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Scientific approaches to the evaluation of the competitiveness of regions

In this article, the authors analyze various scientific approaches to assessing the competitiveness of regions. The assessment methods used by domestic and foreign economists are presented and critically evaluated. It is justified that in connection with a different understanding of competitiveness, the scientific polemic about methods is carried on. The authors come to the conclusion that a comprehensive assessment of the region's competitiveness should include parameters characterizing the quality of life of the population, since the aim of any regional policy is to increase the well-being of citizens. In economic science, there are many methods for assessing the competitiveness of the region, based on various socio-economic concepts. The study allowed formulating the most complete definition of competitiveness. According to the authors, this term reflects the effective use of the resource base, the potential opportunities and prospects for full-fledged participation of the region in competition and access to interregional and global markets. The article presents a comparative analysis of all the methods examined and their current position in assessing regional competitiveness.

Keywords: regional competitiveness, regional economy, competitiveness assessment, regional economy, regional policy.

The unresolved problem of the modern economy is the heterogeneity of the economic space and the unevenness of its development. These factors impede the creation of an effective nationwide market. In this case, competitiveness is the only solution to smooth out regional differentiation. In the Address of N.Nazarbayev to the people of Kazakhstan for 2018, it is underlined: «In general, the focus of regional policy should be translated from equalizing expenditures to stimulating the growth of the region's own revenues» [1; 2].

The concept of «competitiveness» can have different meanings, depending on the objectives of the research. The methodological base can also differ. More often, the assessment of competitiveness is carried out using the method of peer review, statistical methods and ranks.

A. Caloffi [2; 12] understands the competitiveness of the region as the ability to produce goods and services that can compete with similar products from other subjects of the country by qualitative, environmental, price, marketing and other indicators. To assess competitiveness, he uses indicators based on official statistical reporting (Table 1).

Table 1

Assessment of the region's competitiveness based on key indicators of the development of economic systems

Indicator name	Unit	Notation
1	2	3
Ability to produce competitive goods and services		
GRP per capita	$/per.	a_1
Productivity of work	$/per.	b_1
The GRP physical volume index	%	b_2
Volume of industrial production per capita	$/per.	b_3
The volume of agricultural products per capita	$/per.	b_4
Ratio of investments in fixed assets to GRP	%	b_5
The price of fixed assets in recalculation per capita	$/per.	b_6
Index of depreciation of fixed capital	%	b_7
Foreign trade balance	%	b_8
Share of exports in real GRP	%	b_9
Unemployment rate	%	b_{10}

Continuation of Table 1

1	2	3
Profitability of fixed assets	%	b_{11}
The share of innovative enterprises in the total number of active enterprises	%	b_{12}
The proportion of residents engaged in science and R & D, to the total population of the region	%	b_{13}
Share of innovative products in total output	%	b_{14}
The number of students receiving high education in the total number of residents of the region	-	b_{15}
Meeting the needs of the inhabitants of the region		
Average life expectancy	years	a_2
Average number of cars per person	pc./per.	b_1
Area of housing per capita	m^2 / per.	b_2
Number of doctors per 10 thousand citizens	per.	b_3
Number of beds per 10 thousand citizens	pc./per.	b_4
Emissions into the atmosphere	t. / m^2	b_5
Specific indicators of waste consumption	%	b_6
The proportion of the restored forest area to the total forest area in the region	%	b_7
The proportion of residents of the region who have incomes below the subsistence level	%	b_8
Ratio of average wage to regional subsistence level	%	b_9
Ratio of average pension to regional subsistence level	%	b_{10}
The level of private savings in the region	%	b_{11}
Actual final consumption of households	$	b_{12}
Price increase index	%	b_{13}
Number of crimes per 100 thousand citizens	pc./ per.	b_{14}
Migration rate	%	b_{15}

Source: Systematized by the authors of the article on the basis of [2; 4-22].

In the model for assessing the region's competitiveness, the sample of study parameters is selected on the basis of correlation-regression analysis. When studying the ability to produce competitive goods and services, GRP per capita is the dominant parameter. This indicator most accurately characterizes the development of production in the region. The key factor in analyzing the possibility of satisfying the needs of citizens is the life expectancy of the average resident. It indirectly reflects the level of well-being of the population.

P. A. Balland [3; 20-22] also understands the competitiveness of the region as a ranking of territories according to their importance in the economic space of the country. It focuses attention on the quality of life of the population as a key indicator of sustainable economic development of the region.

For the ranking of regions P. A. Balland developed the following logical chain: regional market - market pricing system - competitiveness. The scientist has revealed the relationship between competitiveness and pricing. He presented it in the form of a functional dependence:

$$S = f(D, Z, Fp, Fsp), \quad (1)$$

where $S = 1$ — competitiveness of the territory; D — level of well-being of the region's inhabitants, including their average incomes, unemployment rate, share of the poor in the general structure of the population and other indicators; Z — factors affecting pricing in the region (average price level, dependence of the territory on subsidies of the central budget, dependence on imports, remoteness from sources of raw materials and other); Fp — availability, distribution and character of using resources involved in the production process; Fsp — socio-political factors characterizing interaction with authorities, population, business representatives, public organizations.

This dependence can be supplemented by other factors. Detailed information on the region's competitiveness can be obtained on the basis of a market analysis in which all of the factors listed above interact. Interaction of the center with the regions is carried out by direct or indirect trajectory. In the first case, the center delegates the tasks of social and economic development of regional authorities, and it creates favora-

ble conditions for the functioning of the business. In the second case, regulation is carried out through markets: raw materials, fuel, financial, labor, and world market.

In the process of economic activity, each region pursues its own interests. Often they do not coincide with the goals set by the center. Then the contradictions appear. In fact, all interests can be attributed to socio-political factors and a more detailed analysis of them can be conducted.

Economist O.V. Ignatieva [7; 89-95] suggests abstracting away from the economic space of the country as a whole and analyzing the competitiveness of a particular territory on the basis of regional demand and supply. This is necessary to determine the key factors of competitiveness in a specific locality.

Regional demand (Sreg) is the amount of planned expenditure for the acquisition of the region's final products. It characterizes the functional relationship between the volume of goods and services produced and the established level of prices.

The regional proposal (Preg) reflects the actually possible volume of the final output at each price level.

Thus, the assessment of the competitiveness of the region is based on complex components, which makes it difficult to develop a single integrated indicator.

The effectiveness of the «regional demand - regional supply» model is achieved with the balance of these components of competitiveness, but with these requirements being followed: creating a high standard of living for the population, supporting business development of various forms of ownership, investing in the real sector of the economy.

The problem-oriented «Pattern» method [5; 15-29] allows obtaining an estimate by partial indicators when comparing their actual value with the best in the sample. The integral indicator is calculated by the formula:

$$P = \frac{m_i}{m_{max}}. \quad (2)$$

The application of these methods is possible only in the analysis of positive partial indicators (negative dynamics will lead to a distorted result).

We believe that the «Pattern» method is more indicative for assessing the region's competitiveness. The method of relative differences is not entirely informative, since the value of the private indicator for a lagging region (with no development dynamics) is always 0.

Nevertheless, the Pattern method can be used to analyze private indicators that characterize the economic potential, the effectiveness of regional policy and the competitive advantages of the territory. Integral assessment of competitiveness is defined as the arithmetic mean.

D. Audretsch [9; 52-69], E. Eraydin [10; 218-233] and other researchers use the same methodology as the ranking of countries for the competitiveness index to assess the competitiveness of the region. The main idea of the method is to translate individual indicators into a single integrated indicator for each region and assign a territory of a certain rank.

To calculate the composite index of competitiveness, scientists propose to evaluate four groups of factors. The first group of factors reflects the real state of the regional economy during the study period. Indicators of the development of infrastructure and communication networks (2 group of factors) characterize the region's opportunities to enter the external markets for the sale of products and the availability of conditions for rapid information exchange. The third group of factors assesses the innovative activity of the region (the volume of innovative products, investments in R & D, the number of graduate students, innovation costs per capita, and others). The index of foreign economic activity (4 group of factors) shows the place of the region in foreign economic activity and its level of attractiveness for foreign investors.

The first group of factors characterizes the current level of competitiveness of the region, since the index is calculated on the basis of real values. Based on 2-4 groups of factors, it is possible to calculate the possibilities of the territory in the formation of a higher level of competitiveness in the context of the globalization of the economy. This is the potential for development that must be taken into account when developing strategic objectives. The integral index of competitiveness is obtained on the basis of the average arithmetic of the current state index and strategic development index.

Table 2 presents an analysis of the commonly used indicators of efficiency, economic potential and competitiveness of the region.

Table 2

Analysis of indicators of development effectiveness, economic potential and competitiveness of the region

Indicator name	Unit
Indicators characterizing the economic potential of the territory	
The number of economically active population of the region	per.
Number of employees employed in micro and small business enterprises	per.
The value of fixed assets of the real sector of the economy	$.
Area of agricultural land	ha
R & D costs	$
Final financial result of the region	$
Investments in fixed assets	$
GRP	$
Indicators characterizing the effectiveness of regional policy	
GRP for 1 employed in the real sector of the economy	$/ per.
GVA in the sphere of industry per 1 employed in this sector	$/per.
GRP for 1doll. value of fixed assets	$
Profitability of final products	%
Wage costs per US $ GRP	$
Indicators characterizing competitive advantages of the region	
Cost of fixed capital per 1 employee	$
Level of depreciation of fixed assets	%
Average size of investments in fixed capital per 1 citizen of the region	$
The proportion of employed in micro and small business enterprises to the total number of economically active population	%
The proportion of employed in private enterprises to the total number of employed	%
Number of roads per 1 thousand m^2 of territory	
Average productivity in agriculture for the last 5 years	c/ha

Note. GRP is the gross regional product; GVA - gross value added (source: Compiled by the authors on the basis of theoretical generalizations).

Based on the research conducted, it can be concluded that the methodology for assessing the competitiveness of the region is still at the development stage. Each model examined has its strengths and weaknesses.

The principle of complexity should be the basis of choosing the methodology for analyzing the competitiveness of the region. It implies a reflection of the real economic potential and social development of the territory, the appropriateness of attracting domestic and foreign investment, the nature of the use of resources.

As a basis for assessing the region's competitiveness, factors that can contribute to its increase should be chosen. The parameters describing the quality of life of the population should also perform as an object of research, since the aim of any regional policy is the growth of the well-being of citizens.

Modern economics highlights the proportions between the main resources: production, natural and human. The latter are the most important. Researchers note that its share in the CIS countries accounts for up to 50% of the national wealth.. In the developed countries of the world, this proportion is higher - from 80 %.

Thus, the development of effective socio-economic policies in the region requires the creation of tools for a comprehensive assessment of human resources.

Based on the definitions of the competitiveness of a region presented by different researchers, two main approaches to assessing the effectiveness of socio-economic processes can be distinguished:

1. The competitive advantages of the region are necessary to create a favorable investment environment for attracting investments.

2. Competitive advantages are necessary to create a positive image of the region.

Both approaches involve assessing the resource potential of the region. The purpose of this event is to assess the rationality of the use of all the wealth of the territory, including the human resources. Evaluation of the economically active population constituting the potential of a region requires the application of a sys-

tematic approach to the object of study. Formation of competitive advantages allows the region to: improve the business climate, increase investment attractiveness, raise the standard of living of the population, accelerate economic growth, etc.

Modern science requires a revision of the methodological approaches used to assess the competitiveness of territorial entities. However, in most studies, the choice of methods for analyzing and monitoring economic growth and development of regions is still topical.

Table 3 presents a comparative analysis of all the methods considered and their current position in assessing regional competitiveness.

Table 3

Comparative analysis of methods for assessing the competitiveness of the region

Name of the methodology	Strengths	Weaknesses	Accounting of human resources
The method of comparative rating assessment of competitiveness (G.Makhonko, S.Egizbaev, A.Caloffi, et al.)	checking in practice	1. Large number of factors for analysis; 2. Absence of a unified concept. 3. No justification	Taken into account in the block «The ability of the region to meet the needs of the population»
Assessment of competitiveness based on regional supply and demand (A.Grishchenkov, O. Ignatieva, P. Balland, et al.)	– checking in practice; – presence of a concept	1. Social component is not taken into account. 2. Only the pricing mechanism is the basis. 3. Complex expert evaluation is required	Analysis is based on the welfare indicators of the region's inhabitants
Assessment of region's competitiveness based on clustering (O.Pokramovich, A.Kamalova, R.Camagni, et al.)	– the presence of a concept; – multifactor analysis	1. Methodology only analyzes the cluster potential. 2. Difficulty in obtaining the initial information for analysis	Not taken into account, the emphasis is on the competitive stability of enterprises
Integral evaluation (E.Amineva, E.Kudosh, S.Abildaev, et al.)	– availability of source data; – approbation of results; – detailed assessment of 3 groups of indicators characterizing competitiveness	1. Reflect only the overall economic development of the territory. 2. The analysis does not take into account the social factor	Human resources are taken into account in the system of indicators of the region's economic potential and the effectiveness of regional policy. However, when assessing competitive advantages, they are not given enough attention
Integral evaluation (E.Valeeva, G.Kopeeva, Pinder, et al.)	– availability of source data; – substantiation of the composition of the analyzed factors; – approbation	Substantiation of significant indicators not included in the methodology is necessary	The labor market and living standards of the region's population are analyzed
The rating assessment by analogy with the country (I.Bondarenko, D.Audretsch, E.Eraydin, et al.)	– availability of source data; – substantiation of indicators included in the study	Methodology characterizes only general economic development	Human resources are taken into account only when calculating the index of current competitiveness

Source. Compiled by the authors on the basis of theoretical generalizations.

The choice of methodology for analyzing the competitiveness of the region should be based on the principle of complexity. It implies a reflection of the real economic potential and social development of the territory, the appropriateness of attracting domestic and foreign investment, the nature of the use of resources.

The concept of «competitiveness» may have a different meaning depending on the objectives of the study. Methodological base may also vary. Most often, the assessment of competitiveness is carried out using the method of expert evaluation, statistical methods and ranks.

Assessment of the region's competitiveness presupposes the presence of a subject (appraiser), an object (subject of research) and tasks (goals that the researcher wants to achieve). In the role of the subject of research can be public authorities, investors, consumers. The object of study most often are: product, company, holding companies, the region or the country as a whole. Tasks can vary: from assessing the situation in the domestic market to the creditworthiness of the enterprise.

Based on the research conducted, it can be concluded that the competitiveness of the region is seriously affected by 2 factors: the effective use of all available resources and the sustainable development of enterprises of all organizational and legal forms.

Despite the availability of a large number of methods for assessing the competitiveness of the region, there is no single approach to the analysis of human resources as the main factor of the socio-economic development of the territory.

In modern science, there are a large number of methods aimed to assess competitiveness through the analysis of certain resources of the region. However, the quantitative and qualitative analysis of human resources is practically not applied when identifying the competitive advantages and sustainability of the region.

In economic science, there are many methods for assessing the competitiveness of the region, based on various socio-economic concepts. The study allowed forming the most complete definition of competitiveness. In our opinion, this term reflects the effective use of the resource base, the potential opportunities and prospects for full participation of the region in competition and access to interregional and world markets.

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Ж. Цауркубуле, Ж. Кенжин, З. Султанова

Өңірлердің бәсекеге қабілеттілігін бағалаудағы ғылыми көзқарастар

Мақалада авторлар өңірлердің бәсекеге қабілеттілігін бағалауға арналған әртүрлі ғылыми көзқарастарды талдайды. Отандық және шетелдік экономистердің сыни тұрғыдан бағалаудың әдістері келтірілген. Бәсекеге қабілеттіліктің әртүрлі түсінулеріне байланысты, ғылыми таластардың әдістері туралы негізделген. Себебі кез келген аймақтық саясаттың мақсаты азаматтардың әл-ауқатын арттыру болса, авторлар халықтың өмір сүру сапасын сипаттайтын өңірдің бәсекеге қабілеттілігін жан-жақты кешенді бағалаудың параметрлерін келтірген. Экономикалық ғылымда әртүрлі әлеуметтік-экономикалық ұғымдарға негізделген аймақтың бәсекеге қабілеттілігін бағалаудың көптеген әдістері бар. Зерттеу бәсекеге қабілеттіліктің ең толық анықтамасын қалыптастыруға мүмкіндік берді. Қазіргі заманғы ғылыми аумақтық субъектілердің бәсекеге қабілеттілігін бағалауда қолданылатын әдіснамалық тәсілдерді қайта қарауды талап етеді. Дегенмен де көптеген зерттеулерде экономикалық өсу мен өңірлердің талдау әдістерін таңдау әлі де болса өзекті болып қала бермек. Біздің пікірімізше, бұл термин ресурстық базаны тиімді пайдалануды, аймақтың бәсекелестікке толыққанды қатысуын және аймақаралық, әлемдік нарыққа қолжеткізудің әлеуетті мүмкіндіктері мен перспективаларын көрсетеді. Мақалада барлық әдістердің салыстырмалы талдауы және олардың аймақтық бәсекеге қабілеттілігін бағалаудағы қазіргі жағдайы көрсетілген.

Кілт сөздер: өңірлердің бәсекеге қабілеттілігі, аймақтың экономикасы, бәсекеге қабілеттілікті бағалау, аймақтық экономика, аймақтық саясат.

Ж. Цауркубуле, Ж. Кенжин, З. Султанова

Научные подходы к оценке конкурентоспособности регионов

В статье авторы проводят анализ различных научных подходов к оценке конкурентоспособности регионов. Приведены и критически оценены применяемые ныне методики оценки конкурентоспособности отечественных и зарубежных экономистов. Авторы приходят к выводу, что в комплексную оценку конкурентоспособности региона следует включать параметры, характеризующие качество жизни населения, поскольку целью любой региональной политики является рост благосостояния граждан. В экономической науке существует множество методик оценки конкурентоспособности региона, основанных на различных социально-экономических понятиях. Исследование научных трудов различных ученых позволило авторам сформировать наиболее полное определение конкурентоспособности. По мнению авторов статьи, термин «конкурентоспособность» отражает эффективное использование ресурсной базы, потенциальные возможности и перспективы для полноценного участия региона в конкурентной борьбе и выход на межрегиональные и мировые рынки.

Ключевые слова: конкурентоспособность регионов, экономика региона, оценка конкурентоспособности, региональная экономика, региональная политика.

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