Management scheme using the system model (improved by the author from the source [3]).**

Using the system model  $S_m$  (Fig. 2.1.) allows the administrative subject to choose from the administrative scenario variants such ones that will lead to the output model index close to  $Y^{target}$ . Having applied the chosen scenario in future, as system input  $S$ , the subject realizes the administration process without looking for acceptable variants in the system itself that simplifies greatly and quickens the search process of the effective administration

ways.

Moreover the fourth phase element requiring expenditure of much labour is the model generating administrative decision where there is no unique approach considering essential differences of the different objects of administration (in our case cross-border regions objective differences). But very often some definite scenario types are used [4]: “Wait and See” (No or only few new actions), “Just Do it” (Many new actions), “Doom Monger” (Negative development of external factors), “Carpe Diem” (Positive development of external factors).

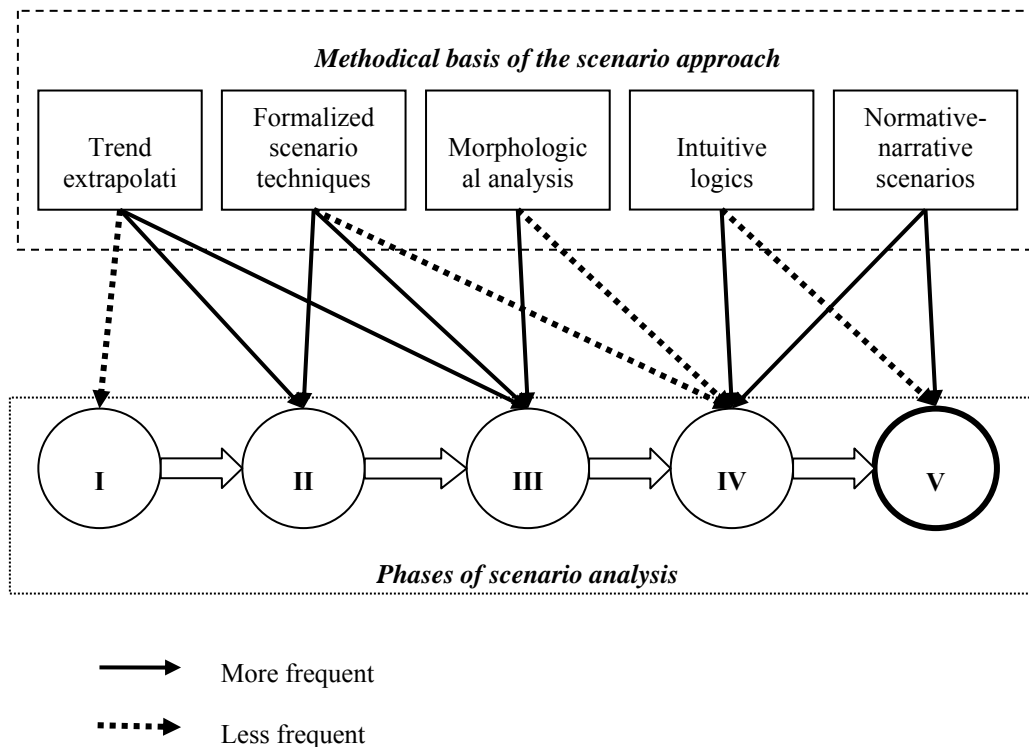
*The fifth phase* foresees the scenario realization. In the aspect of regional administration it is the most important stage the result of which is some certain administrative program that is presented in the strategic development documents. Not of less importance is the current assessment of the region’s development trajectory and defining the limits of its deviation.

On this phase we see the time horizon of the scenario realization. The time period of solving current tasks of this monographic investigation is up to 5 years.

The scenario analysis technology realization may differ depending on the aspects of the given administrative task. Today we have diverse classes of such technologies described in details by Hannah Kosow and Robert Gaßner [2]. The most spread have become the technologies based on the following methods: scenarios on the basis of trend extrapolation, formalized scenario techniques, morphological analysis, intuitive logics, and normative-narrative scenarios. The main selection criteria of any method are the possibilities and origin:

- Aims of administration;
- Administrative horizon;
- Output statistic and information sources;
- Concerned stakeholders.

Taking into account the scheme presented on Figure 2.2 we introduce the most common scenario analysis methods in terms of its phase's realization.



**Fig. 2.2. Scenario analysis methods application in strategic administration.**

It should be stated that available native mechanisms of the regional administration strategic documents elaboration do not emphasize some certain scenario analysis methods. Though regulated procedures of such documents public ratification increase the importance of the mentioned above criteria where there is concerned a big community with no special knowledge. Here we have two methodic forms of the stakeholders' participation: consultancy and interviewing the citizens; immediate citizens' involvement into scenario elaboration. All this is very important for the regional and local levels. Such attraction is the element of the scenario trajectory adequacy increase and allows



taking into account all influence factors (hypothetic and institutional as well). On the stage of scenario implementation, such attraction leads to social resistance decrease when taking such unpopular decisions.

Besides this, from the point of view of the complete future system states description it is necessary to use “trend-based scenario techniques” → “key factor-based scenario techniques” → “systematic-formalized” → “creative-narrative”. Though such analysis demands a lot of resources and is difficult to complete on the meso-level.

Many researchers pay attention to the final stage of the scenario analysis – its results implementation. In the aspect of regional administration of frontier regions, the scenario analysis methods are an integral part of the administration mechanism. Here we should mention that the authorities are the scenario developers as well as their implementers.

One more difference of the regional development scenario analysis is the fact that the region’s development depends on its potential (including resource). A lot of investigators explicitly or indirectly determine the region administration process with the help of a scheme: administrative action → the potential use process → social and economic aim(s) of administration. Moreover the main aspect of the administrative efforts is limited only by the process of the “potential” resource use with the aim of reaching the final social and economic aims. Formalized assessment of the amount of the potential in this case should be worth investigating only as the possibility of using some certain estimated amount of corresponding resource. But special-purpose category of this notion cannot be limited only by the factors of its resource use. We should agree that potential is a system characteristic with certain realization conditions that as well as potential may be considered in the form of numerical values found when processing the system information [5]. Scenario administration of a region in this aspect is defined as management of a system the state of which may be

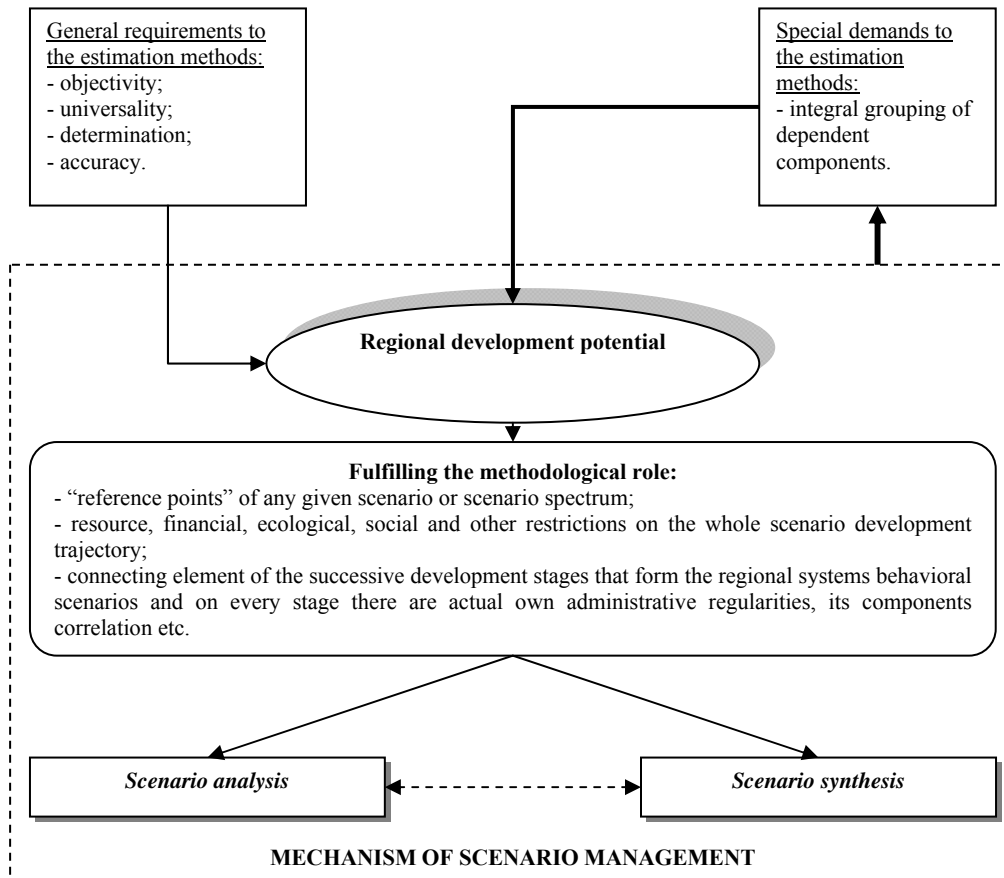
influenced only by making the conditions necessary for its potential.

In its turn the advantage of the scenario administration mechanisms in general methodology of the regional systems administration is their ability to decrease the uncertainty by means of the possible development ways interpretation. Building the adequate scenarios of regional development demands strict parameter selection of the investigated object (region and its development), approaches to its measuring, model formalization methods etc. The most effective way of solving this problem (as it is mentioned above) is either scientists efforts to reduce the number of mentioned parameters using the approaches of rejecting the most insignificant ones or trying to apply its integral grouping methods.

Assuredly the simplification of the model by means of “rude” quantity reduction of the object’s parameters taken into account does not help to decrease the uncertainty of the possible development ways and cannot be used in the scenario administration methods (unlike the approaches based on the integral grouping). That’s why the mentioned above numerical assessment methods requirements list of the regional development potential in the aspect of scenario administration should be supplemented by the integral possibility of the dependent components unification, that are described by the national and regional statistics data (Fig. 2.3.) [6].

Except general scientific and applied assessment prospective and use of potential regional development demands argumentation of its methodological necessity in the regional scenario administration methods. The mentioned necessity is determined by a number of facts. Firstly, the fundamental role of the regional development potential in the scenario administration mechanisms is fulfillment the “reference points” functions of any given scenario or scenario spectrum. Secondly, regional potential has the function of resource, financial, ecological, social, and other restrictions on the whole scenario development trajectory. Thirdly,

regional potential is a connecting element of the successive development stages that form the regional systems behavioral scenarios and on every stage there are actual own administrative regularities, its components correlation etc. (Fig. 2.3.).



**Fig. 2.3. Regional development potential in the scenario development mechanisms**

We should mention that in the basis of the scenario administration mechanisms there lies, except scenario analysis methodology, scenario synthesis. In the aspect of the last one we should stipulate the formation (synthesis) of two purpose-oriented administrative scenarios: providing the stability of the region’s functioning (supporting the existing conditions of the potential realization) and the need of its transformation (formation of

qualitatively new conditions of the potential realization). Besides that, the mentioned purpose-oriented scenarios correlate well with generally accepted scenario synthesis concepts: optimistic, pessimistic and realistic.

To sum it up we should present the idea of Priess and Hauck [7], that scenario analysis methods are aimed not for passing clear administrative information to local authorities. Their main aim is the efficient intensification of the regional development process by means of creative and causal decisions making stimulation on a long term prospective.

## **2.2. Information and statistical support of the scenario forecasting methods**

Undoubtedly, the main indicator of the regional and national development is precise and numerical measurements of basic indices of regions' social and economic systems.

Information and statistical support of the scenario forecasting methods of the present scientific research work is based on using the data of two subjects of statistic analysis: the System of National Accounts and the World Bank.

It is worth mentioning that today Ukraine has the whole system of statistical collection and processing of information of social and economic indices on regional level.

So, the adopted Law of Ukraine On state statistics in 1992 [8] regulates clearly basic concepts: administrative data, state statistical activity, requester, information system of state statistics bodies, confidential information, user, state statistics bodies, plan of state statistical observations, respondent, statistical information, statistical methodology, statistical observations etc. Law protects integrity and authenticity of the data and gives the guarantee of regional indices openness that is important when attracting scenario analysis stakeholders.

Not of less importance is the approval by the State Statistics Service the classification of institutional economic sectors: “Non-financial corporations”, “Financial corporations”, “General government sector”, “Households”, “Non-profit organizations serving households”.

Besides that today only regional statistics is held in two big groups “Demographic and social statistics” and “Economic statistics”.

“Demographic and social statistics” have the following issues of statistic information: Demographic situation, Labor market, Income of the population.

“Economic statistics”: Gross regional product, Economic activity (Development of entrepreneurship, Domestic trade, Investments and fixed assets, Agriculture, Forestry and hunting, Extraction of water bioresources, Industry, Building, Indices, Register of statistical units, Natural environment, Formation and use of recyclable materials, scrap and waste), Finances, Amount of export-import goods and services, Prices.

So, on one hand, stake-holders of different levels, scientists and administrators are supplied fully by regional development information that should reinforce broader circulation of scenario prognostication methods. On the other hand, the regional administration informational field is surfeited with statistic information, and very often there arises a question about its proper selection. In this case we should take into account methodic aspects when selecting the indices and factors for correct system description in order to avoid the 4 types of mistakes [3].

The mistake of the first type occurs when the subject considers the parameter as a substantial one and takes a decision to include it in description, when it is actually insignificant for the aim stated and may not be taken into account. It leads to emerging “odd” elements that are actually unnecessary.

The mistake of the second type, on the contrary, is accomplished by the subject when it takes the decision that this parameter is insignificant and is not worthy to be included in the

scenario model, whereas without this parameter our aim cannot be reached to the full extent or cannot be reached at all.

The mistake of the third type occurs because of “the lack of knowledge”. To estimate the substantiality of some parameter, we should know that it actually exists. If we don’t know anything about some system’s quality – we do not take it into account, though it actually influences the quality of system analysis. The difference with the mistake of the second type lies in that this mistake is more difficult to correct: here we should get new knowledge about the object under investigation.

*The fourth type mistake* can arise when building a scenario and the known parameter is attributed to inputs or outputs (the content of the parameter is interpreted in a wrong way and is regarded as being an administrative one or the aim of administration)

Undoubtedly, the problem of selection correct parameters is not new and existed long before scenario analysis implementation into regional administration. One of the examples of its solving is the method of selecting the main social and economic development indices of the regions of Ukraine that is used when rating by the Cabinet of Ministers of Ukraine [9]. However even after the selection we take into account a number of tendencies: “Economic and social cohesion”, “Economic efficiency”, “Investment and innovation development and foreign economic cooperation”, “Financial self-sufficiency”, “Small and medium business development”, “Labor market efficiency”, “Infrastructure development”, “Renewable energy and energy efficiency”, “Accessibility and quality of education services”, “Availability and quality of health care services”, “Social protection and safety” and “Rational nature management and environment quality”.

Unfortunately the set of the presented above tendencies does not meet the methodical needs of the scenario analysis and to some extent makes it impossible to be held. Considering the described in Subunit 2.1 methodical stages of scenario prognostication we believe that information and statistic data

selection should be based on the aims of administration (in particular the development scenario ultimate points). In such case we suggest using target indices of the State Strategy for Regional Development for 2020 [10], which recommended indices are stated for 2020:

1. Gross regional product;
2. Disposable income;
3. Volume of foreign direct investments;
4. Export of goods;
5. Number of small enterprises;
6. Number of medium-sized enterprises;
7. Volume of realized innovative products;
8. Density highway network;
9. Average monthly salary;
10. Total outflow rate of rural population;
11. Doctors' supply;
12. The level of housing stock total area supply with water in urban areas;
13. The level of housing stock total area supply with water in rural areas;
14. Mortality rate;
15. Demography load for 1 thousand of permanent residents aged 16-59 (rural areas);
16. Coverage of children by pre-school education (urban areas);
17. Coverage of children by pre-school education (rural areas);
18. Specific gravity of utilized waste;
19. Unemployment rate according to the methodology of the International Labor Organization;
20. Land area of the nature reserve fund;
21. Specific gravity of the nature reserve fund area to the administrative-territorial unit area.

We may state that practically all subjects of scenario analysis have sufficient set of concretized and selected by the Central

executive authorities statistic data of the System of National Accounts of Ukraine.

Besides the mentioned list of statistic indices supply of the scenario analysis it is important to use the measurement system of the World Bank (*the second constituent of the scenario analysis information supply*). Undoubtedly today the information field of the scenario analysis may be supplied with the indices of international statistic rate organization (there are more than 26 such organizations nowadays). Though the complexity of the World Bank statistic data and their profound retrospective as well as their tendency to supplying sustainable development of all subjects and is crucial when solving the problems of the present scientific research.

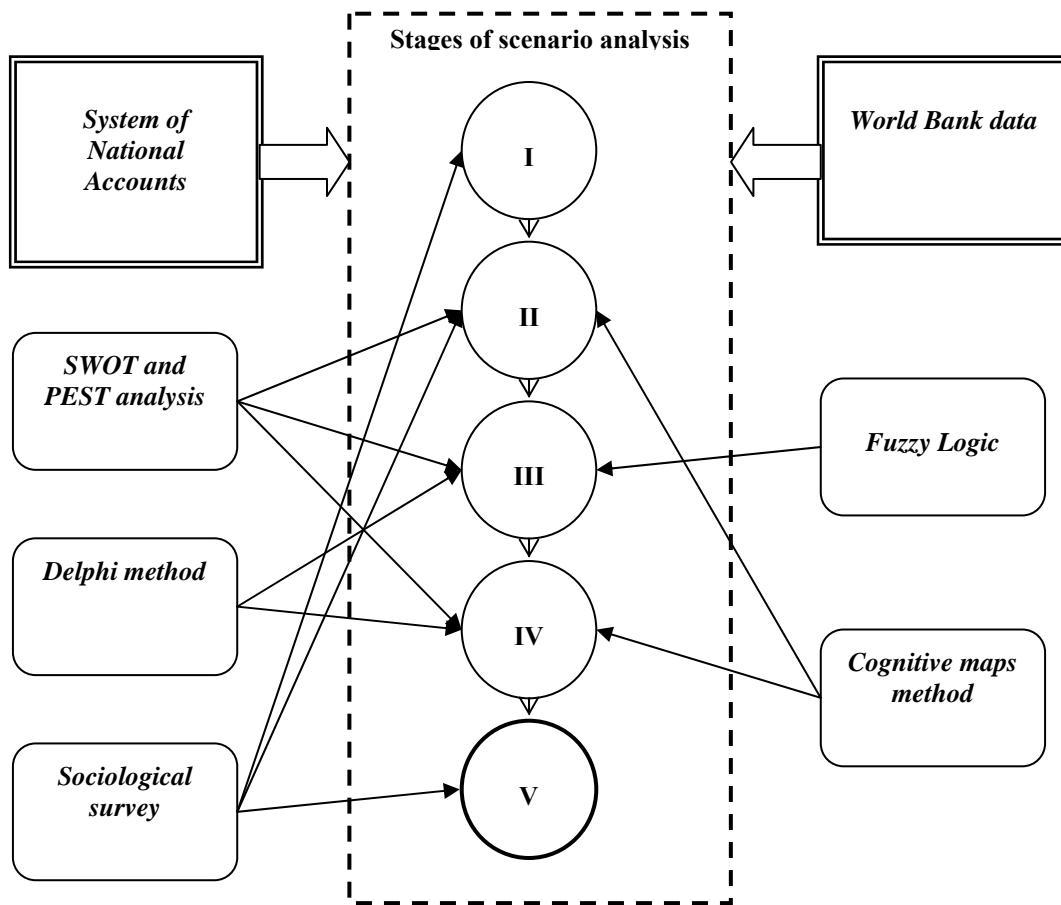
On the other hand when developing the regional strategies there exist the necessity to take into account the development indices of the neighboring country and their influence on the course of prognosticated scenarios. In this case there is no alternative to the standardized indices set of the World Bank in the context of countries that is grouped in spheres [11]: Agriculture & Rural Development; Aid Effectiveness; Climate Change; Economy & Growth; Education; Energy & Mining; Environment; External Debt; Financial Sector; Gender; Health; Infrastructure; Poverty; Private Sector; Public Sector; Science & Technology; Social Development; Social Protection & Labor; Trade; Urban Development.

As in the case with the regional statistic data use, regional administration stakeholders encounter the need of selecting more significant and complex indices, the development scenarios of which are important for prognostication. The mentioned above is a complicated task considering the existing of more than 2000 indices of social and economic development that are represented by the World Bank for each country. The most efficient way of solving this problem is the selection of gross indicators growth rate per capita (for example gross national product and gross regional product).



We lay stress on the necessity of the joint data use of the World Bank and the System of National Accounts that is an indispensable condition for the adequacy of the obtained scenario prognosis.

*The third constituent* of the scenario analysis information and statistic support in regional administration is the data of expert and sociological surveys. As we know, it is impossible to completely display the social and economic systems state with the help of statistic parameters and frontier regions here is not the exception.



**Fig. 2.4. Main methodic sources of the informational and statistic supply of the scenario analysis stages of the regional development.**

In today's practice of regional administration there are used a lot of known methods of sociological and expert survey (in particular SWOT and PEST analyses, Delphi method). Their results lie in the attempts to parameterize the indistinct signs of social and economic development, especially the state of life quality. The use of such data contributes to improvement of adequacy, quality and practicality of the scenario forecasts realization, the main prognosticating apparatus of which are the methods of mathematic modeling. It should be mentioned separately that there arises the necessity of introducing into practice of the strategic region administration the Fuzzy Logic technology. Fuzzy Logic successfully combines clear and unclear parameters in united formalized models and contributes to the adaptation of obtained prognosis before introducing them in administrative practice.

Taking into account the multifacetedness of the elaboration process of the development scenarios the most perspective one for the regional systems parameterization is the use of cognitive analysis methods, in particular, building cognitive maps. Cognitive map allows identifying factor relationships of regional social and economic systems and above all allows joining the experts from different spheres combining their assessment in one scheme.

Summing up the above mentioned, on Fig. 2.4 there has been formed the system of main methodic sources of information and statistic supply of the regional administration scenario analysis sources.

Thus, today subjects of frontier regions strategic development administration have rather high level of information and statistic supply of the used prognosticating methods, including scenario one.

### **2.3. Peculiarities of scenario forecasting methods implementation in the development strategies of cross-border regions**

Regional development strategies is an important administrative unit of social and economic region development support that is aimed at defining region's vectors, indices and methods of the acquired results assessment. In Ukraine the elaboration of such strategies has a number of regulated procedures and clear detailing of the authorities concerned [12]. Though output documents, that reveal the final content of the strategies, somewhat differ in content and the administration mechanisms used. The main reason of the mentioned above is inner resource, geographic, cultural and administrative peculiarities of the regions. It demands the detailed analysis of the approved regional development strategies to find the most effective its components, in particular in the aspect of scenario management.

Using the comparative analysis of the effective regional development strategies training results of the frontier regions (Lviv [13], Ivano-Frankivsk [14], Transcarpathian [15] and Chernivtsi [16]) we should mention that, to some extent, the quality of documents, program realization within the regional development strategies in different regions distinguishes. The mentioned, on the whole, does not allow standardized estimating of the most or the least effective of them.

From the point of view of executive body – in three regions out of four we can see the accurate following of the recommendations of the Cabinet of Ministers of Ukraine as to the procedure of regional development strategies elaboration, plans of their realization, monitoring and effectiveness assessment of these regional strategies and action plans realization [12].

Though the regional development strategy of Lviv region on the period up to 2020 has the most suitable format of social and economical regional development strategy explaining and argumentation. In all regional development strategies, except the strategy of Chernivtsi region, there are elements of scenario

planning and prognostication that are based on the elaborating of inertia, modernized or realistic region development strategies. In the development strategy of Chernivtsi region there is no scenario prognostication, moreover the strategy itself has drastic differences when comparing with three other regions.

In every investigated region development strategy there is a clear distinguishing of strategic targets (Table 2.1), that should be reached in the process of strategy realization. And on the stage of determining the strategic targets we may see a considerable difference between the regions. In particular, Lviv, Ivano-Frankivsk and Chernivtsi regions as the first strategy consider creating a competitive region economics, though the ways of achievement of this target differs in each region. Transcarpathian region has the first strategic target “The Citizen and social capital development”, that is not a typical one and at the same time in this region there is a progressive vision of strategic development, because it is known that all highly-developed countries in the world consider the human capital development of prior importance.

Among all regions only in Chernivtsi region strategy development there have been distinguished only 3 strategic targets. The highest number of strategic targets is in the strategy development of Lviv region. Chernivtsi region is the only region in the strategy targets of which there are no targets of rural areas development. Though some tasks as to the rural areas development are stated within the first strategic target.

Taking into account that these regions are bordering ones it is a rather negative point that only in Lviv region strategy development there is such target as “Open borders” (Table 2.2.).

**Table 2.1.**

**Strategic aims, as stated in the Strategy of regional development of border regions in Western Ukraine on the period up to 2020**

Lviv region	Ivano-Frankivsk region	Transcarpathian region	Chernivtsi region
Strategic target 1: Competitive economics	Strategic target <a href="#">1: Economic potential development</a>	Strategic target 1: Human and social capital development	Strategic target 1: Private enterprises development on the innovative basis, as the starting point for stable economic development
Strategic target 2: Life quality	Strategic target <a href="#">2: Tourist and recreation sphere development</a>	Strategic target 2: Formation of competitiveness and innovations in region's economics	Strategic target 2: Culture, science and social sphere development as the starting point for citizen capital development and transformation of institutional environment
Strategic target 3: Open borders	Strategic target <a href="#">3: Rural territories development</a>	Strategic target 3: Integrated development of urban and rural communities and territories	Strategic target 3: Environment preservation as the starting point for safe and ecological environment
Strategic target 4: Developed countryside	Strategic target <a href="#">4: Human capital development</a>	Strategic target 4: Providing the quality, safety and harmony of environment	
Strategic target 5: Tourist attraction			

**Table 2.2.**

**Strategic target “Open borders” and its tasks in the Strategy of regional development of Lviv region on the period up to 2020.**

Strategic target	Efficient targets	Tasks
Open borders	International collaboration	3.1.1. Using the possibilities of international technical help
		3.1.2. Organization of interregional and municipal collaboration
		3.1.3. Increasing the number of international institutions offices in the region
		3.1.4. International promotion of the region
		3.1.5. Support of the centers and development of communication network with Ukrainian Diaspora
	Transboundary collaboration	3.2.1. Contribution to companies, organizations and agencies attraction in the programs of transboundary collaboration within the operational programs of European Neighborhood on the period 2014-2020
		3.2.2. Development of the frontier logistic and trading centers network
		3.2.3. Support of the institutional network in the sphere of transboundary collaboration
	Frontier infrastructure	3.3.1. Modernization and building up the international border crossing points
		3.3.2. Building up the engineer and transport infrastructure
		3.3.3. Realization of the concessive infrastructure projects
		3.3.4. Development of the international airport “Lviv” as a European regional hub
		3.3.5. Modernization of the frontier railway network

Estimating the quality of the given development scenarios within the Strategy of the frontier regions development on the period up to 2020 we may come to the following conclusions:

- The absence of the development scenarios elaboration within the regional development strategy of Chernivtsi region does not reveal a very accurate correspondence of the elaborated strategy to Methodical recommendations, elaborating and realization of monitoring and assessment of regional development strategies realization effectiveness and action plans of their realization adopted by the Cabinet of Ministers of Ukraine;
- Basic assumptions within the development scenarios elaboration in the strategies of Ivano-Frankivsk and Transcarpathian regions are rather general and theorized, that makes impossible the elaboration of a realistic development scenario with clear monitoring criteria;
- The scenarios of Ivano-Frankivsk and Transcarpathian regions are formed stereotypically and show that the factors and preconditions of reaching the strategic aims are not very carefully worked out;
- The scenarios of Lviv region development present a professional approach to planning and prognostication when elaborating the strategy, and the detailed working out of the basic assumptions (geopolitical, state and regional levels) in the context of every development scenario is a good precondition of elaborating an effective and realistic scenario.

The main drawback of the development scenarios that are stated in the regional development strategies on the period up to 2020 is the absence of any clear indicators with the help of which we may define the level of completion of this or that scenario. For example such task of the realistic scenario of Ivano-Frankivsk

region as “small and medium business intensifies and creates logistic supply networks of a strategic investor” has a lack of specifics as to the number of strategic investors, who are to be involved with the help of the formed logistic network and that is not clear enough what and to what extent will be the influence of these investors on the development of small and medium business.

Such generalized statements are presented in all regional development scenarios. On one hand, it simplifies the process of scenario preparation, but when we talk about the scenario effectiveness fulfillment estimation or the scenario effectiveness criteria monitoring we should mention that such generalized scenario formation is accepted only in the descriptive part and only on the stage of basic assumptions. The scenario should have clear tasks with clear criteria of estimation and the effect description that will be obtained as the result of this or that scenario stage realization.

The descriptive content in the development strategies of frontier regions of Western Ukraine is present not only on the stages of aims and tasks setting but also in the part of estimation indicators results description of the strategy realization (Table 2.3).

In particular the result realization indicators of the Strategy of regional development of Chernivtsi and Ivano-Frankivsk regions do not comprise the specific indices that do not allow estimating the quality of administrative decisions adopted by the local authorities. For example, let's take such index as “Decrease of the poverty level” in the region – firstly the actual poverty level in the regions is not defined and there are no prognosticated indices in 2017-2020, that will show the decrease of the poverty level. It is obvious that there is no clearness in the monitoring indices that will help to manipulate the data in future, when reporting about the strategy realization results. And as follows it becomes rather difficult to estimate the effectiveness level of administrative decisions adopted by the local authorities.



**Table 2.3.****Results realization indicators of the Strategy of the regional development on the period up to 2020.**

<b>Chernivtsi region</b>	<b>Ivano-Frankivsk region</b>
<ul style="list-style-type: none"> <li>• Increase of added value part in the regional gross product.</li> <li>• Increase of business entities number.</li> <li>• Increase of capital investments, direct foreign investments.</li> <li>• Increase in the innovative production part.</li> <li>• Increase of the high technology export part.</li> <li>• Development of small and other cities, including the ones of district importance.</li> <li>• Increase of the income and consumption levels in the rural areas and small settlements.</li> <li>• Decrease of the number of people who leave the rural territories.</li> <li>• Decrease of the differentiation in the available population income.</li> <li>• Decrease of the disproportions between the life length of the population born on urban and rural territories.</li> <li>• Decrease of the poverty level.</li> <li>• Increase of the social justice level.</li> <li>• Increase of the population culture level.</li> </ul>	<ul style="list-style-type: none"> <li>• Increase of added value part in the regional gross product.</li> <li>• Increase of capital investments, direct foreign investments.</li> <li>• Increase in the innovative production part.</li> <li>• Increase of the high technology export part.</li> <li>• Development of small and other cities, including the ones of district importance.</li> <li>• Increase of the income and consumption levels in the rural areas and small settlements.</li> <li>• Decrease of the number of people who leave the rural territories.</li> <li>• Decrease of the differentiation in the available population income.</li> <li>• Decrease of the disproportions between the life length of the population born on urban and rural territories.</li> <li>• Decrease of the poverty level.</li> <li>• Increase of the social justice level.</li> <li>• Decrease of the consumption disproportions between rural and urban population.</li> <li>• Decrease of the</li> </ul>

Chernivtsi region	Ivano-Frankivsk region
<ul style="list-style-type: none"> <li>• Decrease of the consumption disproportions between rural and urban population.</li> <li>• Decrease of the unemployment level on rural territories and in small settlements.</li> <li>• Increase of the economic growth centers number on the regional level.</li> <li>• Effective use of the territorial potential specialization in the economic development.</li> <li>• Number of projects financed by SRDF.</li> </ul>	<p>unemployment level on rural territories and in small settlements.</p> <ul style="list-style-type: none"> <li>• Increase of the economic growth centers number on the regional level.</li> <li>• Effective use of the territorial potential specialization in the economic development.</li> <li>• Number of projects financed by SRDF.</li> </ul>

In the Strategy of regional development of Lviv and Transcarpathian regions on the period up to 2020 the Result indicators are accurately stated (Table 2.4)

Once again, from the point of view of administrative approach finding the effectiveness indicators of the realization of the Strategy of regional development on the period up to 2020 as it is presented in the strategies of Lviv and Transcarpathian regions is correct and effective. Such accurate indicator measuring allows correlating of all decisions and actions of the local authorities with a specific index, and this in its turn gives the opportunity to change the efficient administration of the strategy realization if necessary. Moreover, without such indicators it is impossible to talk about the scenario approach methods application.

The process of regional development strategies presupposes the instruments search of reaching the strategy aims that will be the main tendency in social and economic development of the region. Finding the growth points is rather captivating. It means that the chosen indices that are peculiar for this or that region should become the main administrative objects within the strategy of development.

**Table 2.4.**

**The Result indicators of the realization of the Strategy of regional development on the period up to 2020.**

Result indicators	Lviv region			Transcarpathian region	
	2014	2016	2020	2014	2020
Regional gross product (actual prices) per person, UAH	98,6	102,1*	120,4*	18207,8	32053
Amount of direct foreign investments per person, USD	545,7	743	963	300,0	560,0
Goods export per person, USD	514,5	623	785	1100,3	1585
Average monthly salary (nominal), UAH	2961	3677	4912	2744	4689
Unemployment level according to ILO methodology, %	8,6	7	6,8	9,0	7,7
Region area that belongs to Nature Resort Fund, %	7,2	14,3	19,5	13,9	16,0

\* - % as compares with 2014 indices

Such approach of the region development strategies demands changing the formation process itself and using some proper methodologies. In the result of region development strategies formation on the basis of scenario approach, we have distinguished the hierarchical influence systems unity that has considerable synergetic and emergent effects.

The advantage of such approach in region development strategy elaboration is that within working up such scenario dominant we may involve specialists of some definite field that improves greatly the content of the program.

Formation of the region development strategy on the basis of scenario approach is a difficult and creative process that

demands high qualification from its executors. First of all, the strategy forming is based on prognostication of some functioning conditions of every parameter (dominant) separately, and their interplay as well. The difficulty of this process intensifies because when elaborating the regional development strategy there is conducted the search and assessment of the alternative variants, development scenarios that will undergo approbation and there will be defined the most optimal and effective strategy variant. Some difficulty in regional strategy elaboration is also in that it is invariable and demands periodic corrections taking into account the changeable outer conditions and new possibilities in region development.

The process of region development strategy elaboration is the most important component in the region administration process. At the same time within the working out of the regional development strategy the main elements are the mission, general strategic development aims, functional strategies system in terms of some development dominants, ways of resources formation and distribution, instruments and methods of administration parameters perturbation.

On the basis of the mentioned above it is recommended to reflect in the regional development strategies of frontier regions:

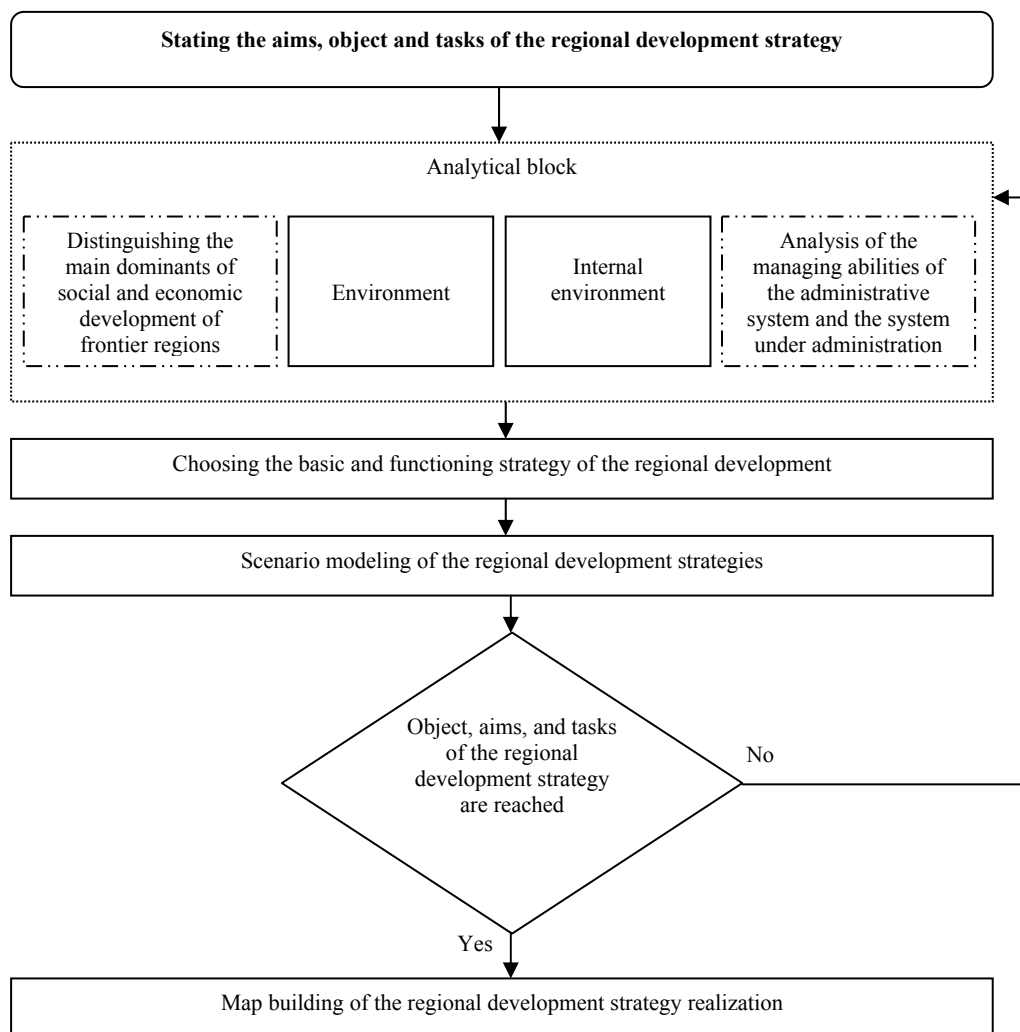
- Complex of innovative and investment projects with the terms of their realization, resources, executors, financing amounts and sources that provide the effective tasks solving, that are stated in the regional development strategy;
- List of measures, terms of their realization and indices value of the region functioning expected results, that concern its development on mid term and long term periods that are mentioned in other program documents;
- Planned key indices values of the leading social and economic development parameters (dominants) system

of the frontier regions stated by the strategic aims of their development.

The first stage of stating the aims, the object and the tasks of the regional development strategy (see Fig. 2.5.). The object is the main functional target of the regional development that presupposes the reason of its existence. It specifies the status of the region, its actual development state and supplies the tendency and reference points for stating the aims and strategies on its different levels. So, the mission formation should foresee:

- Region's aims and tasks from the point of view of its services and wares, markets and main technologies, that is according to the character of its functioning;
- Region's functioning principles according to the environment, values on which its development is based;
- Actual conditions of the region's different spheres of functioning, regional development policy and the availability of the personnel resources for the development strategy realization.

When stating the regional development strategic aims we should consider first all the aims system of the general strategy of the country's economy development. These aims may be presented in the form of the capital growth supply, investments increase in the region, population level improvement etc. At the same time regional development strategic aims formation should be coordinated with the stages of regional economic development and its discrete dominants.



**Fig. 2.5. Algorithm of the regional development strategy elaboration on the basic of scenario modeling**

The second stage is region functioning different aspects diagnostics (see Fig. 2.5.). The region's diagnostics is conducted according to such constituents as inner and outer environment.

The inner and outer region's factors environment investigation is aimed at defining economic and legislative, administrative and social conditions of the region's functioning and their possible changes in future.

At the same time we should mention that the environmental analysis is closely connected with the formation of the managing system parameters (dominants) of social and economic frontier regions development though it is not prominent when forming such system.

When analyzing the inner region's environment, except the potential possibilities analysis, and region's development potential trends estimation we should focus our attention on administrative system of the region and the regional system under administration. The administrative systems functioning effectiveness reinforces the transformation of the dominants' synergetic potential transformation into a real resource.

Having analyzed the actual condition of the region and estimated its potential possibilities, the following (third) stage of the strategy development is the choice of the basic and functional region's development strategies. On this stage of the strategy development there is conducted the working out of main and alternative variants of the development strategy on the basis of the dominant approach. It is important to settle a determined finite number of the strategy variants on this stage that will undergo approbation by the modeling scenario.

The fourth stage is the scenario modeling of the chosen regional development strategies. It is the main functioning stage in the strategy development process that defines the following choice of the strategy with the most effective parameters. Within this stage the chosen development strategies are processed with the help of scenario modeling and main benefits and drawbacks of each strategy development variant are determined. Besides that, within this stage regional administrators have the possibility to get efficient information as to the effectiveness of the dominants system that was chosen in the process of the strategy elaboration.

The content of the fifth stage consists in the comparison of the results obtained according to the scenario modeling with the immediate tasks and aims that were brought forward to the regional development strategy. If the results are similar or match

the prognosticated expectations, this strategy variant should be regarded as the basic one. All other variants that have considerable declining from the prognosticated tasks and aims are returning back for modifying on the analysis stage.

We should mention that in the case when all strategic development variants according to the scenario modeling fails to meet the stated strategy development aims and tasks several times, then not the strategy development variant needs modification but the tasks and aims that were put in front of the strategy.

The last stage of this process is the working out of aims realization tree of the regional development strategy. It is a specific detailed plan of a step by step strategy realization with clear stating of the actions, instruments of realization and the actions assessment indices.

The biggest complicity of the administration process of the regional development strategy elaboration process lies in the necessity to investigate all social and economic regions' development components in correlation and dynamics that will help to prognosticate the administration process more accurately.

The peculiarity of the social and economic scenario prognostication is the process of expectation and prescience building as they are the very categories with which there will be conducted comparison of the actual scenario use results. That's why in the process of the social and economic development of the frontier regions scenario choice the important is the fact of its preliminary estimation and prognosticated results assessment. So if the chosen frontier region development scenario can transform the maximum number of possibilities into actual resources and provide their effective use is the evidence that the chosen scenario will supply the effective social and economic regional development and if not we should change the frontier region scenario development variant.

Taking into account the stated above and basing on the investigations of the complex of regional development strategies



building process we should segregate the following recommendations as to the strategy elaboration of the social and economic frontier regions development:

1. Implementation on the strategy elaboration stage as its indispensable elements, using the methods of scenario prognostication and region's development modeling:

- Using the method of scenario prognostication that allows conducting the observation of the system in the case of different hypothesis existence as to this development mechanism formation;
- Finding out the critical situations, "bottlenecks" in the system development;
- Using the cognitive maps of the dominants system;
- Implementation the monitoring element into the program documents and estimating their effectiveness, in particular the active monitoring from the experts and community;

2. Increasing the authorities' actions transparency level, that will help to estimate the actual realization of this or that scenario within the regional development strategy, and will also form the basis for the administrative decisions monitoring on the authorities part as to the regional development strategy realization with further improvement of decision making approaches and regional policy elaboration;

3. With the aim of inner and outer (transboundary) regional development potential intensification it is reasonable to:

- Take into account the preconditions, peculiarities and functioning factors of the social and economic frontier systems when elaborating the regional development strategies of the regions that has border status;
- Analyzing the frontier regions we should pay attention mainly to the following factors: regulatory support of the

frontier regions development and the ability of public authorities and the instruments of regional policy to react to the regional development challenges; border crossing regulations and the availability of the agreements about local border traffic between the neighboring countries; development of the frontier region economic system and its place in the country's economy; regions' participation in the transboundary collaboration; social system of the frontier region; well-developed transport network; environmental influence on the regional development; hazards and dangers of the country's national interests from the bordering areas.

4. Implementation of the non-governmental sector institutional development, in particular through the public hearings instrument and rating the strategic aims and tasks of the region's development strategy;

5. With the aim of the complex approach formation to the information supply organization and implementation of regional development strategies, their monitoring and estimation it is reasonable to:

- Use the statistic data, that are formed by the system of national and regional statistics; results of social investigations based on the public, experts and managers of different levels surveys; expert assessment that accumulate the qualified experts knowledge as to the possible variants of the social and economic development situation;
- Consider the selection criteria of the statistic supply of the strategic process planning of the frontier and other regions of Ukraine development that are based on financial, productive, innovative and investing, social, ecological, energetic, infrastructural and external economic indices.

6. Taking into consideration the necessity of interregional and transboundary collaboration mechanisms intensification in the regional development formulated priorities, and also with the aim of social safety high level supply of frontier regions it is necessary to provide its economic growth by means of:

- Cross-border collaboration development with the help of joint enterprises formation that manufacture innovative production using high technologies;
- Organization of the competitive products manufacturing from own raw materials of high quality or if necessary of customer's raw materials;
- Formation of suitable investing climate with the aim of foreign high-tech production introduction in regions. For this purpose the country should increase drastically (3-4 times) the amount of science and education financing and create favorable conditions and motivations for involvement out of budget funds into scientific and scientific-technical projects.

7. Standardize the approach of defining the regional strategies priorities. In particular we should define the administrative components (dominants) of the regional development basing on such successive actions: stating the regional development problems, ranking them or giving the significance place, making the transition from the problems description to their priority solving distinguishing when there is a parallel resonance influence finding of the dominant on the social and economic development of frontier regions.

8. It is recommended to use economic and mathematical estimation model and prognosticating the level and potential of social and economic frontier region development, that presupposes the use of integral index

of the social and economic development of the region or the regional development potential.

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## **CHAPTER 3. COMPREHENSIVE ANALYSIS AND EVALUATION OF SOCIO-ECONOMIC DEVELOPMENT OF CROSS-BORDER REGIONS**

### **3.1. SWOT and PEST analysis of social and economic development of cross-border regions**

The development of Ukraine's economy is largely linked with the processes of integration into the world economic space. For that reason, the optimal conditions are created and the fundamentally new institutional basis, legal security, social and economic infrastructures are formed that will provide efficient functioning and development of every region in the country. Today, the Carpathian region consisting of Zakarpattya, Lviv, Ivano-Frankivsk and Chernivtsi regions is characterized by certain peculiarities and is one of the most perspective economic regions in our country. The importance of the region's investigation is constantly growing due to the fact that the mentioned regions belong to border territories, so they play a key role not only in its economy but in the country's economy as a whole.

Simultaneously, the problems and difficulties of the national economy's reformation stipulate the need for finding out the new opportunities for the region's development. In this regard, the efficiency of using mostly its own social and economic potential, as well as strengthening of cohesion both within the region and in the country as a whole play a vital role [1, p. 25].

Having made SWOT analysis of the border region, we took into account the state and the tendencies of its development, the actual problematic issues in the sectors of the national economy and social sphere, the social and economic analysis of previous years, as well as proposals given to the project of the Development Strategy of correspondent regions for the period

until 2020 by specialists of different spheres, experts, scientists, government representatives, public organizations [2, 3, 4, 5].

Systematization of the tendencies connected with functioning of social and economic spheres, institutional environment, natural and geographical characteristics of the regions gave the possibility to find out the following key internal strong and weak points of the border region and also the opportunities and threats of external environment (table 3.1).

**Table 3.1**

**Generalized SWOT analysis of the border region (Lviv, Ivano-Frankivsk, Zakarpattia and Chernivtsi regions)**

<b>Strong Points</b>	<b>Weak Points</b>
<p>1. Favorable economic and geographical location on the crossroads of main highways to Central, South and Eastern Europe, considerable cross-border transit potential, geographical proximity to the EU borders (4 from 6 regions border the EU), availability of a great number of border checkpoints. Passing through particular international transport corridors within the region (Lviv, Zakarpattia regions).</p> <p>2. High level of business activity and self-organization of the population, relatively high level of small and middle-sized businesses development (the indices are higher than on average in Ukraine), the experience of doing business with foreign partners.</p> <p>3. The region's investment attractiveness, successful experience of SEZ functioning.</p>	<p>1. Low level of railway communication of the region's particular territories (most of the region's mountainous areas, the most part of Chernivtsi region), absence of stable and available air communication with other regions of Ukraine and with foreign countries, bad quality of highways, low quality of roadside service.</p> <p>2. Inadequate level of the region's cross-border cooperation, unsatisfactory existing infrastructure of local border checkpoints.</p> <p>3. The region's contribution as for the average volume of Ukraine's Gross Domestic Product is insignificant in comparison with industrial regions of Ukraine.</p> <p>4. Low technological level and competitiveness of enterprises connected with the basic sectors of the region's economy, low capitalization of intellectual property</p>

<p>4. High level of diversification in agriculture (both in crop and livestock production), favorable natural and climatic conditions for the development of gardening and viticulture in the region.</p> <p>5. Availability of the raw material base for further processing of agricultural products.</p> <p>6. Availability of raw material for production of building materials. Substantial deposits of minerals important for the industry (coal, oil, potassium, sulfur, shale, etc).</p> <p>7. Availability of the raw material base for further processing of timber industry products including non-wood forest products.</p> <p>8. Availability of industrial base in the spheres of machine building and electronics (especially the production of electrical equipment, electronic and optical products).</p> <p>9. Developed sector of information and communication technologies.</p> <p>10. Availability of industrial base for the development of the energy industry including alternative energy sources.</p> <p>11. Trade development traditions.</p> <p>12. Substantial inflow of migrant workers' funds from abroad.</p> <p>13. The region is one of the leaders according to the index of human regional development. The population is highly patriotic, religious, oriented towards Ukrainian traditions.</p> <p>14. High population density</p>	<p>objects, high level of the region's shadow economy.</p> <p>5. Substantial energy consumption of production, housing and communal services under conditions of energy source price preservation.</p> <p>6. Low management quality in different spheres (absence of efficient programs connected with the region's development and interregional partnership), the existent corruption.</p> <p>7. Low level of the available average monthly income per person and the average monthly nominal salary, high unemployment level.</p> <p>8. Discrepancy between educational services and the needs of the regional labor market, lack of skillful workforce.</p> <p>9. High level of budget subsidies at all levels, insufficient volumes of capital costs in the structure of local budgets, considerable administrative fragmentation of the region's territorial communities.</p> <p>10. Disproportions in the development of territories and administrative and territorial entities (especially in regional centers), rural depopulation. Insufficient number and accidental conditions of infrastructure social facilities in villages.</p> <p>11. Low level of cooperation in industrial and agricultural spheres, absence of a closed loop production cycle.</p> <p>12. High labor migration of the population, the brain-drain from the</p>
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<p>(except for mountainous areas), high density of hard-surface roads.</p> <p>15. Availability of qualified labor resources.</p> <p>16. Considerable scientific potential, availability of scientific staff and research.</p> <p>17. Developed network of educational establishments.</p> <p>18. Sufficiently developed infrastructure of hotel and catering business in regional centers and other localities that possess the recreational and tourist attractiveness.</p> <p>19. Considerable tourist cultural-historic and natural-recreational potential. Ethnic, cultural and language originality of national minorities, their harmonic coexistence within the region. Availability of local historical, cultural and artistic brands.</p> <p>20. Rich nature reserve fund. High level of forest cover (e.g. nearly 30% in Chernivtsi region, that is twice higher than on average in Ukraine), high river network density (6% of their total number in the country) and availability of mineral water sources.</p> <p>21. Considerable part of ecologically pure territories (the region is one of the leaders in Ukraine), low level of atmospheric emissions. Insignificant degree of anthropogenic pollution of the environment in comparison with other regions of Ukraine.</p> <p>22. Availability of modern “Danylo</p>	<p>region, population ageing.</p> <p>13. Low level of the region’s export-oriented manufactured goods and high intervention of foreign goods, low level of domestic and foreign investments.</p> <p>14. Low investment and innovative activities of middle-sized and small businesses, complicated financial situation of enterprises, reduction in the volumes of lending given by banks to the economic entities and population. Disproportion in the development of middle-sized and small businesses by both sector-specialized and territorial characteristics.</p> <p>15. Inadequate level of infrastructure development as for the support of middle-sized and small businesses (primarily, scientific parks, techno-parks, business incubation).</p> <p>16. Low level of development and use of mineral resources, mainly used in building construction.</p> <p>17. Low industrial share in the region’s economic structure, inadequate level of capacity utilization, low volume of industrial products sold per person in comparison with neighboring regions.</p> <p>18. Low integration of agriculture into market environment, low level in the implementation of modern agricultural technologies in crop-livestock production and fertilizer additives.</p> <p>19. Serious deterioration of the</p>
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<p>Halytskyi International Airport” in Lviv and the stadium “Arena Lviv” built according to modern standards.</p>	<p>region’s existent housing and communal services, low efficiency in the use of engineering communal infrastructure. High unemployment level, especially in rural areas, migration of the working-age Ukrainian population abroad.</p> <p>20. Low level of communication between government, science and business.</p> <p>21. Insufficiently developed material and technical basis of scientific, school, pre-school educational establishments, cultural and social institutions.</p> <p>22. Inadequate level and quality of social and medical services, insufficient provision of medical establishments with modern medical and diagnostic techniques and equipment, as well as efficient and good-quality medicines and remedies in medical establishments.</p> <p>23. Unsatisfactory state of many landmarks of historical and architectural heritage.</p> <p>24. Insufficient recognition of the region’s particular districts in Ukraine and throughout the world, absence of the established tourist brand in the region, unsatisfactory level of information and advertising provision (promotion) of the region’s tourist activities.</p> <p>25. Low level of infrastructural communications in recreational zones, small range of tourist products. Inadequately equipped garbage dumps, the problem of garbage utilization.</p>
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	<p>26. Unsatisfactory state of flood protection and its financing, high probability of natural disasters (floods, landslides, mudflows, etc).</p> <p>27. Irrational use of forest resources (total deforestation including illegal one). Systematic violation of water protection legislation: sewage pollution, extracting gravel from the rivers, building development and plugging up in the water protection zones; unauthorized building on the slopes apt to landslides and in the zones of probable floods.</p>
<b>Opportunities</b>	<b>Threats</b>
<p>1. Potentially the region may be one of the leaders in the development of middle-sized and small businesses on the innovative basis:</p> <ul style="list-style-type: none"> <li>a) rapid development of small and middle-sized entrepreneurship;</li> <li>b) intensification of innovative activities;</li> <li>c) import substitution, increase in exports;</li> <li>d) financial flows into the region due to people working abroad;</li> </ul> <p>2. There is a probability of a high development level in the region's infrastructure, mainly of transport communications:</p> <ul style="list-style-type: none"> <li>a) attraction of investments;</li> <li>b) development of the region's urban and rural areas;</li> <li>c) development of transport and logistic potential, the improvement in the level of railway and air communication with other Ukrainian regions and foreign countries, the</li> </ul>	<ul style="list-style-type: none"> <li>1. Political instability and the increase of social tension in the society because of the war in the east of the country.</li> <li>2. Instability of legal and regulatory framework.</li> <li>3. Uncertainty as for the strategy of Ukraine's development.</li> <li>4. Excessive economic regulation, corruption at all levels of state administration and, consequently, the citizens' low level of confidence in government institutions.</li> <li>5. More attractive investment conditions in other countries including the EU neighboring countries.</li> <li>6. Slowdown in the implementation of urgent structural social and economic reforms by state authorities.</li> <li>7. Shock fluctuations of national currency, financial instability, worsening of the country's investment climate.</li> </ul>

<p>improvement in the quality of highways.</p> <p>3. There is an opportunity for further harmonic development of the region's leading economic sectors:</p> <p>a) industrial sector, agricultural sector, tourism, building construction, knowledge-intensive services, as well as housing and communal services, forestry;</p> <p>b) creation of recycling capabilities;</p> <p>c) creation of logistic centers in the region.</p> <p>4. There is a potential for a high level of cross-border cooperation in the region (in terms of the frontier zone status and the borders with the European Union):</p> <p>a) intensification of cross-border cooperation;</p> <p>b) turnover increase between the region and the EU countries;</p> <p>c) attraction of grant money for realization of regional development projects.</p> <p>5. The region may be one of the leading scientific centers, as well as it may have the developed social sphere, efficient management system of the regional development:</p> <p>a) development of science and education, efficient use of applied scientific research and implementation of innovations in all sectors of economy;</p> <p>b) attraction of foreign students for education;</p> <p>c) development of the system of the population's social protection,</p>	<p>8. Long-term economic recession in Ukraine and in the world.</p> <p>9. High competitiveness of foreign goods in the domestic market.</p> <p>10. The region's becoming the resource adjunct of Europe.</p> <p>11. Increase of competition in the market of highly technological and innovative products of developed countries.</p> <p>12. Lack of personal financial resources in economic entities, and also difficulties connected with borrowing on acceptable terms.</p> <p>13. Lack of adequate innovative infrastructure that provides commercialization of the scientific product and innovative process as a whole.</p> <p>14. Worsening of the state in the region's communal infrastructure.</p> <p>15. Lack of state financing in educational scientific, cultural, health care establishments; housing and communal, and road facilities services.</p> <p>16. Brain drain and qualified workforce outflows, depopulation of the region.</p> <p>17. Increase of the unemployment level, reduction of the population's buying power, higher income level in other regions of Ukraine and abroad.</p> <p>18. Worsening of the state of environment because of unbalanced utilization of nature, inadequate legislation in the inspection sphere concerning utilization of natural resources.</p>
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<p>health care, sports);</p> <p>d) development of renewable and alternative energy sources;</p> <p>e) improvement in the management of the region's development, fight against corruption;</p> <p>f) development of civil society and media;</p> <p>g) environmental protection and preservation.</p> <p>6. Decentralization of power, implementation of administrative reforms and increase of local communities' budget independence.</p> <p>7. Energy-efficiency improvements in production, housing and communal services, social sphere.</p> <p>8. Intensive development of tourist and recreational sphere, particularly resorts, green rural tourism.</p> <p>9. Development of enterprises in IT sector.</p> <p>10. Export of ecologically pure, organic agricultural products, creation of interstate territorial clusters.</p>	<p>19. Pollution of territories with spontaneous garbage dumps.</p> <p>20. States of emergency of natural (floods, landslides, mudflows, erosions) and technogenic character, particularly because of irrational utilization of natural resources.</p>
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Having made SWOT analysis we found out interrelations between endogenous (strong and weak points) and exogenous (opportunities and threats) factors that have a strategic significance for the region [6, 7]. These very interrelations give us the possibility to formulate comparative advantages, challenges, risks and protected aspects of the region's development which are the foundation for strategic choice, i.e. formulation of strategic and operational goals of the region's development for a long-term prospect (Figure 3.1).

Strong Points	Support	Opportunities
Favorable economic and geographical location.		Potentially the region may be one of the leaders in the development of middle-sized and small businesses on the innovative basis.
High level of business activity and self-organization of the population.		There is a probability of a high development level in the region's infrastructure.
The region's investment attractiveness, successful experience of SEZ functioning.		There is an opportunity for further harmonic development of the region's leading economic sectors.
High level of diversification in agriculture.		There is a potential for a high level of cross-border cooperation in the region.
Availability of the raw material base for further processing of agricultural products.		The region may be one of the leading scientific centers, with developed social sphere.
Availability of raw material for production of building materials.		Decentralization of power, implementation of administrative reforms and increase of local communities' budget independence.
Availability of the raw material base for further processing of timber industry products.		Energy-efficiency improvements in production, housing and communal services, social sphere.
Availability of industrial base in the spheres of machine building and electronics.		Intensive development of tourist and recreational sphere.
Developed sector of information and communication technologies.		Development of enterprises in IT sector.
Availability of industrial base for the development of the energy industry.		Export of ecologically pure, organic agricultural products.
Traditions of trade development.		
Substantial inflow of migrant workers' funds from abroad.		
The region is one of the leaders according to the index of human regional development.		
High population density.		
Availability of qualified labor resources.		
Considerable scientific potential.		
Developed network of educational establishments.		
Sufficiently developed infrastructure of hotel and catering business.		
Considerable tourist cultural-historic and natural-recreational potential.		
Rich nature reserve fund.		
Considerable part of ecologically pure territories.		
Availability of modern "Danylo Halytskyi International Airport" in Lviv.		

**Fig. 3.1. The region's comparative advantages**

The research of the development of Lviv, Chernivtsi, Zakarpattia and Ivano-Frankivsk regions conducted by means of PEST analysis gave the possibility to determine what peculiar impacts such four groups of major factors as political-legal, economic, social-cultural and technological have [8, 9, 10, 11]. This analysis is common for all regions since it reflects all features of the region's external environment at the macro level.

### **I. Political-Legal**

1. Political instability and the increase of social tension in the society because of the war in the east of the country.
2. Instability of legal and regulatory framework.
3. Uncertainty as for the strategy of Ukraine's development.
4. Excessive economic regulation, corruption at all levels of state administration and, consequently, the citizens' low level of confidence in government institutions.
5. More attractive investment conditions in other countries including the EU neighboring countries.
6. Slowdown in the implementation of urgent structural social and economic reforms by state authorities.
7. Inadequate level of the region's cross-border cooperation, unsatisfactory existing infrastructure of local border checkpoints.
8. Low level of communication between government, science and business.
9. Irrational use of forest resources (total deforestation including illegal one). Systematic violation of water protection legislation: sewage pollution, extracting gravel from the rivers, building development and ploughing up in the water protection zones; unauthorized building on the slopes apt to landslides and in the zones of probable floods.
10. Worsening of the state of environment because of unbalanced utilization of nature, inadequate legislation in

the inspection sphere concerning utilization of natural resources.

## **II. Economic**

1. Favorable economic and geographical location on the crossroads of main highways to Central, South and Eastern Europe, considerable cross-border transit potential, geographical proximity to the EU borders (4 from 6 regions border the EU), availability of a great number of border checkpoints. Passing through particular international transport corridors within the region (Lviv, Zakarpattia regions).
2. High level of business activity and self-organization of the population, relatively high level of small and middle-sized businesses development (the indices are higher than on average in Ukraine), the experience of doing business with foreign partners.
3. The region's investment attractiveness, successful experience of SEZ functioning.
4. High level of diversification in agriculture (both in crop and livestock production), favorable natural and climatic conditions for the development of gardening and viticulture in the region.
5. Availability of the raw material base for further processing of agricultural products.
6. Availability of raw material for production of building materials. Substantial deposits of minerals important for the industry (coal, oil, potassium, sulfur, shale, etc).
7. Availability of the raw material base for further processing of timber industry products including non-wood forest products.
8. Availability of industrial base in the spheres of machine building and electronics (especially the production of electrical equipment, electronic and optical products).
9. Substantial inflow of migrant workers' funds from



abroad.

10. The region is one of the leaders according to the index of human regional development. The population is highly patriotic, religious, oriented towards Ukrainian traditions.
11. Availability of qualified labor resources.
12. Sufficiently developed infrastructure of hotel and catering business in regional centers and other localities that possess the recreational and tourist attractiveness.
13. Availability of modern “Danylo Halytskyi International Airport” in Lviv and the stadium “Arena Lviv” built according to modern standards.
14. Low level of railway communication of the region’s particular territories (most of the region’s mountainous areas, the most part of Chernivtsi region), absence of stable and available air communication with other regions of Ukraine and with foreign countries, bad quality of highways, low quality of roadside service.
15. The region’s contribution as for the average volume of Ukraine’s Gross Domestic Product is insignificant in comparison with industrial regions of Ukraine.
16. Low management quality in different spheres (absence of efficient programs connected with the region’s development and interregional partnership), the existent corruption.
17. Low level of the available average monthly income per person and the average monthly nominal salary, high unemployment level.
18. High level of budget subsidies at all levels, insufficient volumes of capital costs in the structure of local budgets, considerable administrative fragmentation of the region’s territorial communities.
19. Disproportions in the development of territories and administrative and territorial entities (especially in regional centers), rural depopulation. Insufficient

- number and accidental conditions of infrastructure social facilities in villages.
20. Low level of cooperation in industrial and agricultural spheres, absence of a closed loop production cycle.
  21. High labor migration of the population, the brain-drain from the region, population ageing.
  22. Low level of the region's export-oriented manufactured goods and high intervention of foreign goods, low level of domestic and foreign investments.
  23. Low investment and innovative activities of middle-sized and small businesses, complicated financial situation of enterprises, reduction in the volumes of lending given by banks to the economic entities and population. Disproportion in the development of middle-sized and small businesses by both sector-specialized and territorial characteristics.
  24. Low industrial share in the region's economic structure, inadequate level of capacity utilization, low volume of industrial products sold per person in comparison with neighboring regions.
  25. Low integration of agriculture into market environment, low level in the implementation of modern agricultural technologies in crop-livestock production and fertilizer additives.
  26. Serious deterioration of the region's existent housing and communal services, low efficiency in the use of engineering communal infrastructure. High unemployment level, especially in rural areas, migration of the working-age Ukrainian population abroad.
  27. Insufficient recognition of the region's particular districts in Ukraine and throughout the world, absence of the established tourist brand in the region, unsatisfactory level of information and advertising provision (promotion) of the region's tourist activities.

28. Low level of infrastructural communications in recreational zones, small range of tourist products. Inadequately equipped garbage dumps, the problem of garbage utilization.
29. Shock fluctuations of national currency, financial instability, worsening of the country's investment climate.
30. Long-term economic recession in Ukraine and in the world.
31. High competitiveness of foreign goods in the domestic market.
32. The region's becoming the resource adjunct of Europe.
33. Increase of competition in the market of highly technological and innovative products of developed countries.
34. Lack of personal financial resources in economic entities, and also difficulties connected with borrowing on acceptable terms.
35. Lack of adequate innovative infrastructure that provides commercialization of the scientific product and innovative process as a whole.
36. Worsening of the state in the region's communal infrastructure.
37. Lack of state financing in educational scientific, cultural, health care establishments; housing and communal, and road facilities services.
38. Brain drain and qualified workforce outflows, depopulation of the region.
39. Increase of the unemployment level, reduction of the population's buying power, higher income level in other regions of Ukraine and abroad.

### **III. Social-Cultural**

1. Trade development traditions.
2. High population density (except for mountainous areas),

- high density of hard- surface roads.
3. Considerable scientific potential, availability of scientific staff and research.
  4. Developed network of educational establishments.
  5. Considerable tourist cultural-historic and natural-recreational potential. Ethnic, cultural and language originality of national minorities, their harmonic coexistence within the region. Availability of local historical, cultural and artistic brands.
  6. Rich nature reserve fund. High level of forest cover (e.g. nearly 30% in Chernivtsi region, that is twice higher than on average in Ukraine), high river network density (6% of their total number in the country) and availability of mineral water sources.
  7. Considerable part of ecologically pure territories (the region is one of the leaders in Ukraine), low level of atmospheric emissions. Insignificant degree of anthropogenic pollution of the environment in comparison with other regions of Ukraine.
  8. Discrepancy between educational services and the needs of the regional labor market, lack of skillful workforce.
  9. Insufficiently developed material and technical basis of scientific, school, pre-school educational establishments, cultural and social institutions.
  10. Inadequate level and quality of social and medical services, insufficient provision of medical establishments with modern medical and diagnostic techniques and equipment, as well as efficient and good-quality medicines and remedies in medical establishments.
  11. Unsatisfactory state of many landmarks of historical and architectural heritage.
  12. Pollution of territories with spontaneous garbage dumps.
  13. States of emergency of natural (floods, landslides, mudflows, erosions) and technogenic character, particularly because of irrational utilization of natural

resources.

#### **IV. Technological**

1. Developed sector of information and communication technologies.
2. Availability of industrial base for the development of the energy industry including alternative energy sources.
3. Low technological level and competitiveness of enterprises connected with the basic sectors of the region's economy, low capitalization of intellectual property objects, high level of the region's shadow economy.
4. Substantial energy consumption of production, housing and communal services under conditions of energy source price preservation.
5. Inadequate level of infrastructure development as for the support of middle-sized and small businesses (primarily, scientific parks, technoparks, business incubation).
6. Low level of development and use of mineral resources, mainly used in building construction.
7. Unsatisfactory state of flood protection and its financing, high probability of natural disasters (floods, landslides, mudflows, etc).

Thus, having made PEST and SWOT analysis of the Carpathian region's social and economic development, we may state that the investigated regions have a series of distinctive advantages and have quite good opportunities. Nevertheless, the availability of a great number of weak points and threats from external environment impede them to fully use their potential and to develop as well. PEST analysis specified that in order to provide the regions' development, first of all, it is worth reforming and improving the political and legal structure, creating favorable conditions for the development of social and economic potential,

and conducting efficient state technological policy. The scientific and technological progress must become the basis for the development of every enterprise in the region and every sector in the national economy. SWOT analysis, in its turn, showed that the Carpathian region has favorable location which provides it with investment attractiveness and the possibility of cross-border cooperation. The major threats of the region are: unstable economic situation, vital demographic problems, brain drain and qualified workforce outflow, as well as the outflow of young people who want to get education abroad and who don't want to come back. The major priorities of social and economic development of the region are activities of state authorities and local self-government concerning the creation of all possible conditions for improving the situation in the country and providing the basis for decreasing the impact of external threats.

### **3.2. Positioning of cross-border regions of Ukraine on the efficiency level of the use of economic potential**

As Ukraine implements the course towards European integration, the issues of the development of cross-border regions have become the most urgent, since they are the first to adapt to the European economy, which ensures the strengthening of the domestic competitiveness of the national economy. Defining the cross-border region as an administrative-territorial unit, which is located next to the state level and located directly along the state border [11, p.140], in Ukraine 19 regions can be considered as cross-border ones (from 2014, 18 regions without the Crimea). Six of them are parts of four Euro-regions: Transcarpathian, Ivano-Frankivsk, Lviv, Chernivtsi (Carpathian Euro-region), Volyn (Euro-region Bug), Odessa (Euro-region "Lower Danube"), Ivano-Frankivsk, Chernivtsi (Euro-region "Upper Prut").

The economic potential of the cross-border regions is the basis of their high competitive status, if it is effectively used. Under

the economic potential of the cross-border region, we will understand the combination of natural resources, production and financial, intellectual and labor, export opportunities of the region, which provide the region with stable competitive positions in the national and international economy. Powerful economic potential of the regions and its effective use enables them successfully compete for attracting foreign investment, highly skilled labor force, and other economic resources [12, p.150].

Regarding the need to position cross-border regions of Ukraine and determine their competitive position, analyze the economic potential of the region in terms of the following components: basic infrastructure, production and financial potential, innovative potential, sociodemographic development potential, labor potential, potential of international integration, natural and ecological potential.

An integrated assessment of the production and financial potential of the development of cross-border regions of Ukraine in 2010-2015 showed that during the analyzed period, five cross-border region-leaders did not change significantly. The highest figure for almost all years (except 2015) was in Kyiv region. Also, Donetsk, Ivano-Frankivsk, Mykolaiv, Vinnytsia regions occupied the leading positions.

From the regions of the Carpathian region, Ivano-Frankivsk region shows the best indicators all years round. During 2010 - 2014, the region occupied 2<sup>nd</sup> or 3<sup>rd</sup> positions among the cross-border regions. In 2015, the region by these indicators came in first place among the regions of Ukraine (without the city Kyiv). Lviv region throughout the period was among the top ten cross-border regions with the available production and financial potential (5<sup>th</sup> – 8<sup>th</sup> positions), however, in 2015, according to preliminary data, the region significantly deteriorated its figures. The decrease in the index was affected by the deterioration of the situation in agriculture. Lviv region is the only region in the country where agricultural enterprises completed the year 2015 with losses in the amount of 371084.8 UAH. Transcarpathian region from the 15th

position among the cross-border regions, which it occupied in 2010, moved to 17th (penultimate) in 2014-2015. Chernivtsi region all years of the study occupied the last 18th position in the rating of the cross-border regions and 23<sup>rd</sup> or 24<sup>th</sup> position in the overall rating (without Kyiv and in 2014-2015 without AR Crimea).

It should be noted that Poltava and Dnipropetrovsk regions (in 2010, it is 1<sup>st</sup> and 2<sup>nd</sup> positions in the rating, and in 2015 – 3<sup>rd</sup> and 5<sup>th</sup> positions) are the best indicators to be used to represent the production and financial potential of all regions of Ukraine. Leading positions in the overall rating were always occupied by Kirovohrad and Zaporizhzhia regions (in 2015 it is 4<sup>th</sup> and 6<sup>th</sup> positions).

The calculation of the integral indicator of the use of the potential of sociodemographic development of cross-border regions in 2010-2015 showed that Kharkiv region occupied a leading position. The top five leaders during 2010-2013 included also Odesa, Donetsk, Luhansk and Kyiv regions. This is mainly due to the situation on the labor market and income level of the population. In 2014-2015, the order in the rating has slightly changed. If in 2010-2011 Kiev region occupied the 5th position, then in 2014-2015 it occupied the 2<sup>nd</sup> one. Since 2013, Lviv region has significantly improved its performance (10<sup>th</sup> positions in 2010, 8<sup>th</sup> in 2013, 5<sup>th</sup> in 2014-2015) - due to the improvement of the demographic situation and the increase of students in the region. A significant decrease in the ratings of Donetsk region and, in particular, Luhansk region is due to the conflict in these regions and a significant outflow of the population.

Ivano-Frankivsk region had good demographic indicators for all years (migration growth, total fertility), which improved further in 2014-2015, which allowed the region to enter the 8th position among the cross-border regions in 2014 and 9<sup>th</sup> in 2015. Chernivtsi region for the whole period occupied 12<sup>th</sup> -14<sup>th</sup> positions in the rating of the cross-border regions. Transcarpathian region in 2010-2014 occupied the bottom positions of the rating both among the cross-border regions and among all regions of Ukraine (growing



decline of population migration, high child mortality, low real incomes of the population), but in 2015 the situation improved a little bit and the region occupied 16<sup>th</sup> position (increase in total fertility).

If we consider the overall ranking of Ukraine's regions according to the socio-demographic potential of development (without the city Kyiv), then high positions should be noted throughout the research period of such regions as Poltava, Dnipropetrovsk, Zaporizhzhia. In 2010, they occupied 3<sup>rd</sup>, 4<sup>th</sup> and 5<sup>th</sup> positions respectively, then in 2015 – 2<sup>nd</sup>, 7<sup>th</sup> and 4<sup>th</sup> positions. The decrease of Dnipropetrovsk region in the rating is due to a significant deterioration of the demographic indicators - for the first time in the period of research in the region migration decline was recorder.

The positioning of cross-border regions of Ukraine by the level of labor potential has revealed four leaders: Donetsk, Odesa, Kyiv and Kharkiv regions (high level of economic activity of the population, average monthly wages of employees, and relatively better situation in the labor market). Luhansk region occupied high positions in 2010-2013 (5<sup>th</sup> position). However, in 2014-2015, Mykolaiv (2014) and Lviv (2015) regions were included in the top five.

Among regions of the Carpathian region, Lviv region occupied the highest positions in terms of the use of available labor potential (8<sup>th</sup> - 9<sup>th</sup> position during 2010-2013, 7<sup>th</sup> in 2014 and 5<sup>th</sup> in 2015). Stable 10<sup>th</sup> position in the rating of cross-border regions during 2010-2013 was kept by the Transcarpathian region. It improved its performance in 2014-2015 (increase in economic activity of the population, average monthly wages, and low level of registered unemployment) and took respectively 8<sup>th</sup> and 7<sup>th</sup> position. As a negative trend, it should be noted that there is a steady reduction in the needs of regional enterprises in employees.

For Chernivtsi and Ivano-Frankivsk regions, low rates of economic activity; demand for enterprises in employees are characteristic, which determines their rather low rating – 12<sup>th</sup> – 15<sup>th</sup>

positions during 2010-2015. In 2015, Ivano-Frankivsk region occupied the 10<sup>th</sup>, while Chernivtsi – 13<sup>th</sup> position among cross-border regions.

If to analyze all regions of Ukraine (without Kiev) by indicator of labor potential, then all years of research, except 2011-2012, Dnipropetrovsk region was the leader. In 2011-2012 Donetsk region came to first place.

Research of the innovation potential of cross-border regions revealed that during 2010-2013 the undisputed leader was the Donetsk region. In 2014-2015 Kharkiv region occupied the 1<sup>st</sup> position, which in previous years took the second place. High indicators during the entire period of research demonstrated Mykolaiv, Sumy, and Lviv regions. Kiev region has considerably improved its position. If in 2010 - 2014 it occupied 12<sup>th</sup> – 13<sup>th</sup> places in the rating of cross-border regions, then in 2015 - the 15th place. Worst indicators all years of research were demonstrated by Rivne, Volyn, Chernivtsi and Chernihiv regions. In 2014-2015 Luhansk region also got to the end of the rating list, although in previous years it occupied 6<sup>th</sup> – 7<sup>th</sup> positions among the cross-border regions. Carpathian region is characterized by relatively low indicators of innovative development of enterprises. In addition to the Lviv region, Ivano-Frankivsk region (5<sup>th</sup> – 6<sup>th</sup> position) showed quite good results during 2010-2013. However, in 2014-2015 there was a threefold decrease in the innovation activity of enterprises compared to 2013; in 3.6 times - the volume of realized innovative products in the industry; 5.3 times - costs on innovation activity of enterprises in the industry. Transcarpathian region during 2010-2014 occupied 15<sup>th</sup> – 17<sup>th</sup> position in the rating of cross-border regions. In 2015, the region has taken the 10<sup>th</sup> position, but this was not due to increased business innovation in the region, but due to a significant deterioration of this indicator in other regions.

The positioning of cross-border regions in the direction of the “natural and ecological potential” revealed that Kherson region was the leader among cross-border regions for all years of research, and in the general ranking - Khmelnytskyi region (the largest

national park - Podilski Tovtry with a total area of 261.3 thousand hectares in Europe). High rates were recorded in Transcarpathian, Volyn, Ivano-Frankivsk, and Odessa regions. Transcarpathian region has consistently occupied the second position in the rating of cross-border regions, and Ivano-Frankivsk region among cross-border regions moved from the third position in 2010-2013 to the sixth in 2014 and the seventh in 2015. In recent years, the situation in Kiev and Mykolaiv regions has improved. Environmental expenditures in these regions in 2015 compared to 2013 increased by 2.0 and 4.9 times, respectively. Kiev region has taken the third position, Mykolaiv - the fourth. Lviv region in 2010-2015 occupied 12<sup>th</sup> or 13<sup>th</sup> positions, and Chernivtsi region – 14<sup>th</sup> or 15<sup>th</sup> among cross-border regions.

The lower bounds of the rating of cross-border regions in the respect to “natural and ecological potential” are steadily occupied by Vinnytsa, Luhansk and Donetsk regions. In the overall regional ranking for this indicator, Cherkasy, Kirovograd and Dnipropetrovsk regions have low rates.

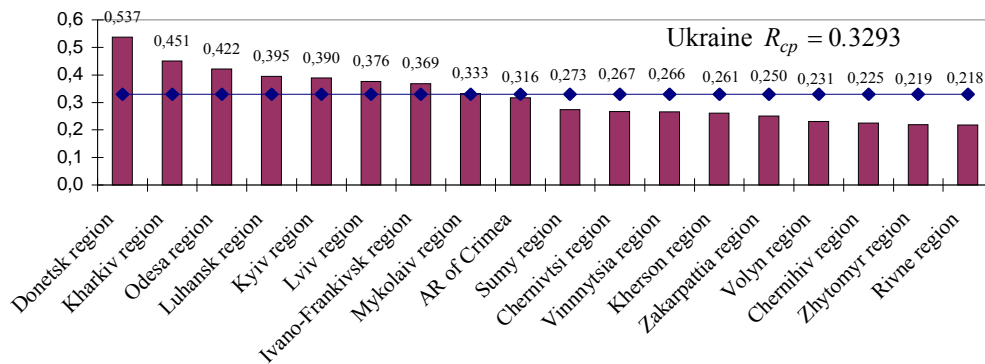
In the context of the study of the export potential of cross-border regions, the analysis showed that Donetsk, Odessa, Kiev, Kharkiv, and Mykolaiv regions always occupied leading positions. In 2015, Donetsk region lost competition to Odessa region in connection with the suspension of a number of industrial objects in the region. Similar situation is with the Luhansk region, which always showed high rates (5<sup>th</sup> – 6<sup>th</sup> place). The overall rating is headed by Dnipropetrovsk region, which holds leadership positions throughout the study period. Lviv region has a high export potential, which in the years 2014-2010 has increased its rating from the 7th to the 5th place.

Transcarpathian and Ivano-Frankivsk regions have consistently occupied 9<sup>th</sup> and 10<sup>th</sup> positions in the rating. Chernivtsi region occupies stable since 2011 and lower position in the rating of cross-border regions, as well as in the general list. It should be noted that there is a significant gap between the maximum and the minimum indicators: in Dnipropetrovsk region - 0.7725 and

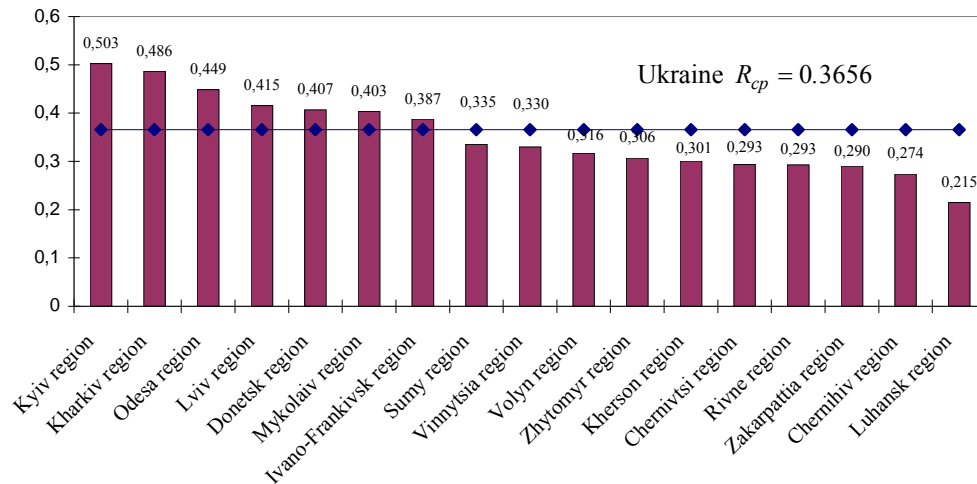
Chernivtsi - 0.0052. Also significant is the gap between the first and second position in the rating - 0.2740. This testifies very low potential of most regions of Ukraine, in particular cross-border regions, for the export of goods and services, as well as the volume of direct foreign investments directed to the regional economy.

The calculation of the overall integral indicator for cross-border regions showed that in the period of 2010-2013 Donetsk region remained the leader (Figure 3.2.), which in 2014 lowered its positions to the 4th, and in 2015 - to the 5th position , Passing ahead of Kyiv, Kharkiv, Odesa and Lviv regions (Fig. 3.3.) [13].

Among the regions of Carpathian region, the average Ukrainian level, except Lviv region, exceeded Ivano-Frankivsk (7th position in the rating). Low indicators are in Chernivtsi (13th place) and Transcarpathian (15th position) regions. Lower steps in the ranking are taken by Chernihiv and Luhansk regions, although in 2010 their positions were significantly higher, especially in Luhansk (4th position).



**Fig. 3.2. Positioning of cross-border regions of Ukraine by the integral indicator of the use of economic potential in 2010**



**Fig. 3.3. Positioning of cross-border regions of Ukraine by an integral indicator of the use of economic potential in 2015**

Thus, the integrated assessment of the use of economic potential of cross-border regions indicates further deepening of the differences in the levels of the development of regions, which can be explained by uneven “starting” conditions in the transition to market relations, differences in natural resource potential, unequal access to budgetary resources, geographical location, etc. Regions were not prepared for the increase of competitive pressure on domestic and foreign markets in the struggle for material, financial and human resources and they demonstrate the inefficient use of existing capacities and competitive advantages. The aggravation of the military conflict in the east of Ukraine significantly reduced the position of such strong industrial regions as Donetsk and Luhansk, had a negative impact on the economy of neighboring regions.

A more differentiated approach to shaping the policy of regional development is needed to increase the effectiveness of using the existing economic potential of cross-border areas and their development. It is necessary to attract and direct foreign direct investment for the development and enhancement of the

quality of infrastructure and information support, expansion of transport links, which will allow faster development of the processing industry, trade and intermediary and logistic sphere, hotel and restaurant business, tourism.

Neighborhood of Ukraine with EU countries expands the possibilities of involving cross-border regions to the European processes of improving the quality of human life, presence in international markets of goods and services, and allows diversification of the areas of cross-border cooperation. However, in our opinion, cross-border cooperation in Ukraine is hampered by its underestimation by the regional authorities as a real practical tool for improving the competitiveness of cross-border regions, improving the living standards of population there, as well as the lack of a clear legal framework and transparent financial support mechanisms for cross-border areas development.

Considerable threats for cross-border regions, especially the western ones, are mass labor migration, which have recently been complemented by outposts for youth for education. The desire to get a prestigious European education and proximity to Poland, the Czech Republic, and Germany determines the choice of young people to look for education in these countries and further employment. According to the Institute of International Education, by the year 2025, about 8 million people from Ukraine won't study at home. [14].

Such tendencies have a very high probability of not returning young people, and then their parents and family members back to their homeland and leads to an outflow of intellectual capital, primarily from cross-border areas. We believe that reforms in higher education systems took place in Ukraine are not systematic and did not lead to an increase of quality of education itself and its competitiveness, as the necessary condition for any reform was not fulfilled - significant investment inflows to the material and technical base support of university science, social protection of educators, etc. Not solving the problem at this stage is a threat to the national security of the country, since the preservation and

development of the nation is impossible without the development of education.

### **3.3. Assessment of social development of cross-border regions social development (on the materials of Carpathian region)**

Monitoring and evaluating of social development of the region is a necessary instrument of a decentralized mechanism of public administration, which enables not only to assess the effectiveness of policies, but also to find out the causes and possible consequences of preserving existing trends. It is expedient to carry out monitoring with the use of social indicators, which must be built on a single conceptual basis, be merged into a single data bank within the information system and comply with international standards [15, p.5].

The assessment of social development at regional level can be carried out according to the following indicators:

- Average income level of the population and the degree of their differentiation;
- Life expectancy, level of physical and mental health of population;
- Level of health protection (provided by clinics, pharmacies, hospitals, diagnostic centers and ambulance services, quality of medical services provided);
- Educational level;
- Level of consumption of material goods and services (food, housing, telephone services);
- Environmental conditions;
- Enriching cultural life of the population.

The analysis of social development of the regions necessarily involves assessing the quality of life of the population of the region. It can be carried out through a system of indicators of levels and structure of income and expenditure, property stratification and

poverty, purchasing power of income, indicators of the ratio of total expenses and income, the share of cash income in total income.

The research of incomes of the population of Ukraine in 2005-2015 showed an increase in the average monthly disposable income per capita of 4.9 times, in Carpathian region - by 4.6 times. According to preliminary data, at the end of 2015, the highest incomes in the region had inhabitants of Lviv region (2399.6 UAH.), the lowest - in Transcarpathian region (1787.2 UAH) [16].

According to Eurostat, in 28 countries-members of the European Union, the average monthly income per person was 2097 euros. The maximum level of this indicator was observed in Switzerland - 4112 euros, Norway - 3987 euros, Denmark - 3642 euros. In the countries of Carpathian Euro-region, the value of the indicator is much lower: in Bulgaria - 332 euros (the minimum level), Romania - 444 euros, Hungary - 729, Slovakia - 758, Poland - 793 euros [17]. In Ukraine, for this period, respectively - 146.3 euros, that is, more than twice lower as even the minimum index of EU countries.

It should be noted that in 2014-2015 in Ukraine there is a significant decline in the real disposable income index to the corresponding period of the previous year. If in 2014 the value of the indicator was 88.5%, then in 2015 - 77.5%. The fall in the index of real incomes occurred in all regions of Carpathian region. In 2015, in Transcarpathian region it was 81.9%, Ivano-Frankivsk - 83.7%, Lviv region - 80.0%, Chernivtsi region - 85.6%. An explanation for such a phenomenon with a steady increase in the population's incomes is the deepening of the country's inflationary processes and the spread of economic shadowing.

The dynamics of the average monthly nominal wage in Ukraine in 2005-2015 showed that in Carpathian region is the highest level of average monthly salary in 2015 was achieved in Lviv region - UAH 3647. (With an average Ukrainian indicator of 4195 UAH or 160.1 EUR), the lowest is in Chernivtsi region - 3049 UAH. [18]. In general, the high wages in Ukraine were recorded in Kyiv



(UAH 6732), Donetsk (UAH 4986) and Dnipropetrovsk (UAH 4367), the lowest - in Ternopil (UAH 2994).

The average hour of labor in Ukraine was worth 1.1 euros. In the EU-28, the average hourly wage cost was 25.0 euros. In the Carpathian Euro-region, this figure is lower: in Slovakia - 10,0 euros, Poland - 8,6, Hungary - 7,5, Romania - 5,0 euros. For comparison: in Denmark - 41.3, Sweden - 37.4, France - 35.1, Germany - 32.2 euro [19].

The growth of the minimum wage in Ukraine during the study period occurred 5.3 times. From 01.09.2015, the minimum wage in the country is 1378 UAH that is, 57 USD or 52.6 EUR (at the rate of NBU as of 01.12.2015). Among the EU countries, at the beginning of 2016, the lowest level of minimum wages was recorded in Albania (155.71 euros), Bulgaria (214.75 euros), and the highest in Luxembourg (1922.96 euros). In Carpathian Euro-region, the level of minimum wage was: in Romania - 233.16 euros, in Hungary - 353.05, in Slovakia - 405.00, in Poland - 431.24 euros. More than 1000 euros per month are received in the UK (1529.03 euros), France (1466.62 euros), Ireland (1546.35 euros), Germany (1473 euros), Belgium and the Netherlands (1501.8 euros) [20]

In Ukraine, the subsistence minimum was UAH 1330, starting from 01/05/2016 - UAH 1399, which is \$ 55.7 per month, or \$ 1.87 per day. According to the World Bank, poverty begins where income is less than \$ 1.90 per day. The ratio of average monthly nominal wage to the subsistence minimum per one able-bodied person in the country in 2005-2015 ranged from 1.9 times (2005) to 3, 2 times (2015). The ratio of the average size of the pension to the subsistence minimum increased from 1.0 to 1.3 times over the same period [21]. In Carpathian region, the average amount of pensions is lower than Ukrainian indicator, in particular, in Transcarpathian, Chernivtsi region by 13.9%, Ivano-Frankivsk - by 9.6%, and in Lviv - by 7.0%.

The poverty rate in Ukraine, according to the absolute criterion (60 percent of the median level per capita equivalent total expenditures), decreased from 55.3% (2005) to 8.6% (2014). During

2005-2013 in all regions of Carpathian region the level of extreme poverty was higher than the average for Ukraine. In 2014, the situation improved slightly, only in Lviv region the figure remained high enough and amounted to 8.7 [22-25].

To estimate the income differentiation of Ukraine's population, the docile factor of funds or the stock differentiation coefficient is used, which shows the ratio of total income of 10% of the most and 10% of the least-secured population. Ukraine has a positive dynamics in reducing the income differentiation of population during 2005-2014. If it was 6.9 times in 2005, it was 4.4 times in 2014, that is, the reduction of differentiation was 160%. Among the regions of Carpathian region, the high level of income differentiation throughout the research period was maintained in Lviv (from 5.6 in 2005 to 3.8 times in 2014) and in Chernivtsi region (from 6.8 in 2005 to 3.9 times in 2014). [22-25].

Low indicators of labor remuneration indicate the spread of a catastrophic phenomenon - the poverty of the working population. In 2015, wages amounted only 39% of total incomes, social benefits and other population received current transfers in the structure of income amounted to 37.8%. In Carpathian region, the structure of incomes is extremely deformed. Thus, in Chernivtsi and Ivano-Frankivsk regions, the share of wages in the total income was the lowest in Ukraine and amounted to only 27.6% and 28.7% respectively in 2015. In Transcarpathian region, this figure is slightly higher (31.9%), but a very high percentage of social benefits and current transfers received - 40.8% of the total income. In Lviv region, the share of wages in the population's income was 36.9%, which is lower than the average Ukrainian indicator. In the European Union, the wage share ranges from 66 to 87%, in particular, in Romania, Poland - 77%, Hungary, Slovakia - 74%. The highest rates are in Denmark (87.2%), Slovenia (85.7%), Great Britain (85.5%), Bulgaria (84.0%), the lowest are in Sweden (66.8%), France (67, 1%) (data for 2011) [26].

The recent medical and demographic situation in Ukraine shows the poor state of health of the population, which is

manifested in a low birth rate in comparison with high mortality rates, first of all men of working age, negative natural population growth, and also high prevalence of chronic non-infectious diseases. Such diseases appear in up to 60 percent of the adult population and almost 20 percent of the children are affected. The estimated life expectancy at birth in 26 countries of the European region, according to the WHO, is more than 75 years old, whereas in Ukraine only in 2010 it exceeded the level of 70 years. According to the State Statistics Service of Ukraine, the average life expectancy at birth in Ukraine in 2015 was 71.38 years (66.37 years for men and 76.25 years for women). In Carpathian region, this indicator varies from 70.66 years in Transcarpathian region to 73.33 years in Lviv region.

The Bloomberg Global Health Index ranked Italy with the most healthy population, based on indicators such as life expectancy, causes of death, and various health threats, including high blood pressure, obesity, malnutrition and clean water scarcity. The leading position of Italy in the ranking of the heaviest countries in the world experts associate with the surplus doctors in the country, as well as a diet rich in vegetables, olive oil, and access to fresh produce, fruits, lean meat and fish. The TOP-10 of the healthiest countries also included Iceland, Switzerland, Singapore, Australia, Spain, Japan, Sweden, Israel, and Luxemburg [27]. Unfortunately, Ukraine did not even enter the top 50 healthiest countries of the world.

In 2016, the highest average life expectancy was recorded in Japan: 82.6 years (79 years for men and 86.1 years for women). The lowest rate is today recorded in Africa. Officially, the country with the lowest average life expectancy is Swaziland (39.6 years), but almost every African country is on the bottom of the list.

In the conditions of lower birth rate and stable high mortality rate in the country, the preservation of the life of newborns is a priority task of the state. For the period of 2000-2016, the mortality of children under one year of age decreased from 11.9 to 7.4 per 1,000 people in the existing population. In all regions of Carpathian

region, this indicator also declined during the period under study. The lowest mortality rate for infants in Carpathian region in 2016 is registered in the Ivano-Frankivsk and Lviv regions (6.7 per 1,000 live births, the highest in Transcarpathian region is 10.4), while in Chernivtsi region this indicator also exceeded the average Ukrainian level and amounted to 8, 9 people.

The peculiarity of the demographic situation in Ukraine is the crisis of health and viability of the population. This is, first of all, a high level of morbidity among children and adults, premature mortality of the working-age population, an excess of more than three times the male mortality rate above the female one. The main causes of deaths of Ukrainians are diseases of blood circulation system (67.2% in 2016); malignant neoplasm (13.5%); injuries, poisoning and some other effects of external factors (5.4%); external causes of mortality (4.3%); diseases of the digestive system (3.8%); symptoms, signs and abnormalities detected in clinical and laboratory studies (3.6%); respiratory diseases (2.4%), infectious and parasitic diseases (1.6%). Ukraine is characterized by a high incidence of cancer and is among the top ten countries in the world, with more than 363,000 sick people a year. Today, every 5th Ukrainian has cancer for a lifetime and in the short term - every 4th will suffer. The incidence and mortality from cancer are constantly increasing due to the deterioration of the environment and the "aging" of the population. Such a situation creates a difficult problem both for the national health system and for the national economy, because losses among the able-bodied population lead to colossal losses in the gross national product. Experts estimate the cash equivalent of up to \$ 3 billion [28].

The quality of medical care for the population allows us to assess the degree of compliance with the state (health care institution) guarantees stated in accordance with established criteria and quality indicators, taking into account the satisfaction of the population in obtaining medical care. According to the State Statistics Service of Ukraine in 2016, the consolidated budget expenditures for health care amounted to 3.2% of the country's GDP, which is 0.3%

less than in 2005 and 0.9% less than in 2010. The number of people per one doctor increased by 9% and 12%, respectively, and amounted to 228 people in 2016. The number of doctors of all specialties per 10 thousand populations decreased in 2005-2016 by 3.9 thousand people, or by 16.5%. Also, in the amount of 10 thousand people the number of hospitals decreased by 1,2 thousand units, or by 41,4%, hospital beds - by 20,9 units, or by 22%. Carpathian region is characterized by a rather high number of populations per one hospital bed. In 2016, with an average Ukrainian index of 134,6 people in Transcarpathian region, it was 144,2 people, Chernivtsi - 133,1 people. In the Lviv region, the number of hospital beds per 10 thousand populations was 86.2 and is the highest among the regions.

Thus, availability, reliability, timeliness of medical care, professionalism of medical personnel, and a strong material and technical basis of health care institutions can actually stop the demographic crisis in the country, in particular, to reduce the mortality rate of the Ukrainian population, especially children and people of working age.

The level of food supply of the population with necessary, high-quality and safe food is a particularly significant indicator that serves not only as a socio-economic factor, but also considered as strategic one for the formation of social stability and ensuring the economic sovereignty of the state and the preservation of the most valuable social resource - the health of the nation [29].

In 2015, the average daily nutritional value of a Ukrainian diet was 2799 kcal per day, or 117 kcal less than in 2005. Mostly (72%) Ukrainians met their food needs at the expense of products of vegetable origin. Consumption of livestock products was almost 2 times less than the level required for healthy eating (55%). Only the three least valuable groups (bread and bakery products, vegetables and melons, potatoes) average consumption reached or exceeded the recommended level. The consumption of milk during the year 2015 decreased by 12,9 kg, meat - by 3,2 kg, fish - 2,5 kg per person per year.

The total aggregate expenses of one household in 2015 amounted to 4951.99 UAH. per month, of which 2708.53 UAH was directed for food. If you take into account not general, but only consumer households' total expenses, then the share of food expenses was 58.9%. In the overall structure of food expenditure, the highest proportion was spent on meat and meat products - 23%, bread and bakery products - 15%, milk and dairy products - 13%.

In Carpathian region, the smallest share of foodstuffs from total expenditures - 51.0% - was spent by households in Transcarpathian region. Meanwhile, households in the Lviv region spent 58.7% of their total expenditures on food with a 60% marginal criterion. In the EU-28, food expenditure does not exceed 12.3% of all consumers spending; the United States is less than 10%.

Consequently, the average daily caloric intake of Ukrainians decreased in Ukraine. The actual average consumption of food per capita in the population in 7 of 10 main food groups decreased. At the same time, the main reduction in consumption occurred at the expense of products of animal origin (meat, milk, fish, eggs), the share of which in the total caloric content of the diet is 28% when required for a balanced diet of 55%. The economic availability of the population to food has deteriorated. The share of households' expenditures on food in total expenditures has reached 54.7 per cent, which is 3-5 times higher than the corresponding figures in the EU.

Studying at higher educational establishments provides an opportunity for the population, first of all, to the youth a certain level of professional knowledge, skills and takes appropriate social status in modern society. By the number of students in the population, our country has always been among the leaders. The trend of an increase in the rate of students per 10 thousand populations was observed in Ukraine in 2007, after which there was a sharp decrease. if in 2000 there were 392 students per 10 thousand population, in 2007 - 606, in 2010 - 557, in 2013 - 463, in

2014 - 393, in 2015 - 375 students. In the world ranking of Universities 21 (the only national ranking of national higher education systems in the world), Ukraine occupied 42<sup>nd</sup> place in 2016, including the top 10 countries for higher education expenditure as a percentage of GDP [30]. In 2016, expenditures on education in Ukraine amounted to 6% of GDP, of which 4.1% was the public sector. Higher education systems in the United States, Switzerland, Denmark, the United Kingdom and Sweden have been recognized as the best indicators. Higher positions than Ukraine ranked Germany (16th place), Poland (32), Russia (34), Slovakia (35), Romania (41).

In 2015-2016 study year training of specialists in Ukraine was carried out by 659 higher educational institutions of the I-IV accreditation levels, which is by 18,9% less than in 2010-2011. The total number of graduates of higher educational establishments also decreased by 812.8 thousand people by correspondence education - to 440.0 thousand people (48.9%), full time study - to 367.8 thousand people (24.4%), evening form of education - to 5065 persons (57,0%). The main factors contributing to the reduction of the student population were demographic (birth reduction in the early 90's) and military-political (annexation of the Crimea, military events in the eastern part of the country since 2014).

In Carpathian region, the share of universities at the beginning of 2016/2017 amounted 13.4% (88 institutions) of the total number. The largest number of universities (42) provides educational services in Lviv region, including 12 universities, 5 academies, 4 institutes, 14 colleges, 6 vocational schools, and 1 technical school. The smallest number of universities is in Transcarpathian region - 14 institutions.

According to the Global Competitiveness Index 2016, Ukraine demonstrates high levels of access to higher education - 11<sup>th</sup> place and the quality of mathematical and natural education - 27<sup>th</sup> among 138 countries. However, according to other indicators of higher education and vocational training, which are included in the

amplifiers of productivity, the situation is much worse. Thus, Ukraine ranked 94<sup>th</sup> position in the quality of training, the quality of management schools 93<sup>th</sup>, the availability of specialized research and education institutions – 77<sup>th</sup>, enrollment in higher education institutions – 53<sup>rd</sup> (deterioration in comparison to the year 2015 is 14 positions) [31] .

Thus, an assessment of the social development of Carpathian region in 2005-2015 has revealed an extremely dangerous situation: low standards of wages, an increase in the financial and material differentiation of the population, the total increase in the poverty of the working population, which, in turn, provokes another wave of population migration to foreign countries in search of work, for education, medical services, etc. The largest flows of labor migrants are observed in Transcarpathian and Chernivtsi regions. Labor migrations themselves have become for the population of cross-border regions the only means to ensure an acceptable standard of living. However, they lead to the loss of labor potential of the region, the deterioration of the ratio of able-bodied and disadvantaged people, and a decrease in motivation for job search in their homeland. The impoverishment of the able-bodied and, most horrible, working population leads to social tension and political instability, provokes a social blast.

To reduce the flows of working migrants and ensure employment opportunities for the population of cross-border region, it is necessary:

- Maximally and comprehensively use the internal resources of the region for the development of production of competitive, first of all high-tech products and expansion of services;
- Maintain and stimulate entrepreneurial initiative;
- Substantially increase wages for employees of the budgetary sphere, in particular, employees of education, health care, culture, etc.



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## **CHAPTER 4. IMPLEMENTATION OF SCENARIO FORECASTING OF SOCIO-ECONOMIC DEVELOPMENT OF CROSS-BORDER REGIONS**

### **4.1. Attractive dominants of optimistic scenario of socio-economic development of cross-border regions**

As mentioned in above chapters, cross-border regions, unlike other administrative units have a number of advantages in economic and even social aspects. In addition, these features of the areas are characterized by particularity of resource, environmental management and specific conditions of their ecological systems. Nearness of foreign neighbors, those are better economically developed, reflects in all aspects of the development of cross-border areas.

However, border-zone, along with positive aspects, has significant obstacles. For instance, one part of the economically active population of cross-border areas is more prone to emigrate to neighboring countries; the other part of population deals with economic activities that do not bring added values in economics of the region as well as in these areas expanded reproduction does not happen. Cross-order regions also carry significant environmental risks. As example, it could be existing threats of environmental impacts of the border neighbor on water basins, high risks of unregulated methods of resource consumption etc. Obviously, these factors are not dogmatic for these areas, but such processes are observed in most cross- border regions [1].

Development of the system of attractive dominant in optimistic scenario of socio-economic development of cross-border areas are aiming to create a clear map of effective guidelines for management of cross-border areas. Focusing on these dominant defined cross-border regions can significantly increase their own

level of development. The above features are caused by synergistic particularities of active systems: any process in open and non-equilibrium systems is characterized by fundamental nonlinearity, and by presence of feedback leading to the emergence of qualitatively new possibilities of control action [2].

The rules governing the behavior of complex systems, significantly different from those for acting under the equilibrium operating system which are based on traditional classical methods of analysis. Therefore, synergy, which focuses on the phenomenon of evolution in open equilibrium systems and on the emergence of order from chaos, self-organization phenomena with their multidisciplinary arsenal of methods and algorithms is adequate tool for analyzing and managing complex dynamic processes occurring in cross-border regions [3, 4 ].

With this background, by the set of dominant is meant the using of such parameters of socio-economic development, which are capable within a nonlinear system through the manifestation of new, high-quality properties demonstrate synergetic effect that positively affect the optimistic scenarios.

Development dominant of socio-economic system is its measured parameter (or group of parameters) on which corresponding management impact of improving provides intensive development of other system parameters, particularly by the growth of activity and emergence of internal system components.

Emergence of dominant system of social and economic development of cross-border regions are directly determined by objective laws of interaction of the system characteristics, as well as by their level of co-operation and elasticity.

Building a system of dominants of socio-economic development of cross-border areas we should aware that it's forming components as a result that its use must produce a new result to be different from the existing realistic scenarios. With the aim of correct determining of such dominant system, we should start from defining the purpose of the system and its functions. Separately, we should pay attention to the fact that the aim of

functioning of the system and its functional content can vary for each cross-border region.

Forming the dominant system of socio-economic development of cross-border regions, we offered to use the following algorithm (Fig. 4.1.).

Based on a series of studies determining the potential possibilities of development of cross-border regions it was identified a number of dominants, which functioning as system enable border areas to significantly improve the social situation and accelerate economic growth:

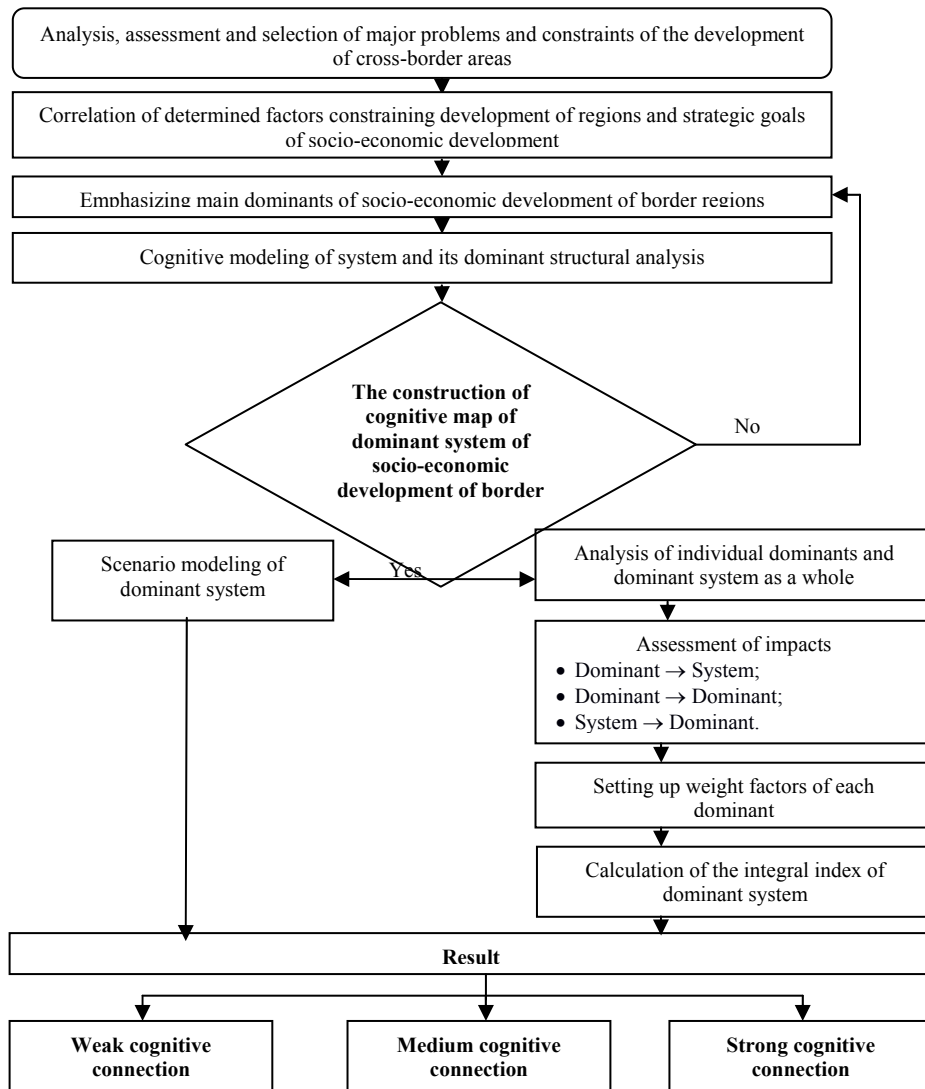
- Transport infrastructure;
- Organic agriculture development;
- Scientific and educational infrastructure (scientific and educational hubs);
- High-tech and innovative businesses;
- Hospitality;
- Ecology and environment;
- Cross-border cooperation.

First dominant playing probably the most important function of the whole system of dominant of socio-economic development is transport infrastructure. Transport infrastructure in the cross-border regions has been and remains a priority for economic development. Development of transport infrastructure promotes travel geography, ensures increasing in freight and passengers flows, besides reducing time spent on transporting goods and passengers leading to increased turnover and increased passenger traffic.

Transport is a specific communication infrastructure industry of material production and service sector providing all kinds of transportation for population and economics. This is the material basis of external and internal process-oriented links in the country. It is involved in the transportation of semi-finished products, raw materials, finished goods, materials and delivering them to customers as well as transporting passengers. Transport is a



necessary condition for the territorial division of labor, specialization of regions, and their integrated development. The transport factor influencing allocation and structure of industries; without its consideration we cannot achieve rational distribution of productive forces [5, s. 158].



**Fig. 4.1. Algorithm for calculation of the dominants of social and economic development of cross-border areas based on cognitive approach**

The next significant element in the dominant system of socio-economic development of cross-border areas is the development of organic and ecological agriculture.

Organic farming significantly reduces the use of external inputs (resources) by limiting the use of chemically synthesized fertilizers, pesticides and pharmaceuticals. Instead, to improve crops and plant protection we use other agro-technological measures and various natural factors.

Within the western border regions of Ukraine intensive implementation of organic farming technologies, along with a combination of biological and environmental innovations cultivation is the dominant direction of socio-economic development, which has significant economic potential. Recent European trends of organic farming clearly indicate a demand for organic and environmentally friendly agricultural products [6].

Besides, as part of the Swiss-Ukrainian project “Development of the organic market in Ukraine” it was created a brand called “Taste of the Ukrainian Carpathians” to promote regional food produced in the Carpathian region. The challenge is to develop a labeling system combined with measures to promote and support the brand to assist manufacturers and food processors in the region and promote economic development in general.

This will serve as the umbrella brand name that can be used by producers and processors who are members of public unions and tested products on the eligibility of origin, quality and taste. The products sold under this brand, originating from the region of the Ukrainian Carpathians (Chernivtsi, Ivano-Frankivsk, Lviv and Zakarpattia regions). This further suggests that the separation of organic farming in cross- border areas is an important dominant of the entire system of socio-economic development.

Greening agriculture provides combination and cooperation in the fields of complex innovative technologies aimed to increase economic growth of industry and environmental protection. It is a complex of interrelated elements of strategic agricultural development that simultaneously tackle a range of issues - creating

added value, increase employment, natural resources protection.

The third dominant in the system of socio-economic development of border regions is underlined as “scientific-educational infrastructure”. The content of this dominant is manifested in the existence and creation of sufficient scientific and educational institutions within the border areas.

One of the main conditions for the formation of competitive economy of the region or state is its ability to provide creation new products and services having a high added value within the economic system. This, in turn, requires the formation of an integrated system of scientific and educational institutions, which would create human resources for innovation.

Field of knowledge affects economy through not only applied ideas and development, and its existence is a necessary condition for economic growth, as it provides the accumulation of human capital. According to the World Bank, the physical capital in the modern economy generates 16% of the total wealth of each country, natural - 20%, and human capital - 64%. In such countries as Japan and Germany, the share of human capital is up to 80% in national wealth. One of the main objectives of economic policy is to overcome the disintegration of reproducing parts of the knowledge economy and achieving their integrity by incorporating efficient units that can transform scientific and research innovation, technology investment and development of advanced technologies. Among the most effective mechanisms for the transformation of scientific research into real new products is the integration of science, education and production, defined as an association of economic actors, their interactions acquisitions, development of relations between them. It can be identified as system “science - education - technology - innovation - production”. This chain is one of the determining factors in the development of post-industrial societies and the only way to increase the competitiveness and the dynamics of progress in Ukraine's regions [7].

Characteristic features of the economy based on the use of knowledge factors: dominance in the GDP of high-tech industries

and intellectual services, the formation of the bulk of national income at the expense of innovation or technological rents, high capitalization, the main value of which is formed by intangible assets, so the intellectual component.

To calculate the state of scientific and educational infrastructure in cross-border areas it is appropriate to use Knowledge Economy Index (KEI) calculated by the World Bank based on Knowledge Assessment Methodology. It is clear that the use of the method in normal conditions for calculating KEI determining the state of scientific and educational infrastructure of border areas is quite a big challenge, but on the other hand the individual values of this index almost impossible to calculate because of the lack of basic data for calculation. That is why we propose to determine the state of scientific and educational infrastructure as the dominant in the system of dominants of socio-economic development of cross-border regions adopting to use the method for determining the KEI. Knowledge Economy Index consists of four components: economic incentive and institutional regime, innovation, education and ICT.

The optimistic scenario of socio-economic development of cross-border areas is not possible without the presence of its fundamental preconditions. Such a condition is development and effective functioning of the scientific and educational infrastructure, manifested in the creation of favorable conditions for the development of science and education in cross-border areas. In addition, the cross-border area geographically has a number of advantages for the development of international cooperation in science and education expanding the potential of socio-economic development of the region.

Thus, scientific and educational infrastructure as the dominant of system of socio-economic development is an important part of regional development. At the same time, we should not forget that the scientific and educational infrastructure is not only the production of knowledge, but also is its use. It is necessary to raise the financing level of R&D and innovation; create

a system of privileges for businesses creating or implementing innovations; upgrade physical infrastructure of research institutes and laboratories; create high-quality infrastructure etc.

Fourth dominant of the system of socio-economic development of cross-border areas is the development of high-tech and innovative entrepreneurship.

Studying historical aspects of innovative enterprises, we noting that small and medium enterprises are more suited to the creation and implementation of innovative products, as the cycle of innovative products develops by S-shaped curve (“continuity hypothesis”), indicating a high profit margin of innovation and determining the transience of this innovative product. In the science and practice of this phenomenon is called innovation gap. The existence of innovation gap is objective and inevitable, thus it is evident that large corporations with stable markets and income often avoid radical innovation, because it is related with a big risk.

Exploring the development of high-tech and innovative enterprises as the attractive dominant in the system of socio-economic development of cross-border areas, it is necessary to analyze the status of dominant through the evaluation of innovative potential of the region, which in content is integral mapping of innovation potential of enterprises and entities operating within the cross-border regions [8].

Promoting development of high-tech and innovative businesses in cross-border areas predetermines performing consistent and effective regional policy, which coordinates legal, financial, organizational capabilities of government and existing needs of innovative businesses ensuring their actions in accordance with prior strategy of innovative development.

The last, fifth dominant of socio-economic system of cross-border areas development we defined as hospitality. Hospitality is an area that covers people activities in different areas of services: hotel and restaurant business, leisure, tourism, entertainment, sightseeing activities, various conferences, catering, exhibitions. Exploring cross-border regions in Western Ukraine, they all have

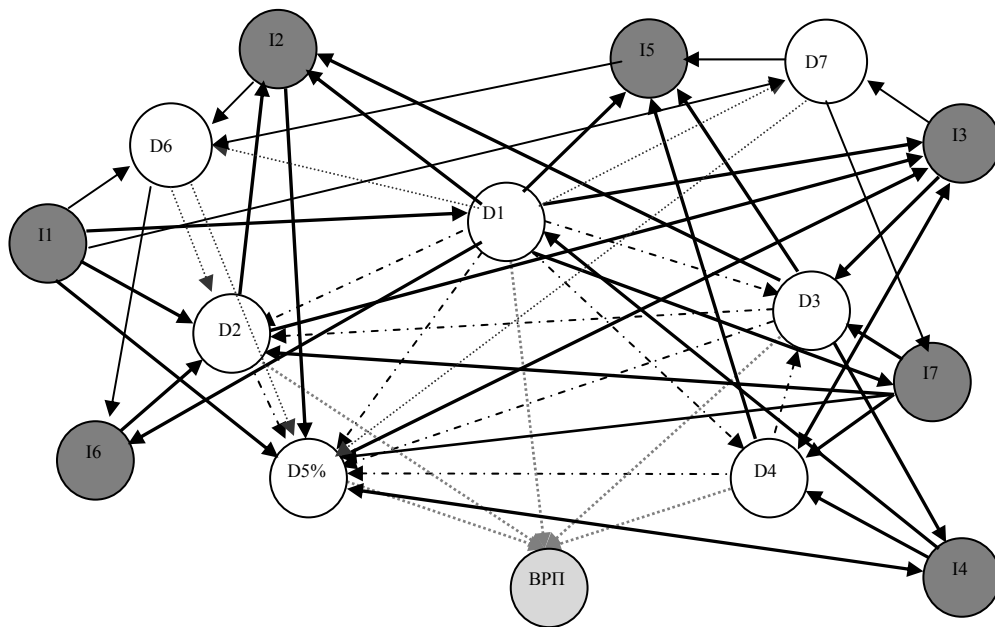
rather high level of development of hospitality. However, despite the actual state of development, this sector is promising and it allows systematically create new products and services having augmenting added value. Besides geographical location, topography and climate study area actively promote hospitality.

The state of the hospitality areas within the system of social and economic development of border areas might be characterized by analyzing the Travel and Tourism Competitiveness Index, TPCI, which consists of experts from the World Economic Forum together with employees of the World Tourism Organization.

TPCI rating provides an assessment of the country's competitiveness in the tourism sector on a number of factors consisting of a clear list of sub-indexes. However, within the study of the development of hospitality in the border areas it can be difficult to obtain objective data base for determination of the index. Therefore, the proposed method of calculation TPCI will be aggregated and brought into line with the aims and objects of study. In particular, indicators characterizing the state of development of the hospitality characterize the resource potential of tourism industry of the region and its infrastructure, legal framework of regulation, as well as a number of indicators that form potential areas of hospitality or influence of its development.

Currently, the development of the sphere of hospitality comes under risk and uncertainty, but the hospitality is a unique sector of the economy, which with relatively low resource and economic costs can give GRP growth in cross-border areas. Thus, the definition of the strategy of socio-economic development of cross-border areas with a priority as hospitality, local authorities are able to generate effective economic potential, with the right approach transforming it into the financial resources of the region.

Consequently, the above proposed system of dominant with a clear list of performance factors is crucial to ensure a strong basis for the optimistic scenario of development of the border regions.



- GRP relationship between the dominant region;
- the relationship between the dominant socio-economic development of the region;
- relationship between dominant and indicators socio-economic development.

D1 - dominant “transport infrastructure”;

D2 - dominant “Organic Agriculture”;

D3 - dominant “Scientific and educational infrastructure”;

D4 - dominant “high-tech and innovative entrepreneurship”;

D5 - dominant “Hospitality”;

D6 - dominant “Ecology and the environment”;

D7 - dominant “Cross-border cooperation”;

I1 - Natural resource potential of the region;

I2 - Environmental protection;

I3 - Population, income and living conditions;

I4 - education, culture, tourism and recreation;

I5 - Industrial production in the region;

I6 - Agricultural production in the region;

I7 - Regional labor market.

**Fig. 4.2. Cognitive map of dominant system of social and economic development of cross- border regions**

The number and set of indicators that should be used assessing the overall dominant system would correlate with the main goals and objectives that are defined by local authorities using forecasting approach scenario of socio-economic development. The method of estimation parameters within the dominant system must be practical, flexible, based on accessible mathematical and statistical tools and meeting the socio-economic state of cross-border regions. Versatile evaluation is necessary and at the same time very difficult task, which largely determine the viability of the system as a whole and landmarks such initiatives in particular. Results of the study will contribute to the formation and improvement of methodological approaches to development programmes of socio-economic growth.

Formed cognitive map of dominant system of socio-economic development makes it possible to estimate the level of relationships between dominants and other indicators of the regional development. Using scenario forecasting of social and economic development of cross-border areas is an effective program management tool.

Scenario forecasting of socio-economic development based on cognitive maps of the dominant system lies in the change of the dominant values and investigating changes in the entire system of the region. According to the typology of relations that may occur in regional systems, portion can be divided into: the portion with low cognitive connections of dominant and elements (from -0.3 to 0.3), the portion with average cognitive connections of dominant and elements (from 0.3 to 0.6) and areas the portion with significant cognitive connections of dominant and elements (from +0.6 to +1). It should be noted that in scenario forecasting of regional development there can occur cognitive connections between certain elements of the dominants or its negative values that indicates low efficiency of an element (dominant) of the system.

The scenario forecasting of social and economic development of cross-border areas using cognitive maps system of dominant can describe the socio-economic structure of the region, interaction



and mutual influence of its components causal, relationship between dominants, various processes occurring within the system, their interaction with the environment, to identify the impact of the environment on the current situation in the border regions, to predict the magnitude of the economic potential and on its basis to prove necessary management actions to address problems in cross-border areas.

The main purpose of cognitive maps system of dominant is to help experts in the process of learning and, therefore, to develop the right management decisions to ensure the optimistic scenario of development. The scenario forecasting based on cognitive maps of dominants explains which component of (dominant) or relationship of elements could be impacted with an appropriate force and direction to achieve the goals set at the lowest cost.

In this case, scenario forecasting of the regional development makes it possible to improve vectors of planning and forecasting of the region growth and assists to reduce costs at the stage of planning and forecasting. In addition, scenario forecasting makes it possible to perform a series of tests on the implementation of a strategy (scenario) in life and obtain information on the effectiveness of each working options of socio-economic development strategy of cross-border areas.

#### **4.2. The strategy to increase competitiveness of trade enterprises in cross-border region**

Today, trade enterprises aimed at providing stable success in the market apply different ways of improving their competitiveness. Moreover, a specific character of cross-border region stipulating the totality of appropriate resource markets plays a key role. Enterprises need highly-qualified staff, goods, trade and technological tools, machinery and equipment, information concerning market situation and the customers' demand, etc.

Simultaneously, it is necessary for trade enterprises to enter the sales market, in which goods and services are sold under severe competition, and the only way for them to get positive results is to actively invest in achievements of steady competitive advantage. The management of enterprises tries to develop extraordinary, individual and strategic decisions generally according to their status in the market and the common situation in this field [9; 12].

Thus, in case when an enterprise is interested in providing a dynamic and stable growth by means of increasing the sales volumes of goods and profits, it has to create a portfolio of valuables.

This, primarily, leads to changes of business models and processes in the activities of trade enterprises, and customers, for the most part, decide themselves what values should be taken into consideration when choosing goods or services, and which of them they want to buy. Here arise the questions what range of goods and services should be provided to customers, how to arouse their interest in choosing a certain product, and the most important one is how to come to the trade enterprise [23].

Enterprises start intensifying their values by means of strengthening the positions of financial and economic activities. In addition, they conduct marketing research related to expansion of available resources and competitive opportunities by developing new fields of activities with good growth prospects. It is obvious that they study trends that are directly connected with implementation of values concerning the creation of new types of business activities that are not functioning at the moment [15].

Among competition strategies most frequently applied by trade enterprises it is worth mentioning the following ones: the increase in the share of market characterized by the average sales volumes with a tendency for growth, high spending on marketing, flexible prices and aggressive promotion towards new segments. This strategy is applied by those enterprises of the region which due to considerable financial reserves produce and sell innovative goods being in the introductory phases of the product life cycle.

Besides, these are high quality goods and they are in great demand in the consumer market.

With regard to trade enterprises, holding their positions in developed markets depends on intensive sales, average spending on marketing, high prices and constant advertising [18]. Such strategy is applied by enterprises having generally been in the market for a long period of time, possessing certain potential, stable sales, considerable amount of customers, but temporarily suffering financial difficulties for various reasons.

The protection strategy of one's own market position is characterized by the average sales intensity, reduction of spending on marketing, average or low prices on goods and passive or "supportive" advertising. It is applied by the region's enterprises the sales market of which is in the phase of decline, so these enterprises have limited financial resources, advertising doesn't bring the expected return, and the major factor creating demand in this market is low price, etc. [17; 19].

However, under conditions of turbulence in the global economic development going along with strong financial and economic crises, most trade enterprises of the region must apply non-standard and anti-crisis strategies, the success of which mainly depends on the appropriate understanding of peculiarities of a new marketing environment.

One of the consequences of the global financial and economic crisis has become the transition of customers into the state of severe economy that caused a very scrupulous planning of personal expenses for a definite period in advance, and a sharp decrease in amounts of so called impulsive purchases. In this regard, a new competitive model has appeared in the region's markets of goods and services according to which producers and trade enterprises precisely determine their "essential advantages" as well as decide how to emphasize on them in such a way that they would supplement the brand with a unique value due to which the realization of promotion strategy in other markets is further provided.

Accordingly, digital internet technologies giving the possibility for enterprises to provide a significant increase and much greater efficiency of marketing spending, and allowing them to create effective integrated models of interaction with customers, play a key role [24].

Today, the region's trade enterprises are constantly looking for the ways of the best combination of economic progress, social development and environment protection in order to provide consumers with better quality of goods and services. In this context, they consider that their key advantages are deep understanding of local markets and orientation towards national and local traditions of the region. In this case, the strategy of horizontal diversification with an increase in the number of markets and range of goods adjusted to international standards will be considered as the most acceptable one [14].

Besides, a creative communicative policy of trade enterprises in social networks has recently turned out to be rather efficient. Under these conditions, the system of selling goods is oriented towards a customer – customer centric retailing (CCR). According to this system, such marketing elements as range of goods and services for customers, pricing policy and promo actions, etc. are set out in accordance with the customer's needs, so it gives a possibility to actively develop the modern forms of selling goods and serving customers.

In this aspect, one of the most successful strategies for trade enterprises turned out to be the strategy of horizontal diversification. It was realized by means of expanding the sales markets and range of goods developed by leading enterprises, such "essential advantages" as the implementation of new selling technologies and the optimization of distribution channels (Amazon), precise positioning and reduction of expenses (ALDI) being taken into consideration [20; 13].

In spite of differences in competitiveness strategies of trade enterprises, the common aspects of their development are the analysis of global tendencies in the region's progress, consideration

of the society's needs and corporate social responsibility, efficient and successful use of marketing communication, creation of advertising campaigns with social media possibilities being taken into account. A well-grounded competitiveness strategy allows the region's trade enterprises to achieve a market success and maximize financial results of activities under conditions of variable market environment.

Along with it, such a strategy aims at considering only its distinctive factors of success: peculiarities of commercial activities in the border region, available resources, specific character of marketing nomenclature, etc.

Under conditions of severe competition, trade enterprises start applying more intensive and aggressive forms of marketing activities. Besides, more and more frequently they are trying to use progressive marketing technologies aimed at developing creative corporate strategies of marketing behavior that encourages the creation of enterprises' original competitive image, their proper management style, as well as specialized product and market strategies peculiar to these very enterprises.

Some changes in the customers' behavior occur under the influence of globalization. Enterprises encourage marketing policy and develop competitive strategies using new elements of marketing, channels of distribution and promotion of goods, production and trade marks that are well-known to customers all over the world.

Simultaneously, the essence of adjustment of goods to definite customers' needs of the certain consumer segment in the region is intensified. Mainly, it concerns cultural differences, after-sales services, prestigious, etc.

In order to provide the stability of their competitive advantages, modern trade enterprises are trying to use unique strategic decisions the final purpose of which is the attractive mark image for the customer; they are also making attempts to attract as many customers as possible, so that to beat their competitors. In addition, they take into account the specific customers' advantages

using the portfolio of marks oriented towards some different market segments [11; 16].

It is worth mentioning that under today's conditions it is rather difficult for enterprises to realize competitive advantages in the border region. Hence, in order to provide a dynamic growth, the enterprises should master a complex of strategies starting from the short-term development of available activities and finishing by long-term measures.

The development of a single multilevel strategy in the form of interrelated decisions of short-term, middle-term and long-term nature allows to solve not only the available internal problems of the enterprise, but also avoid unexpected situations connected with the appearance of new competitors in this field. The most efficient measures for enterprises of the border region as for strengthening their own positions may be those that are realized within the framework of two most favorable strategies, i.e. "minimization of expenses" and "maximization of sales volumes" [24].

Reduction of expenses is extremely diversified and may be based exclusively on elimination of unnecessary links from the chain of the enterprise's values. However, the managers of enterprises mainly prefer increasing the sales volumes of goods having already had available customers. To do this they undertake such competitive measures as supply of complementary goods, additional services, new ways of using the goods, etc.

As a matter of fact, the realization of diversification in the fields of enterprises' functioning causes the increase of their competitiveness. It may be explained by the fact that resources of trade enterprises are generally limited. Moreover, the main part of employees gets their knowledge in the process of their professional activities. Besides, the managers of enterprises tend to rely on their own experience and intuition rather than on formal procedures while forecasting, or assessing and monitoring the strategy.

But in spite of this, there exist a variety of strategic opportunities for trade enterprises of cross-border region to realize

the diversification of their activities: diversification either into related fields or into fields, technologies and goods complement the enterprise's goods; or into those fields where skills and experience of the enterprise will become the key factors of success. In this case, a special potential for trade enterprises has the strategy of related diversification, since it is the horizontal expansion into related fields that will provide the productivity increase by means of synergetic effect [22].

First of all, horizontal diversification expects market nomenclature to expand. Such diversification is characterized by an available strategic correspondence between the links of the enterprise's values that allows it to use already acquired competitive and useful experience, and to combine related activities in order to reduce trade and production costs. It is also worth mentioning that the expediency of increasing the diversification level also depends on the degree of openness and efficiency of the market in the border region where such an enterprise operates.

In addition, we should point out that any trade enterprise is rather a flexible and elastic system which can be adjusted to changes in market environment. An efficient competitiveness strategy under market conditions is a key factor of the enterprise's success. The uniqueness of the competitiveness strategy depends on the enterprise's position in the market of a given region, the product features being sold by it and many other factors. From the author's point of view, the goals of the strategy achieved by enterprises in the process of acquiring competitiveness in the market may be the following:

- To increase profits and sales volumes of goods;
- To provide a stable enlargement of the market share;
- To develop new trade technologies in realization of goods and services to customers;
- To use industrial and trade potential to the greatest possible extent;

- To work out and implement the investment programs;
- To provide competitive advantages in the market, etc.

Thus, in order to create competitiveness in the market trade enterprises of cross- border region should:

- Develop the strategy of activities and the ways of its realization;
- Organize and exercise control over current activities not to allow crisis situations;
- Make individual marketing and sales policies;
- Provide optimization and reservation of financial funds for adjustment to possible changes in external environment;
- Create mechanisms of providing the competitiveness of goods being realized by the enterprise;
- Implement diversification of the enterprise's activities and goods.

An important element of the competitiveness strategy, which is common for many enterprises of the border region in spite of the methods of assessing the current situation and development prospects, has just become the formation of a mechanism concerning the operational mobility of activities the main principle of which is adaptability.

Organization of activities in accordance with a principle of differentiation advantages is not a less important element of providing the trade enterprise's competitiveness. It means to offer a customer the things he wants but cannot buy from other trade enterprises. The product features should hardly be imitated by competitors. For instance, such product features may be the following: high-quality exclusive goods or reduction of delivery terms stipulated by closeness to the customer, or possibilities of taking into account the customers' wants while producing goods.

If an enterprise is financially stable and has potential buyers, it is able to realize such strategy as diversification, i.e. it may enter new sales markets with new goods. Hence, it may:



- Enlarge its range of goods by means of new analogue goods which can arouse its potential buyers' interest;
- Enlarge its range of goods by means of new ones which allow to intensify the pre-arranged effect together with already existed range of goods, e.g. to introduce pre-sales or after-sales services of goods being realized by the enterprise.

But it is worth mentioning that activities of any trade enterprise depend on getting a profit. To achieve this goal today is possible only due to the best satisfaction of customers' needs. In addition, along with already mentioned criterion based on specific short-term or variable conditions, some other criteria may also exist – increase in market share, minimization of spending and many others [10].

Internal resources and the peculiarities of the enterprise itself serve as subjective factors, since in order to maintain and strengthen competitive positions in the market it is quite often necessary to attract additional resources. These resources are directed to either providing the uniqueness of goods or reducing the spending, consequently, that causes the formation of strong positions in the framework of pricing competition. Both factors characterize the enterprise's internal opportunities as for creation of high entrance barriers to the market of the border region.

We should also point out that the above mentioned factors don't nullify demands concerning the quality of goods which provide safety for life and nutrition, environment protection, compatibility and interchangeability of goods and others.

The problem of providing the competitiveness of both the enterprise and its goods, in the author's opinion, depends on such major elements as the enterprise's characteristics, its opportunities and external factors. The enterprise's characteristics, on the one hand, influence the strategy of activities, and on the other hand, influence its competitiveness.

A great attention is paid to the study of the enterprise's opportunities which largely depend on productive resources, technologies of trade process, staff qualification, range of goods, information concerning the market and other factors that can also have an effect on both the strategy of activities and the enterprise's competitiveness.

The peculiarities of factors of external environment in cross-border region give a possibility to determine priority directions which influence the enterprise and its competitiveness to the highest degree. In this case, all elements are closely interrelated and interdependent. The enterprise's major task is to constantly improve them on the basis of harmonious interaction.

Thus, the formation of a logical and consequent mechanism concerning the strategy of enterprises' activities in the cross-border region takes place in order to provide their competitiveness in the market.

#### **4.3. Scenario mechanisms for realization of priority directions of socio-economic development of cross-border regions (on the example of tourism development in Chernivtsi Region)**

Under the conditions of decentralization and implementation of the Concept for the reform of local self-government and territorial organization of power in Ukraine, the problem of creating a model oriented to ensure the accelerated development of priority sectors and industries that determine the innovative, resource-saving, environmental protection and socially oriented nature of the economy is urgent. Particularly important is the solution of this problem for cross-border regions of Ukraine, which are peripherally located from the center.

One of these areas, which can have not only economic but also social impact on the successful development of cross-border region, is the tourism sector, which needs efficient management and sound forecasting.

Today, tourism, as a type of economic activity, is rapidly developing in many cross-border regions of Ukraine. This activity is based on the integrated use of the potential of the territory and the factors of the production of various industries, creating, on the basis of goods combination, services and impressions, an attractive tourist product, which, due to the proximity of the border and the possibility of its rapid realization, can be produced in large numbers. That is why, for most cross-border regions, the tourism sector is a priority activity, which allows the regional economy to be built not only in the system of transboundary, but also transnational and global markets.

Thus, due to the successful forecasting of the development of tourism, it is possible to predict socio-economic development of cross-border region, to identify and prevent negative trends and effectively counteract those problems that may arise in the future.

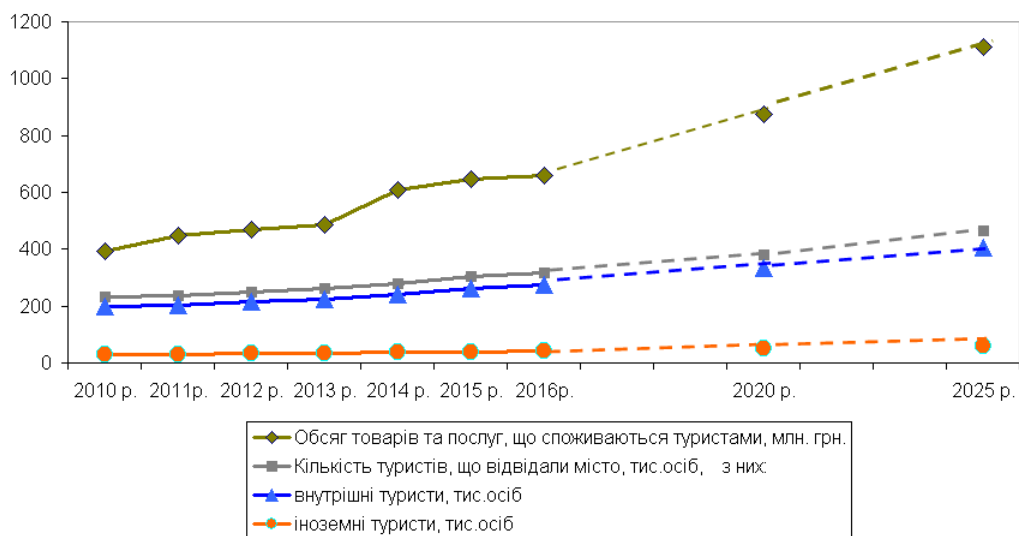
Considering Chernivtsi region as a cross-border region, it should be noted that the region is a region of multifaceted summer and winter mountain sport tourism, mass cognitive and recreational leisure, as well as balneological treatment. It combines picturesque mountain landscapes and picturesque foothill forests, numerous rivers and springs of medicinal mineral waters, fascinates the beauty of forests and mountain meadows, rich in hunting fauna, mushrooms and berries. One can not but charm by samples of traditional folk construction and applied arts - live carriers of originality of Bukovynian folklore. Bukovyna is one of five regions of Ukraine, which owns the largest nature-protected area. Therefore, tourism, as a type of economic activity, occupies a special place in the economy of the Chernivtsi region.

The borderline location of the region, the growing role of the contact function of tourism, the development of international transport corridors, favorable natural and climatic conditions, rich recreational resources, economic and scientific potential of the region, socio-cultural and historical traditions reveal broad prospects for the development of the tourist industry. It will

provide significant economic growth and reduction in the level of development of cross-border regions.

Tourism is a complex socio-economic system that combines many such interconnected elements, such as hotel industry, restaurant business, transport, etc. Like any complicated system, it requires efficient management. One of the controls is forecasting which allows management to anticipate future prospects and successfully use opportunities to address the challenges in tourism sector. The basis for constructing any forecast for such a system is the assumption that its future state is determined by the state of the system in the past and present. Future itself carries elements of uncertainty. An explanation is that many of its variants can depend on many variables.

Choosing forecasting methods, an important indicator is the prediction depth. In this case, it is necessary to evaluate not only the absolute value of this indicator, but also the duration of the evolutionary cycle of the development of the object of forecasting. To do this you can use a dimensionless indicator of the depth (range) of forecasting on an example of Chernivtsi city:



**Fig. 4.3. Main indicators of tourism activity in Chernivtsi city in 2010-2016 and their forecasts for 2020 and 2025**

The results of tourism development forecasting on the example of Chernivtsi city indicate that in 2020, compared with 2016, the number of tourists visiting the city will increase by 20.2%, the volume of services and purchased goods consumed by tourists will increase by 33 , 2%, or an average of 8.15% annually. This is more than three times faster than economic growth in other sectors of the economy. By 2025, the same indicators will increase by 46.2% and 69.0% respectively.

On the example of the Chernivtsi region as a cross-border one, it has been established that an important prerequisite for the development of various scenarios for the development of tourism is the provision of the region with natural, historical, cultural and socio-economic resources, labor and scientific potential, development of general and special infrastructure. In the 90's of the last century in Chernivtsi region the components of the tourist potential were determined, the basis of which became a large number of monuments of architecture, culture, religion, favorable climatic conditions, the presence of valuable types of natural recreational resources, etc. [25, p. 86]. Today it is indisputable that "the competitiveness of the region, as well as its attractiveness for potential visitors, increases with the condition of a greater concentration of recreational resources on its territory" [26, p. 133]. At the same time, other factors, which are directly related to the borderline location of the region, are important for the development of tourism. Let's consider them below.

Cross-border aspect (the border with Romania and Moldova), the importance of which is determined by the fact that tourists from other countries and domestic tourists traveling abroad have the opportunity to move faster and thus visit more tourist destinations. Significant role is also given to transit services.

Also, due to the borderline location of the region, the tourism sector is more open and facilitates the expansion of opportunities for cross-border cooperation.

Aspect of peripherality is connected with the fact that Chernivtsi region, being the peripheral region of Ukraine, to some extent

became the social and economic center of the region, whose life has a significant impact on the border and cross-border links. For example, the introduction of an initially simplified border crossing with residents of the 30-kilometer zone, and from June 11, 2017, a visa-free regime with EU countries, involves not only the cooperation of neighboring regions, but also the creation of a single economic space [27, p. 217].

The analysis of the work of various cross-border associations confirms that one of the main mechanisms for realization of priority directions of social and economic development of cross-border regions is the Euro-regions. Chernivtsi region is part of the Euro-regions “Carpathian” and “Upper Prut”. As it has been already noted, “the successful functioning of Euro-regions, which unite territories of cross-border administrative units of adjacent states that are peripherally located and characterized as depressive, will promote the development of infrastructure, the effective use of natural and recreational resources, elimination of unemployment, economic upsurge of territories and solving other common problems and interests of cross-border nature “[28, p. 66].

Scenario forecasting of tourism development, as a component of the economy of cross-border region, has two main purposes:

1. Changes forecasting that may arise because of actions of external and internal factors and because of such measures of support or prevention of negative influence.
2. Determining the conditions for achieving the desired goal in the development of tourism and identifying possible problems that may arise towards achieving this goal.

An analysis of the activities of tourism industry enterprises, public organizations, scientific institutions and government structures made it possible to establish main principles of scenario forecasting, as well as external (exogenous) and internal (endogenous) factors influencing the development of tourism.

In particular, when constructing any scenario, it is necessary to take into account such fundamental principles as:

- Principle of territoriality;
- Systemic principle;
- Principle of environmental friendliness;
- Principle of consistency.

As to the factors influencing the development of tourism, external factors influence the demographic and social changes, which in one way or another change the structure of the free time of the population and create objective socio-demographic conditions for the development of tourism. External factors also include economic and financial conditions:

- Improvement (deterioration) of economic and financial situation;
- Increase (decrease) of personal income;
- Higher (low) tourist activity depending on the portion of income allocated for recreation;
- Increase (decrease) in part of the funds allocated by social insurance funds and other organizations to cover expenses on treatment, recreation, tourism and travel.

In addition, external factors include changes in political and legal regulation, technological changes, the development of transport infrastructure and trade, changes in safety conditions for travel and rest.

Internal factors are, first of all, logistical support related to the development of accommodation, transport, catering, recreational, retail and other industries. Internal factors also include the state of the regional tourist market, the state of the environment, training, advertising, etc.

Importance in developing scenarios for the development of tourism is given to the analysis of the main indicators of tourism, the main of which are:

- Dynamics of the number of subjects engaged in tourism activity;
- Dynamics of number of accommodation establishments;

- Dynamics of the number of tourists who are provided with services, including foreign ones;
- Dynamics of the main indicators of the volume of tourist services provided;
- Dynamics of the number of employees in tourism industry.

The analysis of dynamics of the number of subjects engaged in tourist activity in Chernivtsi region (Table 1) indicates a decrease in the number of tourism activity entities in the last three years and the formation of negative trends.

**Table 4.1**

**Dynamics of number of subjects of tourist activity**

<b>Number of subjects of tourist activity</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>
Total	121	68	65
Travel agents	92	44	50
Tour operators	28	24	15
Excursion bureau	1	-	-

The reasons for this are inflationary processes, devaluation of the hryvnia, high cost of services of subjects of tourism activity, decrease of living standards of the region's population, which in general led to a significant decrease in demand for tourist services. However, in 2014-2015, the rate of decrease in the number of subjects of tourism activity was lower than in 2013, which indicates certain stabilization in the tourist market [29-31].

As for the number of accommodation facilities, the situation has not changed dramatically. 87 accommodation establishments were in 2013, the same number was registered in 2015.

The dynamics of the number of employees in tourism sector indicates a significant decrease in the number of employees. If in 2013 there were 1139 people directly involved in the work of tour operators and travel agents, then in 2014 only 942 people, even less in 2015 - 874 people. This is due to the deterioration of the



economic situation, the decline in demand for travel services, etc. [29-31]. Regarding the volume of tourist services provided to tourists on the territory of Chernivtsi region during 2013-2015, the situation has improved considerably in general. Only in 2015, services of tourist organizations of the region, according to the data of the Main Directorate of Statistics in Chernivtsi region, were used by 15.7 thousand people, and were sold 8.5 thousand trips for a total cost of 124.7 million UAH. 99.3% were Ukrainian citizens and 0.7% were citizens of other countries. Children and adolescents accounted for 20.4% of the total number of tourists. The number of serviced tourists amounted to 4.9 thousand people [31, p. 13]. According to our calculations, the total amount of services and purchased goods by tourists in Chernivtsi region in 2015 amounted to more than 347 million UAN, which is 113.3 million UAH more than in 2013. According to the methodology developed by the World Tourism Organization, it was determined that in 2015, only Chernivtsi city was visited by 302.5 thousand people, which is 24.8 thousand people or 9.0% more compared with 2014. During their stay in Chernivtsi, tourists purchased goods and services in the amount of 647.4 million UAH, which is 6.6% (40.0 million UAH) more than in 2014 [32, p. 6]. This was due to the increase of the cost of services, growth of domestic tourism, in particular, environmental (green) and rural tourism, devaluation of hryvnia, etc. At the same time, the lack of a unified approach to calculating the number of tourists and the volume of services provided and goods purchased by tourists leads to the impossibility of determining the impact of tourism on socio-economic development of cross-border region.

An important element that allows building development scenarios is the definition of the main trends in tourism development in the future. The description of these trends allows us to predict what may be the future development of tourism under certain conditions.

On the basis of the analysis of the main indicators of tourism, it was established that in the Chernivtsi region over the past three years have been observed:

- Reducing the number of enterprises employed in the tourism sector;
- Increase of incomes of enterprises and entrepreneurs involved in servicing tourists;
- Growth of the role of ecological (green) and rural tourism and nature recreation;
- Increase the number of domestic tourists.

Thus, depending on economic development, political situation, lifting of visa barriers, expansion of cross-border cooperation, development of tourism, the following main variants of scenarios development in the sphere of tourism in Chernivtsi region are possible.

1. An optimistic scenario, which suggests that the tourism sector will be actively developing and demonstrate an increase in key indicators. It is based on the fact that in the future there will be a significant growth of the region's economy, an effective tourism development strategy will be formed and implemented, aimed at forming new tourist streams, modern tourist infrastructure will be developed, most of the roads to tourist destinations will be reconstructed, new tourism products will be developed, which significantly will intensify the demand for tourist services, promote attraction of new entrepreneurs and investors in the sphere of tourism to the region.
2. The pessimistic scenario assumes that the tourism sector will not develop at all and there will be a significant decrease in the main indicators, that is, the negative dynamics are projected. It is based on the fact that in the future inflation and devaluation of the monetary unit of Ukraine will increase, which in turn will reduce real

incomes of citizens and, in the end, will reduce demand for tourist services, in particular, for recreation within the country. This will lead to a decrease in the efficiency of the sphere of tourism of the region, reduction of incomes and the need to close the unprofitable institutions of hotel and restaurant industry, as well as to dismiss staff employed there. Tourism sphere itself will become unattractive for entrepreneurs and investors.

3. The realistic scenario of tourism development in the region suggests the following developments. The demand for travel services will remain stable, especially for recreation within the region in connection with the development of tourism infrastructure and the relatively lower cost of tourist products. The development of environmental (green) and rural tourism will continue, as these types of tourism will be more attractive due to the slight increase in prices for such services and the improvement of the quality of services. In addition, the number of foreign tourists will increase in connection with the launch of the runway of Chernivtsi International Airport and the opening of new air routes, the emergence of additional rail and bus international connections, the development of cross-border exchanges, etc. Due to the popularization of tourist opportunities in the region abroad, the launch of new ones and promotion of the existing festivals and fair outside of the region will increase the share of event and cultural tourism, which will increase the attendance of tourists by various events. Planned repair and reconstruction of the main roads to the ski centers of the region will increase the attractiveness of leisure and recreation in Carpathians.

Due to the stabilization of demand for tourist services and its gradual growth, in the next five years the number of tour operators will increase to 30, and the number of employed in the tourism sector will be doubled.

In order to implement this scenario for tourism development in Chernivtsi region, there is also a lack of significant fluctuations of the national currency rate, a gradual decrease in inflation, which will contribute to a stable demand for tourism services in the future.

Consequently, based on the research conducted, taking into account cross-border location of the region, factors of internal and external environment, available natural resources, cultural and historical heritage, general and special infrastructure and necessary measures that can be taken by local self-government bodies and entrepreneurs involved in this area, we believe that the realistic scenario is the most likely scenario of tourism development in Chernivtsi region as a cross-border one.

To implement it, it is necessary to define tasks for the preparation of proposals for local authorities that manage the tourism sector of cross-border region, adopt appropriate tourism development programs and develop specific measures, approve current and future plans, taking into account their consequences in the future.

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## **CHAPTER 5. A MODEL OF ECONOMIC DEVELOPMENT IN THE CROSS-BORDER AREA - CASE STUDIES**

### **5.1. Assessment of risk and uncertainty in the entrepreneurial field from the cross-border area [9]**

Cross-border areas are for the most interest in the actual framework of the Neighborhood Policy of the European Union. The economic development of these areas is based on the small and medium enterprises that are influenced by the contemporary general depression and are forced to take decisions in condition of risk and uncertainty. Most of the companies do not use scientific methods to reason the decisions also they turn into a subject of arbitrary in their activity, becoming a brake in the economical development and not fulfilling their main role as engine of the development. The level of economy and the functionality of the settlements from the cross-border area placed at the external border of the European Union have an important role in promoting the neighborhood policy and in the national and local security. In the cross-border areas becomes important to encourage and sustain the small and medium enterprises through programmes financed by the European Union and by the local authorities where there is possible the development mainly in the trade and cross-border cooperation fields.

The cross-border area may be a market with a powerful economic competition of the capital, labor, goods and services. Each subject participating on this market wants to find solutions on the economic challenges in its own favor, and has no responsibility toward the failures of the other participants. The uncertainty is generated by a complex of socio-cultural, technological, economical and political-legal factors that firstly influences the life of a SME [10], but furthermore when the subject is activating in a



cross-border area where each of the mentioned factors has multiple aspects due to the involved countries. Uncertainty is often accompanied by risk but they are not the same, the difference coming from the defining of the riskful situation as being the one to which we can associate objective probabilities and the defining of the uncertain situation as being the one to which we can only associate subjective probabilities [11]. An existing model that would be able to survive in the context of the cross-border area is the one of the cross-border company<sup>3</sup>, this model determining the emergence of new factors that can influence the economy in the cross-border area [12]. The cross-border companies can have a faster increase than the cross-border area and few important sectors (for example, high technology and equipment production), that are priority domains for cross-border companies; know a development rhythm higher than the one registered by the cross-border economy or the economies in the countries of origin. The cross-border companies have specific competitive advantages determined by the technological superiority, the specific market position, the managerial and technological competences, the informational developed system and the access to important financial resources in preferential conditions. The performances of most of the cross-border companies are depending on the level of competitiveness registered by the economy of country of origin, fact that can lead to a transfer of competitiveness between cross-border areas when there are significant economic gaps. In its decision of adopting this model or to keep strict cross-border traditional business relations, a SME can choose one method or other to determine the economic efficiency or can adopt a mix of methods related to the field of work, context and the proposed

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<sup>3</sup> a cross-border company is a company that has the main activity in the cross-border area in at least two from the countries that are for interest. It is to be mentioned the difference between these and the companies located in the defined cross-border area but their activity is exclusively in one of the countries.

objectives. The work paper has in the first part few considerations related to risk and uncertainty in the situation of taking right decisions for an efficient economic activity of the company.

Profitability of any economic activity, generally, and especially of the investment one, depends mainly by more factors subject to risk and uncertainty, from which the textbooks mention [13]:

- The volume of the expected returns in a market economy; success or failure of selling a product will depend on its capacity of satisfying the consumer needs, important being the evaluation of quantities and prices possible to be sold;
- The amount of the running costs that are costs for raw materials, energy, salaries, etc. These costs have are variable in time, depending on the variance of the prices for raw materials;
- Duration of the equipment use that can be uncertain, depending on the physical and moral depreciation determined by the dynamic of the technological progress;
- Discount rate that covers the uncertainties that affect the expected profitability of an investment.

Usually the economists make a distinction between risk and uncertainty, meaning that the risk associated to an activity or to an investment project is the consequence of the uncertainty that characterize the execution of the objective or the activity.

From the point of view of the financial specialists, a risky situation is defined as that situation for which it can be determined a priori the probability partition law of different results. The uncertain situation is defined as that situation for which it cannot be determined the probability partition law.

Any economic activity supposes a certain risk degree that can be more or less anticipated. If by *uncertainty* we understand indication of a doubt about the existence of a future event, the *risk* represents a notion with economic, social, political and natural

dimension that reflects the possibility like a certain future human activity to produce a loss caused by the lack or the insufficiency of information in the moment of decision or following “logical” mistaken, wrong, defective reasoning.

Determination of the sources for unfavorable consequences caused by a certain risk can be done using the *probability* theory, by contrast with the *determinist* view that supposes that the activities are running in condition of total certainty (zero risk). The *probabilistic* supposes the possibility of risks with unfavorable consequences and it is closer to the real life. Generally, the risk has as main factor the unequal and fast evolution of the scientific and technologic progress that influences the volume and the structure of the demand, costs, and the degree of renewal of products and services.

Any economic activity run in risk conditions that, by the negative consequences, affects the economic efficiency on the side of the effects and the efforts. From the point of view of the incomes and the costs, the efficiency can be affected by risk at least in the following: income variation when the costs are constant; variation of the costs when the incomes are not changing; the incomes and the costs are changing in the same time; variation of the duration of an activity.

In a work focused on the economic efficiency we found a series of methods of assessing the risk and uncertainty that may be used for the companies from cross-border areas [13].

The traditional measuring of risk is made with the *probability distribution law* for profitability/efficiency, where the relevant moments for analyzing are: average loss, loss probability, insolvency probability, and the variation that became a ‘natural’ measure for risk.

Other risk assessments could be *Baumol coefficient* and *Mao coefficient*. The first one was initially used for risk assessment in equities investments and it consists of defining the aversion to risk and the measurement of the project risk. J.C.T. Mao proposes a risk assessment different than Baumol’s, focused on the failure risk of

an investment project, defined as an expected and measured value linked to the semi-variation. The advantage of using this method is the focus on the project failure as insufficient efficiency. Even if with raised interest, these methods are not so used in practical work, where mostly applied are four methodologies related to the uncertainty of the future. The *method of the 'futurofob' criteria* is used mostly due to its simplicity and it consists of the quality assessment of an investment project, with time as main assessment criteria for the risk. In this case, the methodology is considering the immediate future as less risky and the later future riskier. The considered criterion is the recovery time of the invested capital, where the shorter term means a less risky investment and reversed. The *method of considering a risk gratuity* is the product between the actualization rate and a gratuity, that diminishes the total discounted flow but, on the other side it allows the selection of the projects where the value of the flows is directly related with the acknowledged risk. The *method of certain equivalents* supposes to label an uncertainty coefficient to the treasury flows of a project, where the investment assessment is made by actualization of the corrected treasury flows. The interest toward this method, more than the previous ones, consists in the capacity of considering the raise of risk during time, through differentiated coefficients with subjective estimation.

We should also consider the methods based on probabilities calculation, out of which we mention some that we consider helpful for the SMEs from the cross-border area. The *scenarios method* consists of shaping scenarios based on different probabilities coefficients. The most frequent is the shaping of a centra/base scenarios that is considered as most likely to happen and, starting from this scenario there are variants, both pessimist and optimist, that represent limit situations that may happen wit a favorable/unfavorable influence. Based on different scenarios, related to a certain probability to happen, there is determined the standard discounted flow deviation and, if the mathematic expectance is positive, the project will be considered profitable.

*Hertz method*, or *Monte Carlo method* is similar to the scenarios method but it differs in terms of the probabilities way of inclusion in calculations.

Another group of methods used for decisions in risk and uncertainty conditions is the one based on the games theory, a different approach of the traditional view of the risk, based on probabilities distribution that proposes the handling of uncertainty situations using models that indicate a decision or a strategy, according to the decision maker preferences. After the identification of possible situations according the known events, but with uncertain execution, the methods based on games theory allow to find the situation that has the highest correspondence with the decision-maker preferences, in our case the investor/entrepreneur. In large range of methods of choosing between alternatives some are more frequently used. The *Wald criterion* supposes to choose the solution that maximizes the minimum gain of each decision and it is also known as *Maximin*. It is by definition a prudence criterion based on the implicit hypotheses of a high probability for the less favorable events. Another criterion known as Minimax is the *Sauvage criterion* that chooses the solution that minimizes the maximum of regret. This means the lack of gain that result from a decision. And it is measured based on the difference between the gain obtained following a decision and the gain following the best possible decision. *Hurwitz criterion* identifies the decision that maximizes the average outcome, where this corresponds to the weighted average of minimal and maximal values of the decisions.

Beyond the methods, a relevant theory found in scientific literature is the prospect theory that targets the decision under risk and it was developed by Kahneman and Tversky [14]. In their paper, they make a critique of expected utility theory as a descriptive model of decision making under risk, and develop an alternative model, called prospect theory. In particular, people underweight outcomes that are merely probable comparing with outcomes that are obtained with certainty. This tendency, they call

the certainty effect, contributes to risk aversion in choices involving sure gains and to risk seeking in choices involving sure losses. The two authors develop an alternative theory of choice in which value is assigned to gains and losses rather than to final assets and in which probabilities are replaced by decision weights. The value function is normally concave for gains, commonly convex for losses, and is generally steeper for losses than for gains. Decision weights are generally lower than the corresponding probabilities, except in the range of low probabilities. Overweighting of low probabilities may contribute to the attractiveness of both insurance and gambling.

Both researchers explored the decision in risk conditions from different points of view. In an earlier paper [15] they described three heuristics that are employed in making judgments under uncertainty: *representativeness*, which is usually employed when people are asked to judge the probability that an object or event A belongs to class or process B; *availability of instances or scenarios*, which is often employed when people are asked to assess the frequency of a class or the plausibility of a particular development; and *adjustment from an anchor*, which is usually employed in numerical prediction when a relevant value is available. As starting frame, decision making under risk is viewed by Kahneman and Tversky as a choice between prospects or gambles. A prospect  $(x_1, p_1; \dots ; x_n, p_n)$  is a contract that yields outcome  $x_i$  with probability  $p_i$  where  $p_1 + p_2 + \dots + p_n = 1$ . To simplify notation, they omit null outcomes and use  $(x, p)$  to denote the prospect  $(x, p; 0, 1-p)$  that yields  $x$  with probability  $p$  and 0 with probability  $1-p$ . The riskless prospect that yields  $x$  with certainty is denoted by  $(x)$ . Their approach was restricted to prospects with the so-called objective or standard probabilities and the theory was developed for simple prospects with monetary outcomes and stated probabilities, with future possible extensions to more involved choices. Prospect theory distinguishes two phases in the choice process: an early phase of editing and a subsequent phase of evaluation. The editing phase consists of a preliminary analysis

of the offered prospects, which often yields a simpler representation of these prospects. In the second phase, the edited prospects are evaluated and the prospect of highest value is chosen. The function of the editing phase is to organize and reformulate the options as to simplify subsequent evaluation and choice. Editing consists of the application of several operations that transform the outcomes and probabilities associated with the offered prospects.

In summary, they have proposed that the value function is firstly defined on deviations from the reference point, secondly, generally concave for gains and commonly convex for losses and thirdly, steeper for losses than for gains.

The theory may be applied in the case of investment decisions in the cross-border area also be extended to the typical situation of choice, where the probabilities of outcomes are not explicitly given. In such situations, decision weights must be attached to particular events rather than to stated probabilities, but they are expected to exhibit the essential properties that were ascribed to the weighting function.

These methods and theories are generally recommended for determining the risk and uncertainty, also the best solution in condition of risk and uncertainty, for establishing a SME efficiency. These methods may be used by the SMEs that activate in the cross-border areas with consideration of the specific of these areas.

In the cross-border area it is important to encourage and to support the SMEs through European Union financed programmes and through public authorities actions where there is possible a development firstly due to trade and cross-border cooperation. This is reasoning because the SMEs are the engine of the economy and they can lead to a decrease of the gaps in the areas located to one or other of the sides of the border of the European Union. Technical assistance, access to a relevant infrastructure such as business incubators, business centers and exhibition centers, can be important issues of a support programme. Consultancy services

should offer a wide range of topics as cross-border trade, marketing, business development, branding, etc.

Despite that the existing cross-border programmes do not offer financial support directly to SMEs, there are diverse mechanism and support frameworks that can offer the needed motivation and development possibilities in the cross-border area. More than that, the supply of training, the creation of support cross-border networks, the cooperation at local/regional level for building common support structures and business associations could be possible intervention areas.

As much important is the identification in the SMEs area of some certain development areas to focus the support. One of the sectors with a real potential for development in the cross-border area is the tourism.

A model of economic development is the one of the cross-border companies that run their activities in two or three of the countries. This type can have a faster growing than the one of the cross-border area and few important sectors (such as high technology and equipment production), that are priority domains; know a development rhythm superior to the one of the economy in the country of origin. The cross-border companies have specific competitive advantages due to the technology superiority, specific market positioning, managerial and organizatoric competences, well-developed informational system and access to some important financial resources. As example, Romanian SMEs have access to specific direct grants and have the capacity to develop their structure by extending the activity in the cross-border areas from the other two countries, Ukraine and Republic of Moldova, with which there is encouraged a close cooperation.

Naturally, the decision of starting a company in this area, extending the business or adopting the model of a cross-border company, should be based on models of analysis of risk and uncertainty, unfortunately, in real economic life, a small number of SMEs from cross-border area base their decision and evaluation of the activity on these methods. In this sense, a proper action would



be to promote trainings about the practical and adequate usage of risk and uncertainty models in the decision process inside the SMEs from cross-border area. New competences would structure the economic decisions in the SMEs from this specific area, boosting the economic development.

## **5.2. Possibilities of cross-border cooperation in the field of culture and tourism**

Today, we are witnessing common strategies and policies for economic and social development of the cross-border region situated between the borders of Romania, Ukraine and Moldova. Millions of euros of investments have been directed to this region to harness and exploit their natural and anthropogenic potential, in order to stimulate and improve the relationship existing for centuries between the three states.

The specialized economic literature deals with the problems of the three states over 15 years. Romania, Moldova and Ukraine have a set of diverse political and economic peculiarities deeply rooted in history, making of them a fairly distinguishable European area with specific economic concerns, perspectives and risks. A little more than two decade ago the three countries were still under the political, military and economic control of Moscow; private sectors were non-existent or, at least, inert and ineffective while economic process was guided by central plan-making agencies. The history of the three countries is very complicated and, sometimes, even delicate. Each has always been at the epicentre of different historical and political accidents and each has not always succeeded in preserving their interests. One common element of the Ukrainian, Moldovan and Romanian history is that all of them have always been on the periphery of different empires that have disputed parts of their territories [2].

The continuous attempts of the great powers to divide the local population, led to the formation of a strong local culture and

the preservation of our ancestors' traditions. Cross-border regions are considered to comprise many ethnic groups as a result of the common history of the three countries. These groups are "fighting" daily for their cultural independence and sustainability.

The local population, supported by public and private organizations, is constantly trying to organize various social, cultural, and economic events that capitalize on the potential of the region and support the sustainable development of cross-border relations. Thus, annually there are held events with international participation, organized with public or private funds, attended by thousands of people, some of the events having a regular character.

As examples of good practices in the field of economic, social and cultural events that directly or indirectly aim at maintaining and developing cross-border relations, we can mention the following:

- The Medieval Art Festival Stefan cel Mare, organized by the Suceava County Council, the Museum of Bucovina and the City Hall of Suceava (Romania), held its eleventh edition in 2017, a festival involving over 400 knights, princes, puppeteers who remember us of the medieval era of Moldavia by Stefan cel Mare.
- The Rock Castle Festival, which takes place in August at Princely Fortress of Suceava (Romania), reaching its 10th edition in 2017.
- Hora Bucovinei takes place in Frasin / Bucșoaia (Suceava County, Romania) and has reached 8 editions. The festival has a unique character by promoting local traditions and mountain life; for example, participants from the 7th edition were able to visit the specially arranged sheepdogs, they were able to follow the customs and traditions related to the measure of the sheep and they had the opportunity to participate in the party of the shepherds.

- The Suceava County Council, the Bucovina Cultural Centre, the City Hall and the Ciocănești Local Council organize annually the National Festival of Painted Eggs from Ciocănești (Suceava County, Romania), in 2017 being the 14th edition. In addition to the craft of eggs, other values and traditions of Bucovina, such as traditional architecture, folk music and dance, are promoted.
- The Sleigh World Cup in Vatra Dornei (Suceava County, Romania) reached the 4th edition and aims to attract as many tourists as possible to the resort of Vatra Dornei for practicing in winter sports and not only.
- Malanka Festival 2017 presented a unique folk music and costume carnival with fabulous procession through the city streets (Chernivtsi, Ukraine). Are taking part in the festival the inhabitants and music groups of towns and villages of Chernivtsi region, neighbouring regions, Romania and Moldova.
- The International Poetry Festival Meridian Czernowitz is held, in the last 7 years, in Chernivtsi (Ukraine), being an event dedicated to contemporary European poetry. The program includes traditional poetry readings, lectures, theatrical and musical performances, unique wine and poetry readings, photography and art exhibitions. The participants are known and respected poets and artists from Germany, Austria, Switzerland, Romania, Poland, Israel, Great Britain, the USA, and Ukraine.
- The Festival “Golden applause Bukovina” (Chernivtsi, Ukraine) held at the Chernivtsi Academic Regional Ukrainian Music and Drama Theatre named Olga Kobylanska. The main participants of the festival are from Ukraine and Romania. It has XII editions, being extremely appreciated among music lovers.
- The “Medieval” Festival takes place for three years in August in Moldova, trying to revive history. The central

elements of the epoch are the reconstruction of historical battles, medieval camps with everything that everyday life means: kitchen, handicraft, craftsmanship and blacksmith workshops.

The listed events can be complemented by dozens of other similar events, all special in their theme, aiming to attract as many participants and visitors as possible.

Even if these events are of a constant nature, however, they take place only a few days a year, and activities / actions that are of constant character are also recommended. Ukrainian legislation in the field of national minorities, such as Romanians living in the cross-border region with Romania and Moldova (see Figure 5.1 illustrating the cross-border region of the three countries), is appreciated. In this respect we can mention the law “On the principles of the state language policy”, which (from 1989) was aimed at giving to minority language the status of a “regional language”; the law is implemented in courts, schools and other government institutions in areas of Ukraine where the percentage of representatives of national minorities exceeds 10% of the total population of a defined administrative district.



**Fig. 5.1. Ethic map of Romania, Ukraine and Moldova**

According to national statistics, in Ukraine live 0,8% Romanians (including 0,5% Moldovans), namely over 400 thousand people (as information published by the State Statistics Service of Ukraine, 2013). Two minor settlements declared Romanian/Moldavian language a regional language in their jurisdictions [21]. In this context, there are 84 schools with teaching in Romanian language and 8 newspapers. Their fate is uncertain because of the modifications adopted in September, 2017.

In Romania, Ukrainians have an officially recognized ethnic minority, and they have a seat insured in the Chamber of Deputies. Ukrainians are the third minority ethnic group in Romania in size, accounting for over 50 thousand people according to the census, ie 0,3% of the total population. One Romanian school – “Taras Shevchenko” High School in Sighetu Marmatiei - is dedicated to the Ukrainian minority, here all classes are in Ukrainian.

The Republic of Moldova, following the historical changes, recorded a controversial evolution, according to the last census, presenting more than 2.8 million people as the Romanian-speaking population of this state (77,97%) and Ukrainians over 200 thousand people (8,34%). The Romanian language is the official language in Moldova, but the minorities have the possibility to learn in their native language so that 240 pre-university schools (from about 3000 schools) are bilingual institutions with teaching in Russian or Ukrainian [9].

Of the few data analysed, it is noticeable that there is openness and understanding to the national minorities belonging to the three countries at government level, due to common Treaties and Agreements (such as the Commonwealth of Independent States) and the European norms.

Another very important aspect for the cross-border region concerned is the natural and anthropic tourism potential, potential which should be capitalized on a more intense capacity in the idea of attracting investments and tourists in the region.

Table 5.1. shows the tourism in figures from Romania, Ukraine and Moldova. As you can see, although the territory of

Ukraine (603.628 km<sup>2</sup>) is clearly superior to Romania (238.397 km<sup>2</sup>), Romania has the biggest number of accommodation structures. It should be noted that although the state authorities are making great efforts to legalize small family businesses such as those in the field of tourism, there are still many small accommodation units, such as pensions and holiday homes, which are not registered with the Ministry from the tourism sector and therefore tourists who benefit from their services are not recorded in national statistics.

Regarding the total number of accommodated tourists, most tourists are internal tourists, in Ukraine 94,20% of tourists are Ukrainians, the best value being recorded by Moldova (66,15% of tourists are Moldovans). If we look at outgoing tourism, the situation is quite contradictory between the statistics presented by the three countries in relation to each other. The explanation for this is the various sources used in taking over the official statistical data (accommodation units, travel agencies, border crossing points) from the three countries. Our recommendation is to build a common system of registering the population flows, depending on the purpose of visiting the neighbour country.

**Table 5.1.**

**Tourism in figures**

Country	Number of accommodation structures	Existing accommodation capacity (number of places)	Number of tourists accommodated, total	Number of tourists from the Republic of Moldova	Number of tourists from Ukraine	Number of tourists from Romania	Number of tourists participating in external tourism	Number of tourists to Republic of Moldova	Number of tourists to Ukraine	Number of tourists to Romania
Romania	6.821	328.313	9.930.496	51.639	26.101	7.690.518	646.336	95	100	-
Moldova, Republic of	249	25312	278.855	184.474	13.503	23.884	189.790	-	3.282	20.812
Ukraine	4.256	375.600	6.544.800	190	6.165.406	35	137.906	294	-	-

Source: Processing after information published by National Institute of Statistics from Romania, Statistic Data Bank of Moldova, and State Statistics Service of Ukraine

The figures presented in table no. 5.1 can be substantially improved, because international tourists who visit the specified countries are much bigger than the flows of neighbour tourists. A disadvantage of the three countries is the road infrastructure that is very poor to be used by tourists, thus failing to meet the international standards compared to other similar tourist regions. Investments in this area have been very low in the past 10 years, representing a weak point in the region. In this context, organized groups of tourists prefer to visit other regions of the country, for example, the maximum stay in the Bucovina region is 2-3 days.

It is to be appreciated that in the Ukrainian part of the Eastern Carpathians were made very important private investments in the field of tourism, the mountain resorts being a gold mine for the mountain and sports tourism. Ukrainian companies, and not only, have to invest in the long-term, in order to increase the loyalty of their clients, in the professional training of their employees in order to improve the quality of tourism services, but also to eliminate the communication barriers that exist in relation to foreign clients.

We propose the creation of partnerships between public and private tourism companies, such as travel agencies, accommodation units, catering establishments, museums, etc. to propose and develop common tourism programs involving the three countries and to ensure a longer stay in the region. Although the border region of the three countries is less developed, it is still an interest for tourists who want to be in touch with nature, local traditions (considered archaic in Western European countries) and quiet living, away from the rush and noise of the big cities. It is possible to create programs of perfect combination of history, traditions, food and nature, in order to cover all tastes and needs of tourists, regardless of age or occupation.

### **5.3. Examples of best practices in tourism in the Romania-Ukraine-Moldova border region**

The most known investments at the level of the cross-border region in recent years are investments made by public and private institutions funded through PHARE CBC / TACIS and JOP RO-UA-MD programs. We will present the synthesized situation of these programs.

**(1) PHARE CBC Neighbourhood Programme Romania – Ukraine 2004 – 2006** has sought to expand and increase the quality of the tourist offer with cross-border perspective and ensure the sustainable development of the tourism sector on both sides of the border. These funds were available by November 2008, the organizations in the region benefiting from a total budget of over € 28,9 million.

For the 2004 program, to Romania has been allocated €6 million of PHARE funds, plus a total national co-financing of €1,9 million for project financing. 47 grant projects and a service contract for the Joint Technical Secretariat of the Regional Office for Cross-border Cooperation Suceava (BRCT Suceava) were contracted, the total value of which was €5,008 million of PHARE funds and €1,586 million of national co-financing. The difference between allotted and contracted value is due to the value of the contracts following the evaluation-contracting process [5, pp. 29-30].

PHARE CBC 2005 Romania-Ukraine program allocated €9 million of PHARE funds, plus a total national co-financing of €2,867 million for project / grant financing. Under this program, 61 grant projects and a service contract for BRCT Suceava were contracted, the total amount being of €7,391 million of PHARE funds and €2,881 million of national co-financing [5, p. 30].

PHARE CBC 2006 Romania-Ukraine has allocated € 7 million of PHARE funds, plus a total national co-financing of € 2,217 million for project / grant funding. Under this program, 40 grant projects



and a service contract for BRCT Suceava were contracted, the total value of which was €6,731 million of PHARE funds and €2,161 million of national co-financing, being made following the contracting process an absorption rate of 96.17% pre-accession funds [5, p. 30].

The main results of this program in figures are:

- Over 1200 joint events (conferences, trainings, etc.),
- About 550 documentary works (databases, studies, guides, analyses, etc.)
- At least 40 resource centres (eco-centres, information centres, regional economic centres, etc.)
- 14 cross-border networks,
- 46 information points and tourist information tools,
- 63 rehabilitated tourist routes,
- 35 km of rehabilitated roads,
- Over 1,000 promotional activities (media campaigns, press articles, etc.) [7, p. 3].

**(2) PHARE CBC Neighbourhood Programme Romania – Moldova 2004 – 2006** targeted funding for activities in the two neighbouring countries, bringing together by the end of 2008 a total budget of over €27 million.

Under the 2004 program, to Romania were allocated €5 million of PHARE funds, plus a total national co-financing of €1,590 million for project financing. 48 grant projects and a service contract for the Joint Technical Secretariat of the Regional Office for Cross-Border Cooperation Iași (BRCT Iași) were contracted, the total value being of €4,995 million of PHARE funds and €1,583 million of national co-financing, the contracting percentage being of 99.83% [5, p. 28].

PHARE CBC 2005 Romania-Moldova has allocated € 7 million of PHARE funds, plus a total national co-financing of € 2,217 million for project / grant funding. 63 grant projects and a service contract for BRCT Iasi were contracted, the total value being of €6,782

million of PHARE funds and €1,695 million of national co-financing [5, p. 28].

PHARE CBC 2006 Romania-Moldova has been allocated PHARE funds of € 8,996 million, plus a total national co-financing of € 2,917 million for project / grant funding. 72 grant projects and a service contract were signed for BRCT Iasi, the total value of which was €8,949 million of PHARE funds and €2,246 million of national co-financing, the difference resulting from the contracting process, registering an absorption rate of the pre-accession funds in the amount of 99.48% [5, p. 29].

### **(3) Joint Operational Program Romania-Ukraine-Republic of Moldova**

The program aimed to create a bridge between the three partner states in order to support communities in border areas in finding common solutions to similar problems they face.

Through this program, local authorities and other organizations in border areas are encouraged to work together to develop the local economy, address some environmental issues and strengthen emergency preparedness. The program also promotes better interaction between communities in the border areas.

The EU contribution to the Joint Operational Program Romania-Ukraine-Republic of Moldova 2007-2013 is € 126.72 million and the participating countries co-finance € 11.4 million. In the period 2009-2016, 141 projects were successfully implemented, totalling a total of €115,628,088, which represents over 83% of the funds allocated to the program. Although the maximum amount was not spent, the targets pursued by the program were achieved, with the main results: 266 SMEs benefited from business facilities, 44 partnerships between universities, research institutes, businesses and authorities local, 563 people have completed training courses and 5 integrated tourism products have been created [8].

In the field of culture and tourism, we can mention the following projects implemented under the Joint Operational Programme Romania-Ukraine-Republic of Moldova 2007-2013:

1. ***The folkloric monograph of the Ukrainians from Suceava County and of the Romanians from Chernivtsi Region*** financed under Priority 3-People to people cooperation, with a total value of €118.154. The financing contract was signed on 29.03.2011 and had 16 months implementation period. The project was implemented by Suceava County.
2. ***Promoting the Ukrainian Folklore in Suceava County and the Romanian Folklore in Chernivtsi Region,*** financed under Priority 3, with a total value of €113.966,22. The financing contract was signed on 29.03.2011 and had 9 months implementation period, until 29.12.2011. The project was implemented by Suceava County.
3. ***Common traditional patrimony – European promotion element,*** financed under Priority 3, with a total value of €150.000. The financing contract was signed on 07.04.2011 and had 18 months implementation period. The project was implemented by Bucovina's Museum.
4. ***Safecross – border tourism in the Mountains of Bukovina,*** financed under Priority 1 "Toward a more competitive economy in the border areas", with a total value of €337.174,88. The financing contract was signed on 21.10.2013 and had 21 months implementation period.
5. ***Development of the Network of Festive Tourism in Bukovyna (Chernivtsi Region, Ukraine and Suceava County, Romania),*** 18 months, total value €149.490, implemented by Chernivtsi City Council.
6. ***Culture Bukovina – reviving forgotten,*** project of €69845,3, implemented in 12 months by Hlyboka District Council.

7. ***Development of cross-border tourism by promoting Manuc Bei mansion, funerary complex Elena Ioan Cuza and Blesciunov mansion***, implemented by Hăncești County Council in 22 months, with a budget of €2.248.598,36.
8. ***Sustainable development of tourism in the Lower Danube region in Ukraine, Moldova and Romania***, implemented with €1.778.242,28 in 22 months by the lead partner Regional Development Agency from Odessa.
9. ***ECO-CARPATHIANS - Eco-Business Development in Border Carpathians as Chance for Better Economic Competitiveness***, with a budget of €715.510,25, implemented in 21 months by the “Business Centre” Organization of the city of Chernivtsi.

Of course, the list of the projects is much longer, all projects having an undeniable importance for the involved organizations and institutions, but also for the population from the region. The activities implemented within the projects must have a continuous and constant character, due to the positive effects they have in the region, but in the same time are expensive to be covered from internal sources of the NGOs or public institutions.

#### **5.4. Financing sources in the field of culture and tourism available in 2014-2020**

The main important and secure source for financing the cultural and tourism sector, directly or indirectly, is still presented by the European programs present in the region. In this respect, the European Neighbourhood Policy (ENP) was launched to avoid the emergence of new lines of division between the enlarged Union and its neighbours by creating an area of prosperity, stability and security around the EU. In this respect, the ENP also addresses the strategic objectives outlined in the European Security Strategy of December 2003.

Through the ENP, the EU aims to outline a coherent approach to the Union's relations with its eastern and southern neighbourhoods, enabling enhanced cooperation to create an area of "prosperity and good neighbourhood. It is a privileged relationship, based on mutual commitment to shared values" (democracy, human rights, rule of law, good governance, market economy principles and sustainable development).

However, the ENP remains distinct from the process of enlargement of the EU, even if there is a possibility of developing some countries' relations with the EU towards a further accession.

Financial assistance for ENP implementation is provided through the European Neighbourhood Instrument (ENI), the successor of the ENPI (European Neighbourhood and Partnership Instrument), totalling €15,4 billion over the period 2014-2020.

ENI finances four types of programs:

- Bilateral (aimed at the bilateral relationship between the EU and each partner country and representing the bulk of the funds);
- ENI Inter-regional (Erasmus for All, Neighbourhood Investment Facility-NIF, Umbrella programs, etc.);
- ENI Regional East and ENI Regional South (dedicated to regional projects);
- ENI-CBC (to finance cross-border cooperation programs).

Romania participates in the following cross-border cooperation programs financed by ENI:

- Joint Operational Program Romania - Moldova 2014-2020
- Joint Operational Program Romania - Ukraine 2014 - 2020
- Joint Operational Program "Black Sea Basin" 2014-2020
- Hungary - Slovakia - Romania - Ukraine 2014 - 2020 Program

Cross border cooperation at the external borders of the EU continues to represent a top priority for the European Union during the 2014-2020 programming period. The cross border cooperation under the European Neighbourhood Instrument (ENI) will create

added value for the border regions building on its predecessor, the ENPI [8, p. 5].

The ENI CBC aims to create “an area of shared prosperity and good neighbourliness between EU Member States and their neighbours”. To this purpose the ENI has three strategic objectives:

- To promote economic and social development in regions on both sides of common borders;
- To address common challenges in environment, public health, safety and security;
- The promotion of better conditions and modalities for ensuring the mobility of persons, goods and capital.

The Joint Operational Program Romania - Ukraine 2014 – 2020 addresses the border area between Romania and Ukraine and will contribute to the overall objective of the European Neighbourhood Instrument: the development towards a region of prosperity and good neighbourliness through cross-border cooperation actions for the benefit of Member States and non-EU members’ borders. The European Union’s financial allocation to the program is €60 million. The minimum co-financing to be provided by the two countries is 10% of the EU contribution.

The Joint Operational Program Romania - Moldova 2014-2020 has the same objectives, the European Union’s financial allocation to the program is €81 million.

Although the two mentioned programs have been adopted and approved in 2015, no money were spent in this respect, due to the changing political situation of the states.

Except of this European funds, directed through Romania as Management Authority, it is important to attract and use private investments in the region, because international stock market registers a very important numbers regarding the money invested in new and potential sectors. The decision is at the latitude of the owners, because they have to promote at the best of their possibilities, the tourism structures, not only to the investors, but also to the tourists.

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Scientific publication

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**Collective monograph**

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