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MODERN MANAGEMENT OF NATIONAL COMPETITIVENESS

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Abstract. This article offers a modern approach to the policy of competitiveness of the national economy at the regional level. Based on the results and experience of domestic and foreign economists the author offers a system of indicators of regional activity and a method for determination of the integrated index of the competitiveness level in the region. This way of calculation makes it possible to carry out the analysis of the regional economic activity dynamics at the tactical (1 year) and strategic (5 years) levels. Three main policies to increase the competitiveness of the region have been proposed: refocus, dualistic, directive. The essence of major policies to increase the competitiveness of the region, its directions and objectives for the national economy have been characterized. The proposals concerning the application of the basic policies of the competitiveness of the region to the appropriate region of Ukraine on the relevant level of its competitiveness have been given.

Keywords: territorial competitiveness, region, management, national economy, policy, decision making.

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Streszczenie. Niniejszy artykuł przedstawia nowoczesne podejście do polityki konkurencyjności gospodarki narodowej na poziomie regionalnym. W oparciu o wyniki i doświadczenia ekonomistów krajowych i zagranicznych autorzy proponują system wskaźników aktywności regionalnej oraz metodę wyznaczania zintegrowanego wskaźnika poziomu konkurencyjności w regionie. Ten sposób obliczania umożliwi przeprowadzenie analizy dynamiki regionalnej aktywności gospodarczej na poziomie taktycznym (1 rok) i strategicznym (5 lat). Zaproponowano trzy główne polityki mające na celu zwiększenie konkurencyjności regionu: reorientacja, dualistyczna, dyrektywa. Scharakteryzowano istotę głównych polityk zwiększania konkurencyjności regionu, jego kierunki i cele dla gospodarki narodowej. Przedstawiono propozycje dotyczące zastosowania podstawowych polityk konkurencyjności regionu do odpowiedniego regionu Ukrainy na odpowiednim poziomie jego konkurencyjności.

Słowa kluczowe: konkurencyjność terytorialna, region, zarządzanie, gospodarka narodowa, polityka, podejmowanie decyzji

Introduction

In order to achieve the efficiency of the competitiveness policy, there are more advantages in forming strategies at the regional rather than at the national level, as the region takes into account all the advantages and prospects for development, and the State carries it out superficially. The development of approaches to the strategy of efficient management of the region's competitiveness is faced with the greatest difficulty i.e. the choice of the policy implementation of a given regional sphere and filling it with mechanisms and technologies to achieve appropriate goals. The following choice of the appropriate policy for the region's competitiveness increase is recommended to be performed based on scientific developments and proposals that are scientifically and economically grounded.

For management decisions with increasing regional competitiveness, primarily, the qualitative assessment of the region's competitiveness is conducted. It is designed to not only provide a tangible result of the evaluation but also to provide an assessment of the main component elements of the region's competitiveness due to the well-selected scoring system.

1. Review of the literature

In order to achieve the efficiency of the competitiveness policy, there are more advantages in forming strategies at the regional rather than at the national level, as the region takes into account all the advantages and prospects for development, and the State carries it out superficially. The development of approaches to the strategy of efficient management of the region's competitiveness is faced with the greatest difficulty i.e. the choice of the policy implementation of a given regional sphere and filling it with mechanisms and technologies to achieve appropriate goals. The following choice of the appropriate policy for the region's competitiveness increase is recommended to be performed based on scientific developments and proposals that are scientifically and economically grounded.

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Some authors prefer the formation system of various parameters that make up the integral index of the competitiveness of the region. The author of the research [20] believes that the most objective integrated indicator that combines the competitiveness of goods, producers, and industries is the indicator of regional competitiveness, which allows you to characterize the situation in the region in the national market, and in the country - in the world. In his research, he uses expert assessment, which is subjective. There is also a controversial issue to the grouping of indicators, such as the investment attractiveness of the region, which in our opinion should be attributed to the first group of parameters that characterize the presence and effectiveness of the use of resources.

Researchers in [13] argue that the competitiveness of the region is determined by the competitiveness of goods and organizations. As far as the region is the subsystem of the system of the higher level i.e. of the country, its competitiveness and efficiency of the operation will depend on the quality and intensity of impact on it by the system (i.e. the country). For the evaluation of the competitiveness of the region, the scientist offers the following formula.

In our opinion, the basic drawbacks in this approach are the attraction to identifying different levels of competitiveness (of the region or enterprise) and a significant exaggeration of their influence on each other.

There are quite a lot of approaches to the evaluation of the region's competitiveness and its specific indicators in the literary sources, but there is no consideration of indicators that fully characterize the region's business activity and its innovation and investment activity. Such activity is today one of the most necessary for regional development.

The purpose of the article is to develop proposals to enhance the region's competitiveness policy and their practical application by subjects of the hierarchy of regional management and to assess the level of regional competitiveness.

2. Methodological approaches to assessing the competitiveness of the region

According to the most common definition, offered by economist Boshma R. (2014), the regional competitiveness can be defined as the ability of a particular region to compete with one another both within and outside the territory of the State in the direction of the economic growth and prosperity. According to the

fact that some regions are more advanced than the others, many scientists have come to the conclusion that regional competitiveness is of a greater significance and is an underestimated economic process. There are enough global factors of influence towards the aggravation of the competitiveness between regions directly and indirectly. The difference in the competitiveness style depends on the achieved economic development [6].

Ukrainian scientists Y. Lazarijeva and N. Yablonska (2011) [14] recommend to use a two-level system of indicators to determine the integrated indicator of the region's competitiveness, which includes 30 parameters that embrace the following regional spheres and activities as: the efficiency of investment in infrastructure; efficiency of financial activity; the effectiveness of socio-labor development; the level of political, economic, environmental and other risks. The authors in their research prefer financial indicators of activity in the region, without focusing attention on the industrial, technological and other indicators.

As Kovalska L. (2013) notes, the region's possibilities to compete should be compared with the index of the region's referentiality [12]. The regional competitiveness researcher Jonathan P. (2010) for the basis of the system of indicators uses a thing, that is accessible for all regions on the basis of the definition of the socio-economic level of regional development, as well as the ability of the region to attract foreign capital [17].

The data matrix takes into account the resources of Ukrainian statistics and modifies the existing research methods of regional competitiveness. The indices of regional competitiveness have been selected after singling out the incentives and disincentives. The matrix indicators consist of 23 indicators that are grouped in three blocks: the general economic condition of the region, the region's economic activity and innovation and investment activities in the region. These indicators thoroughly reflect regional business activity. The statistical data for the matrix of indices are taken over a period of 5 years (2014–2018) (Table 1).

Table 1. Matrix of indicators of regional activity*

No	Block name	Indexes	Direction of influence
1	Block 1 "General economic condition of the region"	Gross regional product per person, (UAH)	stimulator
2		The economically active population (thousand people)	stimulator
3		The employed population (thousand people)	stimulator
4		The employed population (thousand people)	disintegrator
5		Number of EDRPOU entities (persons)	stimulator
6		Average monthly wages by region (per employee, UAH)	stimulator
7		Acceptance of the total living space per 1,000 permanent residents by region (m ²)	stimulator
8		Current expenditures on protection and rational use of natural resources (ths. UAH)	disintegrator
9	Block 2 "Economic activity of the region"	The volume of sold industrial products (goods, services) per capita (thousand UAH)	stimulator
10		Retail turnover (million UAH)	stimulator
11		Total export of goods (ths. US dollar)	stimulator
12		Total exports of services (ths. US dollar)	stimulator
13		Total volumes of import of services (ths. US dollar)	disintegrator
14		Total volume of import of goods (ths. US dollar)	disintegrator
15	Block 3 «Innovative – investment activity of the region».	Number of organizations performing scientific and scientific – technical works (units)	stimulator
16		Number of specialists performing scientific and scientific work (persons)	stimulator
17		Number of innovative enterprises in the industry (units)	stimulator
18		The volume of innovative products (ths. UAH)	stimulator
19		Implementation of innovative technological processes in the industry, (units of processes)	stimulator
20		Implementation of innovative types of products in industry (units of titles)	stimulator
21		Capital investment per capita (UAH)	stimulator
22		Foreign direct investment per capita by regions of Ukraine (USD)	stimulator
23		Distribution of total expenditures (ths. UAH)	disintegrator

* Developed by the author

Uses a grouping method for partial indices. According to the method, the partial indices are "reduced" to the aggregate index. In order to calculate the block aggregate index the formula for defining the geometric mean should be used: the N-th root of the product of the values of partial indices, where n is the number of indices included in the block.

For each region, three aggregate indices have been received for every year. They are to calculate the general aggregate index of the region. As the indices in blocks are heterogeneous, the arithmetic mean formula should be used:

$$I_j = (I_{1j} + I_{2j} + I_{3j})^{1/3} \quad (1)$$

where I_{1j} – is the average value for the first block for each j-region; I_{2j} – is the average value for the second block for each j-region; I_{3j} – is the average value for the third block for each j-region.

The results of the calculation of the integral indicator of the competitiveness of the region for each year (tactical level) and for five (strategic level) years as a whole is presented in Table 2. The ranking of regions according to the level of competitiveness is built in the downward direction on the results of the regional competitiveness index at the strategic level.

Table 2. Integrated Competitiveness Rating regions of Ukraine, 2014-2018*

No	Oblast/Region**	Aggregate competitiveness index I_j for each year					Regional Competitiveness index
		2014	2015	2016	2017	2018	
1	The city of Kyiv	1.2709	1.4001	1.4531	1.4301	1.5484	1.42052
2	Kharkiv	0.5293	0.5226	0.4584	0.5472	0.5881	0.5291
3	Lviv	0.3515	0.3761	0.3707	0.4598	0.497	0.4110
4	Kyiv	0.3499	0.3938	0.3763	0.4446	0.4609	0.4051
5	Odesa	0.3428	0.4016	0.3647	0.4446	0.4619	0.4031
6	Dnipropetrovsk	0.368	0.4262	0.3499	0.4012	0.4097	0.3910
7	Zaprizhzhia	0.3755	0.4065	0.3647	0.3924	0.4147	0.3907
8	Donetsk	0.3869	0.4389	0.289	0.2961	0.3411	0.3504
9	Ivano-Frankivsk	0.2933	0.2993	0.3081	0.3448	0.3646	0.3220
10	Sumy	0.2953	0.2945	0.2782	0.3251	0.3414	0.3069
11	Ternopil	0.2523	0.2883	0.2666	0.3444	0.3584	0.3020
12	Vinnitsia	0.2563	0.2778	0.2551	0.3411	0.3537	0.2968
13	Kherson	0.2729	0.3254	0.2378	0.2801	0.2953	0.2944
14	Mykolaiv	0.2707	0.3336	0.2469	0.2939	0.2892	0.2868
15	Cherkasy	0.262	0.297	0.2458	0.2944	0.2913	0.2781
16	Poltava	0.277	0.305	0.2552	0.2664	0.2716	0.2750
17	Zakarpattia	0.2156	0.291	0.2459	0.2978	0.3017	0.2704
18	Zhytomyr	0.2398	0.2695	0.2378	0.2996	0.3005	0.2694
19	Kirovohrad	0.2327	0.2504	0.291	0.2773	0.2692	0.2641
20	Chernivtsi	0.2244	0.2519	0.1994	0.2931	0.2806	0.2498
21	Khmelnytskyi	0.2276	0.2405	0.2265	0.2692	0.2816	0.2490
22	Volyn	0.2302	0.2468	0.2215	0.2691	0.2566	0.2448
23	Chernihiv	0.2085	0.2375	0.2114	0.2649	0.2813	0.2407
24	Rivne	0.2048	0.2429	0.2119	0.2601	0.2776	0.2394
25	Luhansk	0.3056	0.3141	0.1611	0.1593	0.1891	0.2258

*Calculated by the author on the basis of indicators of the State Statistics of Ukraine, **The annexed Autonomous Republic of Crimea and parts of the occupied Donetsk and Luhansk regions are not taken into account in the study.

3. Principles of the policy of increasing the competitiveness of the region

The policy of the region's competitiveness cannot be common to all the regions of Ukraine. Mikhail K. notes (2017) that it is necessary to choose the most appropriate type of policy, taking into account the different state of the regional economy, directions of the development, economic conditions and competitive advantages [11]. Such compliance, according to Ervin S. (2018) will provide an opportunity to consider the region as a separate entity of the economic national system, and measures that are adaptive to its level of competitiveness will have an effective impact [18].

The basic principle of scientists' offers concerning the choice of policies to increase competitiveness in the region consists of the following: the higher the indicators of the competitiveness of the region, the less effective it is necessary to apply the tools of activation and stimulation and vice versa – the lower the indicators, the greater the impact is needed for the region's economic sphere from entities of regional management. Moreover, certain measures are carried out depending on the previous achievements of the region's competitiveness.

According to the levels of competitiveness, the grouping of the regions and the selection of the type of policy to increase the region's competitiveness is accomplished. The main types

of policy are directed towards increasing the region's competitiveness. Despite a universality of the proposed policy of increasing competitiveness towards a number of regions, we should agree with Allen J. (2007) that the strategy of the management of a specific region is always individual. In the process of adapting it to specific regions, all the factors regarding its functioning relationships should be taken into account, including the potential ones that provide new opportunities for the activities of the regional entities [1].

The basic types of policies to increase competitiveness in the region have been proposed: refocus, dualistic and directive. The refocus policy (originates from the Latin word "refocus" – change of direction) is relevant for regions with a high level of competitiveness at the strategic and tactical level.

The given policy can be grounded on the principles of the region's "smart development", which began to be developed in the 90's by Amnon F. and Idan P. (2017). It is relevant for regions that are faced with the challenges of resource scarcity, high levels of international and interregional competition, new technologies [10]. Its main purpose is the rational use of existing material and immaterial resources and the tandems of modern innovations.

The key is in the re-orientation of the region's economic achievements to other areas. Such a region is able to convert economic results into social, environmental and other benefits of increasing activity in the region. This is both the recommendation and a commitment of the regional managers to transform the economic growth because without it the socio-economic welfare of the people of the region can't be improved. The economic regionalism creates the foundation for the increase of the national competitiveness, and the refocus policy provides the increase of the regional prosperity of the population, which in turn is a source of generating competitive advantages of the region.

Some foreign countries with the proper high level of competitiveness of the regions direct the region's management policy towards the method of inclusive development. It is a complicated policy which is aimed at ensuring employment and high social standards based on the harmonious combination of high rates of economic growth along with the principles of sustainability [5]. For the first time, the concept of "inclusive development" was used in 2007 by the Asian Development Bank. This policy has arisen from the phenomenon of the rapid economic growth of some Asian countries and the emergence of a large number of people living in extreme poverty (on less than 1.25 dollars a day in the United States). Only in the Asia-Pacific region in 2011 their number reached 743 million people [3]. However, the growth rate of the national economy does not give grounds for the use of such experience to the full extent nowadays.

Dualistic policy (originates from the Latin word "dualis" meaning double) of increasing the region's competitiveness is based on two directions, which are aimed at keeping by the region its competitive benefits or at the improvement of the regional competitiveness.

To create sustainable competitive advantages on the tactical and strategic level, the dualistic policy of increasing the region's competitiveness should include an integrated transformation of all presented elements. Two approaches can be applied. The first approach is aimed at the simultaneous changes in all spheres and the incremental (evolutionary) transition to a higher level, and the second one provides an active change of individual segments which, ultimately, affect other areas. The first approach is simpler and does not require a complete change of management measures to improve regional competitiveness, as it is aimed at the gradual adaptation of management entities to control objects. This approach is aimed at keeping by the region its competitive approaches, but it requires a long time. The second approach is more difficult and risky, but it can provide more rapid changes in the development of the region through the development and implementation of innovative measures in the management of regional competitiveness.

The regional management entities recommend generating development skills of certain areas, particularly the regional

infrastructure. The variety of types of infrastructure enables the region to show ambitions in projects both in the field of the region's purpose and in time intervals according to the research of Croatian academic Nevenky (2013). Almost all the infrastructure projects that have a high degree of importance for regional development are on the verge of altruism and are implemented through government intervention [8]. It is ineffective and quite slow in obtaining a competitive advantage. A high level of the region's competitiveness means that such a region can effectively use both its own and borrowed resources for its own regional objectives, and is able to cooperate and perform functions both at the State and regional level. That is, a region that counts on its own efforts in the development of its own infrastructure obtains competitive advantages in the long-term perspectives. A region which carries out the development of its own infrastructure for the future reduces its potential costs which can be redirected as an investment.

An important factor in the dualistic policy is the motivation to increase productivity, expand production and improve the competitiveness of goods and companies. According to economist Eredin A. (2011), the export increase of regional products evaluates the perspective and relevant priority guidelines of the region's development. The economic sector is expected to be modernized, improved, and the management institutional support will be changed towards the intensification of business activity in the region and the quality of management improvement [9].

Directive (originates from the Latin word "dirigere" meaning to direct, to determine) policy to improve competitiveness is applied to regions that are in deep stagnant economic problems or to regions with enormous ambitious plans and minimal previous results with regional competitiveness. For these regions, the economic activity of the region, its intensification and stimulation become the main strategic goal, but not a means to achieve socio-economic benefits and improve the well-being of the population.

The gross part of measures to improve the regional competitiveness is aimed at activating, motivating and promoting the economic activity, and the region's limitedness in functional capabilities prefers support for small and medium entrepreneurship according to the point of view of Pelegrin G. (2007). The establishment of appropriate information and reproduction infrastructure for the economically active population of the region is the ability of each region, however, for this group of regions' competitiveness is a necessary element of the directive policy [16].

This policy provides for the increase in economic production rates (quantitative and qualitative). For the effectiveness of this policy at the strategic level, there is a need for applying the elements of innovation at the stages of the goods and services development to increase their competitiveness in the domestic market. The region is recommended to intensify its competitive fight for investment in regional development. Gilian B. (2006) stresses that the most effective is the practice of the Asian countries in attracting investments under the project, which will be realized by dozens of regional companies of this sphere [7]. This approach provides an opportunity for the regional management entities to support the priority areas of the economy or industry, and the approach of the fund's redistribution among entrepreneurs testifies the qualifying capacity of the region's managers.

Special attention deserves a regional approach for promoting dynamic and highly profitable types of economic activity, as the source of the increase of the region's business activity. These mostly include service industries including investment, credit, IT, informational and technological ones that do not require long-term costs for the resource provision, however, require a high level of workers' qualification [15].

According to the calculations in Table 2, one can group regions due to the value of the integrated index of competitiveness for the period of 2014-2018 (Table 3). For the range of size limits in the group, the average value of the integrated index of competitiveness with step 0.05 is used.

Table 3. Grouping of regions of Ukraine in the main policy of increasing competitiveness*

	The refocus policy	RICI	The dualistic policy	RICI	The directive policy	RICI
	Region/Oblast	The City of Kyiv Kharkiv	1.4 0.5	Lviv Kyiv Odesa Dnipropetrovsk Zaporizhzhia Donetsk Ivano-Frankivsk	0.410 0.405 0.403 0.391 0.390 0.350 0.322	Sumy Ternopil Vinnytsia Kherson Mykolaiv Cherkasy Poltava Zakarpattia Zhytomyr Kirovohrad Chernivtsi Khmelnitskyi Volyn Chernihiv Rivne Luhansk

*Calculated according to the author's methodology based on the indicators of the State Statistics Committee of Ukraine

Seven regions belong to the group of application of the dualistic policy for improving the regional competitiveness. This group of regions is in the opposite position to the direction of the dynamics of the region's competitiveness. The policy effectiveness, in this case, is displayed in increasing the regional competitive positions with step-by-step development of innovation and investment activities of socio-economic development of the region.

Reflex policy in Ukraine can be used for two regions that have to become the most advanced regions of the State in building regional competitiveness at the strategic level of national significance. They are able to implement measures that are required by this policy and able to test and modernize them for national consumption.

4. Conclusions

Based on the conducted theoretical researches we believe that the policy of increasing the competitiveness of the region should be carried out, taking into account its innovation and investment activity. Under the condition of decentralization, the regions get the powers to carry out measures for such policies and are responsible for conducting the regional development in today's tandem of the world economic development. In this case, one can choose an efficient policy of increasing the region's competitiveness and would achieve the innovation and investment activity of Ukraine's regions.

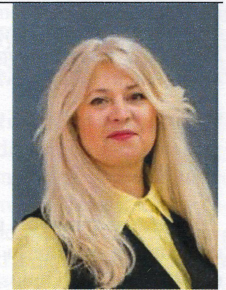
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