

# **PART 1. MODERN PARADIGM OF NATIONAL SECURITY**

## **INNOVATION COMPONENT: MACROECONOMIC DIMENSIONS**

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### **1.1 GLOBAL, NATIONAL AND REGIONAL INNOVATIVE FACTORS FORMATION OF COMPETITIVE POTENTIAL OF ECONOMY**

Complication of managerial problems in condition of intensification of international and interregional competition and influence on processes of globalization sets tasks before state and regional authorities in order to improve system of management, including mechanism's search and methods of state regulation of territory, focused on its competitiveness. Countries and their regions are in need in modernization of system's management of social and economic development, indicators of efficiency which are not quantitative indexes but qualitative ones in new developments' conditions. The basis contains particular politics, directed to transformation of competitive potential of countries and their regions into a factor of its stable development, providing a transition economic system into qualitatively new level of economic progress. There are actual investigations, which are connected with definition of structure and functions of competitive potential of territory, its influence on national and regional competitiveness.

#### **Innovative factors of competitiveness of a country**

At the present stage of development global competitiveness of a country is determined first of all, the ability to be a leader in the world economic, to develop and implement new technologies and services that meet contemporary needs. The main goal economic development of Ukraine is the actualization of the process of improving the production structure, the development domestic market and manufacturing export-oriented products on the basis of introduction of innovative technologies.

The Global Competitiveness Index (GCI) is a new, more comprehensive tool to assess competitiveness of country. Developed for the World Economic Forum by Professor Xavier Sala-i-Martin of Columbia University, the new index extends and deepens the methodology and concepts country's competitiveness.

Officially launched in September 2006 as part of The Global Competitiveness Report 2006-2007, the GCI has now become our main index of reference. GCI continues to be the most comprehensive assessment of its kind. Analyzing the global competitiveness index of Ukraine in 2014 and 2017 (Fig. 1.1), we can conclude that the economic situation of the country deteriorated substantially. So in 2014 Ukraine occupied the 76th place from 144 countries. However in 2017

Ukraine occupied the 81th place from 137 countries. These facts indicate that every year our country becomes less competitive.

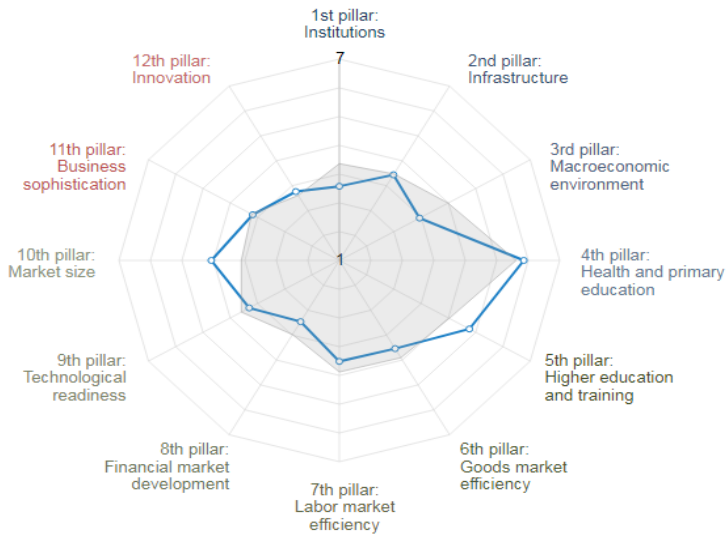


Figure 1.1. Key indicators of Global Competitiveness Index Ukraine 2017-2018 [9]

The global competitiveness index is composed of 113 variables that describe in detail the competitiveness of countries at different levels of economic development. The set of variables on two-thirds of the results of the global survey of CEOs (to cover a wide range of factors influencing business climate in the countries under study), and one third from publicly available sources (statistical data and research results, carried out on a regular basis by international organizations).

All variables combined in 12 benchmarks that determine national competitiveness: The quality of institutions, infrastructure, macroeconomic stability, health and primary education, higher education and training, market efficiency goods and services, the efficiency of the labor market, the development of the financial market, the level of technological development, the size of the domestic market, the competitiveness of companies, the innovative potential.

In the other hand, we can isolate problems that exist in Ukraine and reduce its competitiveness such as: corruption, policy instability, inflation, inefficient government bureaucracy, access to financing, government instability, tax rates, tax regulations, foreign currency regulations, inadequate supply of infrastructure, restrictive labor regulations, insufficient capacity to innovate, crime and theft, poor work ethic in national labor force, poor

public health, inadequately educated workforce (Fig. 1.2). These problems have different impact to our economy.

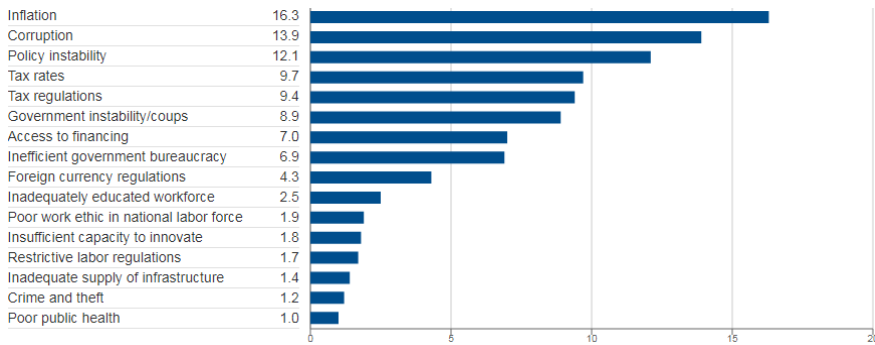


Figure 1.2. Most problematic factors for doing business [10]

It is assumed that the Index should be used by States that aim to eliminate obstacles to economic development and competitiveness, as a tool for analyzing problems in their economic policies and development strategies to achieve sustainable economic progress.

We think one of the most factors that impact to the competitiveness is innovation. Intensification the priority areas for international cooperation of Ukraine in the sphere of innovations will enhance the image of our state in the global dimension. At the modern stage of Ukraine’s integration to the international scientific-technical cooperation are very low and the extent of cooperation does not meet scientific-technical and economic potential our country.

Ways to improve the system of regulation of the innovation sphere are: the efficiency of the legal framework through the reduction of intermediaries when investing in the innovation sphere and increase of responsibility of officials by controlling the spending of budget and finance; economic restructuring due to the increase in the share of high-tech industries, the use of effective financial instruments; strengthening of cooperation between state enterprises and businesses; formation of competitive cooperation forms; monitoring of the innovation sphere; identifying and addressing key negative factors, which require state regulation to improve innovation and institutional factors in the development of international competitiveness of Ukraine.

Competitiveness of the region plays an important role in ensuring country development, therefore it is necessary to constantly monitor internal and global factors that influence the competitiveness of the country.

## **Innovative factors in formation of functional structure of competitive potential of region**

The development of the competitive potential of the regions and the formation of an effective system of regional governance is an important problem of ensuring the competitiveness of Ukraine.

Nowadays in Ukraine regions are different according to the level of economic development, which is a result not only a preservation of differentiation of their industrial, resource and innovative potential, but also its force. Main reason of effective economic politics in national so in regional level has not decided yet. In connection with there is a problem of formation of effective and adequate regional competitive politics, directed to provision of region's competitiveness. From these positions an investigation of competitive potential of region is a primary task, solution of which will allow improving competitive positions of a region on national and international levels.

In economic literature a term "potential" treats as resources, abilities, supplies, measures, which can be used, or as a level of power in any position, complex of means, which are necessary for smth [2, p. 5], «hidden abilities, forces for some activity, which can manifest at definite conditions» [6, p. 1012]. So, there is a contact between total abilities of a region (social and economic potential as a complex of resources and peculiarities, defining opportunities of stable and effective functioning of social and economic system in outer variable conditions) and formation of its competitive potential [7].

Absolute value of resource approach to the definition of competitive potential of region consists in allowing detecting unique resources and abilities and consider them as potential competitive advantages, correct use of which contribute mobilization of objective consumers (investors, entrepreneurs, residents, tourists, etc.), increase of the demand for some of its elements.

It is known competitive potential of region includes variety of components, which is a component of a structure and performing definite functions, which will change according to strategic purposes of development. There will be different a result obtained in the process of realization of competitive potential of region. Basic structural elements of competitive potential of region are economic, human, innovative, investment, infrastructural. Such scientific approach is the most traditional and widely used.

While increasing competition between territories and regions will cause an usage of new resources and abilities, which are situated in the sphere of management, enterprise, and integration and и отображают modern современные organizational and economic relationships of region. That is why the structure of the competitive potential of the region along with other

elements, it is necessary to consider to potential of enterprise, a potential of internationalization, diversification, restructuring and clustering.

Let's consider the functional content of structural elements of the competitive potential of the region.

1. Economic potential. Traditional indexes of economic condition and power of regions is gross (total) regional product (GRP), the level of population's incomes, the volume of industrial manufacturing. GRP analysis can evaluate regional differentiation and suggest hypotheses about the possible causes of regional asymmetry. Changes of GRP show possible development of economic activities in the region. At GRP significantly affects the economic structure of the region, so the correlation of industrial and agricultural production, structure of industrial one. For example, as a rule, in terms of raw materials regions of GRP have potential of development much higher than the regions with non-resource specialization.

2. Human potential. Social and economic development in the XXI century is characterized by the increasing role of the human factor. In the modern world economy, human resources play an important role in order to achieve competitive advantage and ensuring competitiveness, so the development of the economy. At the same prospects of the region which is associated with human resources as carriers of knowledge, creativity, and creative behavior. That person with a high level of knowledge (education), training, business and public activity, initiative becomes a major instrument n the competitive regions.

3. Innovative potential. Innovations as an effective means of technological development, of provision strong market positions and significant competitive advantages are necessary part of the development of the regional economy.

World experience shows that expanding the use of innovations by the regions of the country will achieve high technological independence of companies, provide the growth of their efficiency and competitiveness, promote economic development at both the regional and national levels, and allow to increase an income and quality of life [8, p. 22-26].

4. Investment potential. A regional investor is one aspect of the competition. Ability of mobilization of the region's economy in the form of capital investment opens perspectives for the development of existing and creation of new enterprises, the formation of modern clusters, placement of new technologies, objects of infrastructure, development of transport and movements functions, etc.

5. Infrastructure potential. Regional infrastructure is designed to provide continuous and effective communication between primary and secondary production facilities and the normal functioning of the region's population. Non-formed infrastructure usually affects all economic

activities of the national economy. Infrastructure in the region contributes to the rapid development of natural resources in order to fulfill the national economy and sustainable development of the regional economy.

6. It is necessary to consider an entrepreneurial potential as a multilevel system of resources and real business opportunities in the region, which can be realized through the implementation of high-risk, innovative activity, and an organization of favorable medium with the aim to provide social and economic efficiency of the regional business sphere. Development of entrepreneurial can be possible due to effective management of the enterprises of the region, which can be due to the growth rate of the amount of dynamics for several years. In order to achieve such purposes, objectives should be coordinated by managers at all levels and areas of activity.

7. Potential of an internationalization can be described by such opportunities as interstate migration of population in an inappropriate region and also the volume of goods and services. The growth of number of arrived ones demonstrates the mobilization of the region, the presence of appropriate conditions for work and income, which provides a high standard of living. Smaller level of volume of import of region testifies self-provision by own goods and services, that is why is expressed by profitability of industrial and non-industrial fields of economy.

8. Potential of diversification should be considered as a process which covers organizational, economic and law changes in the activity of economic entities in the region in a result of formation's economy associations (associations, corporations, consortium, concerns), activity of which is aimed to increase an efficiency of production, to reduce a risk of bankruptcy, timely response to changes in economic conditions of the market to ensure profitability. However, the diversification of enterprises is not only an instrument to increase products and services, but also an instrument of interindustrial redistribution of financial resources, by optimizing the structural changes in the economy, helps to reduce the negative effects of the financial and economic risks, and increases the adaptive quality of economic entities on the market. Besides, diversification occurs when there is systemic synergic effect which results from the following properties: a component out of system has smaller potential than in complex.

9. It is necessary to consider potential of restructuring's region in two aspects. Firstly, it describes the possibilities of market transformation of the regional economy through changes in the structure of enterprises, depending on their size (small medium, large), organizational and law forms, the dynamics of their creation. The most important in the potential restructuring there are indicators of the growth of small enterprises that demonstrates the mobilization of formed entrepreneurial medium.

The role of small business in today's economy is quite different. It links economy in unity and forms a foundation on which should be grown more complex and high "levels". It should not forget about large business, which is mainly determined by economic and technological strength of both the region and the country.

Secondly, field specialization of the region determines its competitive advantages and competitive position. Therefore, the depression condition of definite regions requires immediate actions to restructure economics. Restructuring of region includes effective ways of rehabilitation of depressed areas and improvement of the competitiveness of territories with satisfactory development indicators.

10. Potential of clustering. Clustering is a process of combination objects into groups according to certain criteria in order to increase the efficiency of their functioning, an innovative approach to regional economic development. Interdependence and relationship between the processes of clustering, strengthening of competitiveness and acceleration of innovation – is new economic phenomenon that allows resisting the pressure of global competition and properly responding to the requirements of national and regional development. Progresses such productive form of activities, as a cluster should be seen in close connection with the modern laws of competition and based on the territorial aspect of global economics. The concept of clusters is one of the most progressive trends in the development of economic activities, which showed its effectiveness in many countries [5].

Results of evaluation and analysis of the competitive potential of the region can be effectively used to solve many problems of regional management, so quantitative measure of research involves the following tasks:

- development of methods and formation of tools that allow us to identify competitive potential;
- determination of component's weight in the formation of competitive potential of competitive advantages of the region;
- identification of perspectives for competitive potential to improve the region's competitiveness.

Solution of given problem assumes the choice of structural model and the definition of the factors that provide an increase of regional competitiveness. This approach corresponds to valuation of tenth factor model of competitive potential of region.

The advantage of the proposed model consists in selected factors consider general trends of social and economic development of both regions and the country.

The choice of indicators to measure each of the factors (elements of potential) should be substantiated by the following criteria:

- presence of an indicator of official statistical data;
- an ability to measure absolute magnitude of the phenomenon;
- display by indicators abilities and region's resources.

These indexes should not depend on the size of regions and number of population. That is why they convert in comparable relative form. Table 1.1 consists of indexes which characterize competitive potential of region.

A definition of the level of competitive potential of region can be performed due to the basis of experiment:

$$K_i = \sum_{j=1}^m k_{ij} \cdot V_j, \quad (1)$$

where  $K_i$  – general level of competitive potential of  $i$  region;  $k_{ij}$  – competitive potential of  $i$  region according to  $j$  factor;  $V_j$  – specific weight of  $j$  factor in the competitive potential of  $i$  region;  $m$  – number of factors of competitive factors of region's potential ( $m = 10$ );  $i = \overline{1, n}$ ;  $n$  – number of regions.

$$k_{ij} = \sum_{z=1}^{h_j} R_{izj} \cdot W_{zj}, \quad (2)$$

where  $R_{izj}$  – degree of  $i$  region according to  $z$  index of  $j$  factor;  $W_{zj}$  – specific weight of  $z$  index in  $j$  factor;  $z = \overline{1, h_j}$ ;  $h$  – number of indexes of  $j$  factor.

Grounding of the relative importance (specific weight) of each index within a factor advisable to carry out to use the method according to Saati to construct relative value function at final variety [3, p. 44-48].

Competitive potential is a reserve, which can use the region, modifying and adjusting strategic development priorities and implementation High competitive potential of the region allows you to save or increase the rate of development and stop the negative effect of external and internal factors. One of the most important areas of practical application of the proposed approach to measure the competitive potential of the region is the organization of monitoring of the formation of its functional structure, which is important for both local and regional, as well as for government.



Table 1.1

## Indexes of evaluation of competitive potential of region [author's research]

<b>Elements of potential</b>	<b>Indexes of evaluation</b>
Economic	Gross regional product per one person of population. Incomes per one person of population. Volume of realized production per one person of population. Volume of realized production of rural economy per one person of population. Volume of realized services per one person of population. Volume of export of goods and services per one person of population.
Human	Specific weight of population of employable age in the structure of people. Natural increase of population per 1000 people. Unemployment of population (according to International Organization of Work) (% to economically active population at age of 15-70). Number of schoolchildren at educational establishments per 1000 people. Output of qualified specialists by colleges per 1000 people. Number of students at higher educational establishments of I -II levels of accreditation per 1000 people. Number of students at higher educational establishments of III-IV levels of accreditation per 1000 people. Training and promotion of cadres per 1000 people.
Innovative	Number of scientists per 10000 people. Volume of performed scientific and technological works per one person of population. Number of costs on technological innovations per one person of population. Specific weight of enterprises, which fix innovations. Specific weight of realized production in the volume of industrial production.
Investment	Investment in main capital per one person of population. Specific weight of investment in main capital due personal means of enterprises and organization. Direct of foreign investment in region per one person of population.
Infrastructure	Number of subjects of transports and contact per 10000 people. Number of trade institutions, hotels, and institutions of catering per 10000 people. Number of kindergartens, schools per 10000 people. Number of hospital beds per 10000 people. Number of cultural institutions, sport and tourism per 10000 people. Number of financial institutions per 10000 people. Number of institutions which perform operations with tenure per 10000 people.
Entrepreneurial	Absolute growth of enterprise's share, which got an income. Absolute growth of financial result from ordinary activity to taxation per one subject of United State Register of Enterprises and Organizations of Ukraine.
Potential of internationalization	Migratory growth of population (reduction) per 1000 people. Volume of import of goods and services per one person of population.
Potential of diversification	Specific weight of associations, corporations, concerns, consortiums in total number of people of United State Register of Enterprises and Organizations of Ukraine.
Potential of restructuring	Number of small enterprises per 10000 people. Number of subjects of United State Register of Enterprises and Organizations of Ukraine per 10000 people.
Potential of clustering	Competitive stability of fields of economics of region, which expects the base of coefficients of localization, specialization, manufacture per one person of population.

At the local and regional level results of the functional structure of competitive potential can solve the following tasks: to improve the use of competitive advantages of regions, based government funding of regional programs and projects, to optimize the development strategy of competitiveness factors and their use, to mobilize investors, business people and tourists. At the state level, realization of the proposed approach can improve the regulatory politics of steady development of the regions, to determine the direction of optimizing of mechanism between state programs, to evaluate the effectiveness of the regional government; to initiate the adoption of state programs of individual regions.

The proposed approach to assess the functional structure of competitive capacity allows to determine the impact of the innovation component, and this creates the basis for the formation of an effective competitive management system at the national and regional levels. New trends in globalization, integration and at the same time regionalization of the development of countries around the world require the use of an appropriate innovative and investment mechanisms.

#### **Innovative and investment mechanisms to ensure the competitiveness of the economy**

The innovation and investment development of national economy (IIDNE) should be considered as a two-way interdependent process of change that is result of the actions of internal (within the framework of the national economy) and external (within the framework of the world community) mechanisms for the creation and implementation of innovations and their investment assurance, as well as national mechanisms for integration of actions of country, regions, business, and society in order to transform them into a purposeful system of influences to ensure the competitiveness of the national economy [1]. The effectiveness of IIDNE mechanisms is ensured by their systemic action and ability to create a synergistic effect in order to enhance the country's competitiveness.

Methodological approaches to assessing the effectiveness of modern IIDNE mechanisms should take into account national specificity of the organization of innovation and investment activity, level of socio-economic development of the country as a whole, stages of the innovation process. This enables to distinguish the following blocks of the IIDNE mechanisms [4]:

- 1) financing of scientific and technical works with regard to the identified priorities of the state's innovation development;
- 2) financing of education taking into account demand perspectives of labor in innovative sectors of the economy;
- 3) modernization of material and technical support of the economy;
- 4) development of innovative potential of enterprises;

5) socio-economic development;

6) investment attractiveness and efficiency of the business environment.

Research of features of the national market institutes functioning as norms and rules of conducting economic activity, for example, makes it possible to state that it enables subjects of IIDNE to choose the rules of the game in their totality; the main function of this competitive market is stimulating institutional innovation and forms of adaptive behavior.

The current state of the institutional market of Ukraine is characterized by the following features:

1) passive role of the state and the region as subjects of innovation and investment development;

2) low level of influence of public organizations (institutes) as a flexible form of modern society organization;

3) slow implementation of institutional innovations as an indispensable condition for adaptation into environment changes.

From these positions is easily explained the imperfection of the innovation and investment environment in Ukraine, limited activity of business entities for activation of their innovation and investment development, in particular regions, the impossibility of transition to an innovative model of development.

The proposed methodological approaches make it possible to construct integrated national (regional) models of innovative processes and mechanisms of their investment support, create a toolkit for modeling their further development, scientifically determine the perspective trajectory of innovation and investment development of national economies taking into account established goals, priority directions of their overall strategy and available potential.

The competitive potential of the region and its functional structure determine its competitiveness and there is a source of competitive advantage of territory. The complexity and variety of this category is confirmed by its structure and functional purpose.

A determination of the functional structure of the competitive potential of the region is necessary to construct and improve the use of its competitive advantages by choice more efficient rates of development, investors mobilization etc. An analysis of the competitive potential allows identifying regions which have succeeded in the development of a competitive factor. Such information may be useful to create different kinds of formal and informal associations' areas in which the most important goal will be to cooperate through the exchange of experience and transfer of innovation in all spheres of social and economic development of the territory.

Besides, the results of investigation can become competitive potential of the information base for the formation of a regional competition politics and the adoption of regional authorities informed decisions in the management of steady development of the territory.

The modern system for managing the development of the competitive potential of the country and its regions should take into account the impact of global, national and regional innovation factors. The introduction of new management technologies on this basis creates the necessary organizational and economic conditions to increase the level of competitiveness of the country.

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## 1.2 ECONOMIC SECURITY AS AN INCENTIVE FOR CONTEMPORARY MANAGEMENT DEVELOPMENT

*“We have always known that heedless self-interest is bad morals; we know now that it is bad economics”.*

*Franklyn D. Roosevelt,  
Second Inaugural Address, 20 January 1937*

The socio-economic development changes not only the economical shapes of the world but the social attitudes and cultural background. Now we can state that basic economic security should be a human right, and this should be defined in terms of advancing real freedom. All human beings need a sense of security, to give a sense of belonging, a sense of stability and a