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APPROACHES TO UNDERSTANDING THE COMPETITIVENESS OF REGIONS IN THE DEVELOPMENT OF THE ECONOMY: A COMPARATIVE ANALYSIS OF THE COUNTRIES OF EUROPE AND UKRAINE

The article attempts to comprehend modern approaches to understanding and evaluating national competitiveness on regional scale. In particular, the evolutionary perspective was applied, demonstrating how the vision of national and regional competitiveness changed in the last centuries. The paper emphasizes that the lack of effective methods for measuring the competitiveness of regions threatens the loss of global competitive advantages of the nation-state, since namely the regions are 'producers' of innovations and sustainability, and the best national economy is the one that is built on the synergy of regions. In addition, regional imbalances and high degree of unevenness in the development of regions are fraught with internal political tension in the country. The subject literature considered in the study has numerous visions of regional competitiveness, which affects exposing determinants in the regional competitiveness measurement and competitiveness. Yet, regarding the concept of competitiveness, variables that contribute to competitiveness, application, and practical strategies to promote competitiveness, there are still a lot of unanswered questions. Within the study, the core drawbacks of the approach, indices, and metrics used in Ukraine for evaluating competitiveness of regions are analyzed, on the background of EU approaches and in comparative analysis. The paper presents selected regions competitiveness assessment models and measures that they use, with outlining of prospects of their application in Ukraine national regional landscape. The main emphasis is made on the application of a systemic approach and mandatory consideration of sustainability paradigm, inclusion of sustainable development parameters into the model of regional competitiveness assessment, as well as non-linearity of connections between indicators characterizing competitiveness of region.

Keywords: competitiveness of regions; innovations; sustainability; competitive advantages; regional policy.

Introduction

The relevance of the research topic is due to the need to determine the directions of strategic regional development based on an assessment of the competitive position of the territory in conditions of an unstable external and internal environment. The competitiveness of regions is becoming a basic condition for their sustainable functioning in modern conditions. The formation and development of competitive advantages contributes to accelerated economic growth, improved well-being of the population, and more efficient and rational use of the territory's resource potential.

The formation of an effective comprehensive mechanism for implementing the competitive advantages of the region is possible only within the framework of the designing and implementation of a regional strategy for the competitive development of the territory. The strategy for competitive development of the region represents an important starting point for regional authorities, which are called upon to constantly and actively act towards ensuring, maintaining, and increasing the competitive advantages of their

territory.

Competitiveness and investment attractiveness become a catalyst for the development of regional socio-economic systems. Thus, on the one hand, according to the level of competitiveness of the region, the population, capital owners, and entrepreneurs choose the territory and priorities for the development, both in the medium and long term, which, in our opinion, can ensure the sustainable development of the region. On the other hand, the ability to provide a high quality of life for the population, the required level of income for capital owners, and attractive conditions for conducting investment and business activities is an objective indicator of the level of competitiveness of a particular region [13; 14; 22].

The competitiveness of the region as a whole should be understood as its ability to provide a high standard of living for the population and income for capital owners, as well as to effectively use the economic potential available in the region in the production of goods and services. Ultimately, the competitiveness of a region determines its role and pla-

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ce in the country's economic space; this indicator is necessary for a comprehensive understanding of the region's position, its strengths and weaknesses. Each of the components of competitiveness is important for setting global development goals for the region, and namely the competitiveness indicator integrates these components [5; 15].

In recent years, a sizable body of academic and practitioner-based research has emerged with the goal of theorizing about and measuring the competitiveness of regions empirically. Nevertheless, because these investigations are dispersed and fragmented, there is not a strong theoretical basis for the many analysis and measuring techniques that are used. In such a landscape, it seems appropriate to consider the concepts and practices applied in the EU as the most diverse formation in terms of regions peculiarities and development, and try to reflect this experience through the lens of regions' competitiveness in the development of Ukrainian economy. This task is even more important in the context of Russian war aggression in Ukraine – both for rear regions which face the necessity of searching additional resources and potential, innovations to retain competitiveness in tough conditions of martial law, and regions in the zone of hostilities, that is, regions which will have to solve the task of high-speed reconstruction and recovery after war, restoring economic ties and place in global arena.

Research methods and information base. The theoretical and methodological basis of the study was the scientific publications and applied works of leading domestic and foreign experts in the field of regional economics, in particular, devoted to assessment and management of the competitiveness of the territory's economy, various methodological recommendations used in assessing the competitiveness of the region in Ukraine and the European Union, as well as developing an effective systems for making and implementing management decisions.

The research methodology is based on a systems approach. The methods of dialectics and synergetics were used as research tools.

Analysis of recent research and publications. Modern economists understand competitiveness as the formation and maintenance of sustainable competitive advantages. Considering competitiveness as the possession of properties that create advantages for an economic entity, allowing them to win economic competition, it should be noted that these properties can relate to objects of different nature at the micro-, macro-, meso level.

The concept of regional competitiveness often focuses attention on geographical features or on features of economic uniqueness. Thus, in the economic literature of recent years, the use of the theory of M. Porter, who characterized the competitive advantages of countries, is widespread. However, Porter actually is not talking about competitiveness, but about competition and its characteristics. The competitiveness of a region, according to Porter, is characterized by the degree of development of technology, mastery of production and marketing factors, globalization of strategies as an advance in the actions of its competitors. All of the above characteristics indeed determine the implementation of the region's competitiveness, but do not characterize the content of the region's competitiveness itself [9].

Kaplinsky R., Humphrey J., Schmitz H. in their studies of the mutual influence of the sequence of increasing value and cooperation processes are aimed at creating conditions

for the development and application of new high-tech products, improving technologies, methods of production, marketing and other types of improving the economic management of regional clusters and regional development [15].

Although a region's competitiveness is inextricably linked to its economic performance, there is increasing agreement that the best way to gauge a region's competitiveness is to look at its business environment's resources [10]. These include the degree of human capital, the degree of innovative capacity, and the standard of the local infrastructure; each has an impact on the likelihood of gaining a competitive edge in rapidly developing and cutting-edge industries. Important components of regional competitive advantage include the impact these resources and other externalities, such as a region's capacity to draw in inventive and creative individuals or offer top-notch cultural amenities, can have on business competitiveness [2]. Put another way, rather of being only dependent on acquired wealth, competitiveness is becoming more and more dependent on factors like creativity, knowledge, and environmental conditions.

In contrast to the conventional focus on the accumulation of physical capital, endogenous growth theory emphasizes that knowledge is a crucial driver of productivity and economic growth, reinforcing the fundamentals of regional competitiveness [4]. In an effort to comprehend the mechanisms underlying economic development, endogenous growth models have become more and more important to theorists of the field. The main premise of endogenous growth theory is that knowledge stocks, such as those found in human capital or the results of research and development (R&D) endeavors, at least partially determine economic growth. The term "endogenous" refers to the understanding that, as opposed to the exogenous variables linked to conventional growth models, economic growth is impacted by the utilization of investment resources produced by economies themselves.

Furthermore, it is widely acknowledged that a deeper comprehension of the mechanisms driving regional growth patterns is necessary at the regional level. This policymaking and aided learning process, which aims to comprehend regional circumstances and encourage enhanced regional competitiveness outcomes, is starting to include regional competitiveness benchmarking.

An important factor in the competitiveness of the region today is sustainable development. The level of this development and progress in achieving the UN Sustainable Development Goals (SDGs) has become one of the important indicators of the competitiveness, investment, and social attractiveness of the region.

The idea of regional "competitive environmental sustainability" is proposed by Santos et al. [21]. This new measure of the sustainability of regional competitiveness is based on changes in employment sectoral shares over time in all EU regions. During the 2008-2018 period, the index takes into account changes in employment toward more productive and environmentally friendly industries. Significant geographical variation can be seen in the indicators' mapping with regard to environmental sustainability and competitiveness, as well as intriguing temporal dynamics. An econometric examination of the factors influencing these sectoral movements is also provided by the authors. The shift towards a more sustainable and competitive economy at the regional level seems to be positively correlated with the European structural funding. This is especially true for

the transition's competitive aspect, where the funds are favorably correlated with a regional reorganization of employment in favor of more productive industries.

Competitive sustainability "has always been at the heart of Europe's social market economy and should remain its guiding principle for the future", according to the European Commission [8]. This worldview supports actions taken to combat climate change, as well as the dedication to preserving welfare and dynamic, competitive economic systems. These kinds of ideas can be seen, for example, in the recently unveiled Next Generation EU recovery package, which encourages digital and green initiatives in order to help reach the goal of a climate-neutral economy by 2050.

There will unavoidably be changes in the way the factors of production are employed as a result of this so-called "green transition", which will cause employment and other resource shifts across sectors. Due to the presence of obstacles to investment activities, gaps in extensive infrastructure, a lack of business innovation, and a shortage of skilled labor, these industrial transformations may be expensive for some regions. A smooth transition to a greener and more competitive economy may be hampered by all of these concerns, which would eventually hurt investment appeal and economic growth. As a result, the areas dealing with these long-term issues run the risk of experiencing a drop in industry, substantial job losses in some industries, and perhaps even worker exodus.

The term "sustainable competitiveness" was redefined in 2010 by Balkyte and Tvaronaviciene. The necessity to build a new notion of competitiveness and uncover the linkages between competitiveness and sustainable development was brought about by political topics [3].

Studies pertaining to sustainable competitiveness at the regional level are becoming more and more prevalent these days. Numerous studies on regional competitiveness have focused on various aspects of sustainability, such as energy conservation, environment, and sustainability [23], natural resources, and environment protection [1], or studies that offer a more comprehensive analysis of sustainable competitiveness by examining multiple factors (Despotovic et al., 2016 [6]). The social and environmental components of sustainable development are rarely examined in tandem with economic growth; instead, a large number of studies still concentrate on the environment and the economy or the economy and its social dimensions. This gap is filled by the idea and strategy of sustainable competitiveness, which combines social and environmental sustainability metrics into a framework for synthetic competitiveness [7].

For Ukraine, it seems extremely expedient to pay attention namely to the sustainable competitiveness at regional level. Only sustainability perspective can provide the global competitiveness of a region.

Presentation of the main material of the study with justification of the obtained results

The potential of the region is implemented as a result of the functioning of the regional market, which involves all the resources available in the region into the production process and uses them effectively. Competition is forcing and will increasingly force regions to use as fully as possible the overall potential that they possess. Consequently, competitiveness can be assessed based on determining the presence and level of development of those components of the potential that the region possesses. Assessing these po-

tentials makes it possible to increase the efficiency of their use and will contribute to increasing the level of regional competitiveness. In Ukraine, assessment is carried out mainly according to the following parameters.

1. Human potential implies the presence, retention, and attraction of a new, able-bodied population, highly qualified personnel, youth and young families with children. A number of factors influence the achievement of favorable conditions: the availability of jobs that correspond to the education and qualifications of the region's population; wage level; social support system operating in the region; availability and quality of housing; environmental well-being; the state of trade, supply, consumer price level; cultural environment, spiritual life; quality and efficiency of the transport system; institutions of child and youth education; higher education system; development of education and healthcare as areas of specialization; crime level; natural and climatic conditions; degree of democratization of local government, not a high degree of corruption; development of electronic governance and access to information.
2. Organizational potential is the ability of regional authorities to mobilize factors for the development of the territory and organize cooperation between target groups of the local community. The main characteristics of organizational potential are political stability in the region, the effectiveness of regional and municipal government structures, the presence of strategic vision documents, a developed and implemented strategy for the development of the region, the use of regional marketing methods and active positioning, ensuring the participation of citizens in political decision-making and management.
3. Infrastructure potential is market infrastructure, monitoring of the natural environment, healthcare, science and education, culture, trade, catering, transport and communications, agriculture, construction, housing and communal services, consumer services, industry. Each region is interested in increasing the share of competitive products of organizations and, accordingly, in increasing the amount of profit of both individual organizations and the entire region. The stability and efficiency of each organization largely depends on the quality of the region's infrastructure in all sectors. Therefore, the region as a global system in relation to the organization must provide all possible assistance to its components (subsystems). The effectiveness of the global system will increase as connections in the system improve.
4. Financial potential has a major impact on economic development, creating a favorable and attractive investment climate and ensuring the smooth functioning of the social sphere. Financial potential is determined by the budgetary strength of the region (budget surplus, degree of budget debt per capita), the level of infrastructure development of banking, financial, and insurance institutions, the reliability of the functioning of the financial sector, and investment climate parameters. Positive development of financial potential is achieved due to the following factors: placement of new industrial enterprises; preservation of existing industrial enterprises; creating new centers of competence; placement of science and new technologies; foundation of new construction enterprises; creating new trading enterprises and strengthening trade specialization; placement of banks and insurance companies; obtaining new investments from various sources in the economic sector; opening of head offices of large companies; development of transport and transit functions.
5. Natural resources - this is the geographical location, the availability of natural resources and the characteristics of the climatic conditions of development, land resources. The degree of environmental friendliness of a region plays an increasingly important role in increasing the quality of life and ensuring its sustainable development, which serves

as an essential criterion for determining the competitive strength of a territory. Therefore, the characteristics of favorable environmental potential are the quality of water and air, the state of the surrounding nature, and the beauty of landscapes.

6. Innovative potential implies the priority development of high-tech products, the use of new technologies in financial schemes, in the design of enterprises, the use of modern technologies in management, and the modern structure of the regional labor market.
7. Information potential - informatization and implementation of the principles of digital management, digital transformation, and e-government.
8. Cultural potential includes: the presence of attractive historical, architectural, and cultural sites in the region; presence of tourist interest in visiting the region; quality of tourism infrastructure and prices for tourist complex services; transport accessibility of particularly attractive objects in the region; environmental friendliness and the presence of beautiful natural landscapes; effectiveness of regional marketing; structure of types of tourism that have prerequisites for development in the region; holding exciting events: traditional holidays, fairs, exhibitions, festivals, championships and other major sporting events, congresses, conferences, seminars; positioning activity. Achieving a favorable climate in the cultural environment of the region is possible by attracting tourists of all types of tourism (historical and cultural, business, sports, economic, family, medical), opening new tourist routes, increasing historical and architectural potential, creation of new museums, theaters and their branches, placement of head offices of cultural and tourism institutions, obtaining new investments from various sources in the field of culture, tourism and sports, execution of administrative functions of state, international and global scale.

Ivanov S. M. [11] rightly claims that the simple achievement of forecast values of indicators does not always indicate the degree of efficiency in the use of resources in the implementation of planned measures. In his article, the scientist examines the issue of assessing the effectiveness of regional development based on the study of various approaches both at the level of regulatory documents and individual proposals of scientists. The Regional Development Strategy of Ukraine until 2027 was also considered, in which the degree of achievement of goals should be carried out by comparing the actually obtained values of the indicators with their forecast values. Ivanov emphasizes that the analysis of a large number of scientific research materials shows that, despite the objectively positive features of the proposed methods and approaches to assessing the effectiveness of regional development, they still do not solve some problems. In order to assess the effectiveness of the development of regions and determine the degree and directions of inefficiency, the author proposes an approach using the Data Envelopment Analysis (DEA) method, which, in his opinion, allows assessing both the degree of inefficiency and determining the ways and resources to eliminate this inefficiency.

Regarding the input parameters that characterize the resource base and performance of regions for the application of the DEA method, the author lists the following: the number of employees, production costs, research and development costs, the number of patents, external and internal capital investments, fixed assets, innovation costs, etc. Indicators of "output" are: income, profit, return on shares, innovation effectiveness indicator, sales revenue, operating income, patent applications, number of issued patents, turno-

ver of contracts in the technology market, application of inventions, realization of new products, percentage of turnover of new and improved products, intensity of innovative activity (costs of innovative activity/circulation). That is, unfortunately, there is no mentioning of social and environmental indicators. However, even with regard to these indicators, Ivanov rightly notes that "most of the above indicators are difficult to find in Ukrainian regional statistics" [11]. Therefore, he suggests the use of five "input – output" ratios:

- 1) Capital investments, employed population of working age (input) – gross regional product, average monthly salary (output);
- 2) Capital investments, employed population of working age (input) – gross regional product per employed person, average monthly salary (output);
- 3) Capital investments, employed population of working age, expenses for carrying out scientific research and development, UAH million (input) – gross regional product, average monthly salary (output);
- 4) Capital investments, employed population of working age, expenses for carrying out scientific research and development, UAH million (input) – gross regional product, average monthly salary, net profit (loss) of enterprises (output);
- 5) Capital investments, employed population of working age, expenses for carrying out scientific research and development, UAH million (input) – gross regional product per employed person, average monthly salary, net profit (loss) of enterprises (output).

That is, unfortunately, with a mathematically quite innovative method of calculation, the set of indicators corresponds to the paradigm of the 20th century. In addition, both this article and the articles of the majority of Ukrainian researchers on the issue of regional development and regional competitiveness have the negative feature of including in the consideration the works of only domestic scientists, which significantly impoverishes the scientific value of the research and represents a significant limitation of research.

Meanwhile, the process of Ukraine's European integration determines the urgent necessity to revise approaches to regional development, otherwise after joining EU Ukraine is at risk of being among outsiders within EU members.

The current objectives of EU regional policy are to reduce current regional disparities and enhance the economic well-being of regions. It is a cohesion policy. The regional policy of the European Union has evolved throughout time. When it was first introduced, it was a policy of reconciliation between regions within the framework of their approximated territories, and it took the form of implementing specific infrastructure development initiatives. This has aided in boosting economic activity in EU member states. This concept later evolved into a deliberate policy of region-grouping. The direction of regional development policies has changed before. In actuality, the main objective of EU regional development policy is and has to be competitiveness. Both the economic environment and the way EU regional policy is being adapted to it are undergoing revolutionary changes in order to guarantee this. The trends of internationalization, transnationalization, globalization, and integration have altered EU regional policy once more in the modern era. Originally conceived as extraordinary measures, regional policy is now an indispensable component that makes full integration hard to achieve without it. The current goals of EU regional strategy are to increase regional competitiveness, promote economic expansion, and generate new employment opportunities [18, p. 230].

The EU frequently states that the UN Agenda 2030, Smart Specialization Strategies, and Cohesion Policy are aligned [19]. As a result of smart specialization, it is possible to identify the distinctive roles and potential of each region, abandon the practice of prioritizing industries solely, and intensify public-private partnership processes. This allows the authorities to establish favorable working conditions for both employees and entrepreneurs, which in turn affects the region's competitiveness and economic environment [17]. The following issues are the focus of smart specialization of regions: boosting interregional cooperation, a crucial component of a globalized economy; bringing less developed re-

gions more attention; and strengthening cooperation in EU innovation policies and programs. European regions' innovative and competitive potential serves as the foundation for a sustainable growth model. Reasonable specialization should allow areas to focus on digitization, decarbonization, and industrial modernization processes while also enabling them to undergo technological transformation. Smart specialization is now frequently observed in the framework of economic process clustering in EU member states.

It is interesting to look at the concept of competitiveness in the normative documents of Latvia (see Table).

Table. Concept of competitiveness in the normative documents of Latvia [12]

Name of the normative document	Drivers of competitiveness	Result of competitiveness
Concept of Latvia's regional development policy (December 5, 1996)	Competitive products, competitive workforce, education	Development
Regional Policy Guidelines (April 2, 2004)	Social infrastructure, innovations, investments, transport infrastructure, science and education	Life quality
Regional Policy Guidelines for 2013-2019 (October 29, 2013)	Creative industries, polycentric development, infrastructure, natural resources, innovations, skills, human resources, etc.	Development
Regional Policy Guidelines for 2021-2027 (November 26, 2019)	Business environment, productivity, human capital, efficiency of services (smart solutions), innovation, knowledge, accessibility and living environment, transport infrastructure, efficiency of administrative work	Life quality
Latvian National Development Plan 2007- 2013 (2006)	Competitive products, export capacity, technologies, education, skills, coordinated flow of knowledge, knowledge management, creative industries	Sustainability, development
National Development Plan of Latvia for 2014-2020 (2012)	Products that can be exported, a welcoming business climate, R&D, innovation, education, skills, energy efficiency, human capital, growth-supporting regions with service accessibility, potential utilization of the territory, natural and cultural capital, and health	Growth, economic breakthrough, well-being
National Development Plan of Latvia for 2021-2027 (NDP2027) (2020)	Exportable products, knowledge and innovation, green economy, research and science, education, competitive enterprises, cross-sectoral cooperation, transport infrastructure, smart governance, regional development, inclusive society,	Sustainability, life quality, long-term growth, productivity, equal rights
Sustainable Development Strategy of Latvia until 2030 (Latvia 2030) (2010)	Cultural capital, human capital, education, innovation, public participation, spatial development, natural capital, innovative governance	Sustainability, growth, life quality, social cohesion

Table 1 makes it clear that there are numerous normative documents pertaining to Latvia's competitiveness and regional development. Latvia 2030 is the longest-term, hierarchically highest-level planning document at the national level. Latvia's primary medium-term development planning document is NDP 2027. The hierarchy of all other documents is based on those two. The legal acts of Latvia mention a wide range of competitiveness-boosting criteria, the main results of which should be a high standard of living, rapid economic growth, a high degree of socioeconomic development, sustainability, and population welfare.

It is evident from examining the nature of competition that different products, businesses, industries, locations, and nations cannot all be evaluated in the same manner. However, there is a tight relationship between the various degrees of competitive advantage, so one can make the following conclusions:

- The concept of competitiveness has multiple levels. Many different types of entities, including firms, organizations, industries, regions, individual countries, or their associations, are in competition with one another;
- Since the level of competition varies, so too does the notion of competitiveness at each level;
- Since all economic levels are interconnected, a structural analysis that permits linking between all levels is necessary to define competitiveness.

Competitiveness is a dynamic phenomenon, therefore,

today the management of competitive regional development requires increasingly more efficiency, and, consequently, the creation of a monitoring system. By monitoring the competitiveness of the region, we mean a system of continuous observation, analysis, and forecasting of the competitive advantages of the territory, with the aim of ensuring the adoption of tactical and strategic management decisions to increase the efficiency of the social and economic development of the region.

Judrupa [12] proposes a scheme which in the best way depicts the evolution of regional competitiveness paradigm (see Fig.).

Although in public discourse in Ukraine the forth, 21st-century stage of regions' development and competitiveness is declared, in fact all the regions of country are on the third, 20th-century stage. The main issue today is working out detailed roadmaps for every region of Ukraine individually, taking into account all the specific features of the region (including social and cultural ones) and realities of war.

Here, however, the problem of practical measurement of appropriate indicators arises. Naturally, in developing the system of evaluating indicators, it is expedient to address the most recent publications of foreign authors, devoted to designing of such measurement. Taking them as a base will allow to fully abandon Soviet time backed measurements of regions' performance, which, unfortunately, is still observed in Ukrainian statistics and economic science.

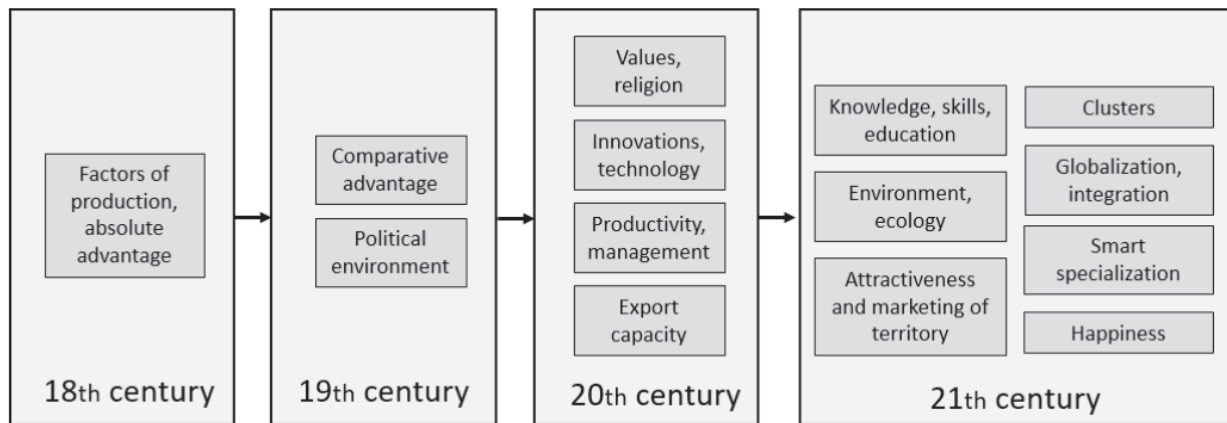


Fig. Development of national and regional competitiveness drivers over centuries [12]

A broad definition of competitiveness, encompassing 53 variables, is adopted in the Sanchez de la Vega study [20]. It is based on five major environments: productive capital, human capital, social and institutional capital, infrastructure, and knowledge. The competitiveness index is created using a technique based on Pena Trapero's (1979) P-distance, which weights the indicators in an objective manner. The study's methodological suggestion has a significant benefit in that it enables a dynamic analysis of the behavior of partial and aggregated indicators by using the same value as a reference during the whole period. As a result, it is possible to study both the variation that takes place within the reference period as well as the categorization that is obtained for each year.

This study focuses on creating a synthetic index that can be used to assess the competitiveness of the 17 Autonomous Communities of Spain (ACs) from 2008 to 2016, allowing for an analysis of each AC's relative standing throughout that time. The P-distance (PD2) method is an objective aggregation criterion that the authors modify methodologically to allow for the dynamic analysis of regional competitiveness. This allows for consistent ranking comparisons between years. The authors propose a novel indicator based on this method.

The idea behind the regional competitiveness synthetic index (RCSI) is based on the idea that competitiveness is inherently abstract and multidimensional, meaning that a number of factors that are not independent, cannot be definitively determined, and lack a known functional form make it impossible to measure directly. However, it makes sense to believe that competitiveness may be assessed indirectly through the examination of a collection of socioeconomic factors, or indicators, which provide important details about the various aspects that comprise it.

Assume that there is a number (m) of indicators for each of the n population elements for a specific year t . Let us indicate the value that element k in indicator i reached by using $I_i(k)$. There are two order axioms that can be developed for the building of a synthetic indicator [20]:

(1) If the values of two elements, r and s , are the same in every partial indication ($I_i(r) = I_i(s)$; $i = 1, \dots, m$), then their competitiveness should be equal.

(2) If an element r exhibits a greater or equal value in all partial indicators relative to another element s , and at least one of them is strictly greater, ($I_i(r) \geq I_i(s)$; $i = 1, \dots, m$; with at least one j such that $I_j(r) > I_j(s)$), then the element r competitiveness must be more than that of the element s .

It follows from the first two theories that it is possible to set a reference element 0 that is based on the lowest values of each partial indication:

$$L_i(0) = \min \{I_i(k)\}. \quad (1)$$

This element 0 might serve as a reference base as, if viewed as a territorial element, it would have a competitiveness that is either lower than or equal to all other elements examined. After establishing a reference point, each element can be represented as an m -dimensional vector with the origin at point 0 and a point in a Cartesian system of m dimensions. The length of each vector in this Cartesian system would represent the variation in competitiveness between each element and that reference element 0.

Conclusions and prospects for further research

The lack of effective methods for measuring the competitiveness of regions threatens the loss of global competitive advantages of the nation-state, since namely the regions are 'producers' of innovations and sustainability, and the best national economy is the one that is built on the synergy of regions. In addition, regional imbalances and high degree of unevenness in the development of regions are fraught with internal political tension in the country. Therefore, the development of modern approaches to understanding the competitiveness of regions as "building blocks" of the national economy, corresponding to the landscape of the 21st century, and designing of appropriate methodologies of assessing this competitiveness seems urgent scientific and practical task. In solving this task, it is expedient to constantly monitor the latest publications in world science on the topic, conduct systematic reviews, and attract world-class experts and expert community.

References

1. Anicic, J., Anicic D., & Kvrjic, G. (2019). Sustainable growth and regional competitiveness of Serbian economy. *Ekonomika*, 65(2), 65-74.
2. Aranguren, M. J., Magro, E., & Wilson, J. R. (2017). Regional competitiveness policy evaluation as a transformative process: From theory to practice. *Environment and Planning C: Politics and Space*, 35(4), 703-720. <https://doi.org/10.1177/0263774X16662469>
3. Balkyte, A., & Tvaronaviciene, M. (2010). Perception of competitiveness in the context of sustainable development: facets of "sustainable competitiveness". *Journal of Business Economics and Management*, 11(2), 341-365.
4. Bristow, G. (2015). *Critical reflections on regional competitiveness: Theory, policy, practice*. Routledge.
5. Chrobocińska, K. (2016). Selected regional competitiveness assessment models. *Socio-Economic Problems and the State*, 14(1), 5-10.

6. Despotovic, D., Cvetanovic, S., Nedic, V., & Despotovic, M. (2016). Economic, social and environmental dimension of sustainable competitiveness of European countries. *Journal of Environmental Planning and Management*, 59(9), 1656-1678.
7. Doyle, E., & Perez-Alaniz, M. (2017). On the pillars of sustainable development: A sustainable competitiveness approach. <https://www.semanticscholar.org/paper/On-thePillars-of-Sustainable-Development-%3A-A-Doyle-PerezAlaniz/0ac19425cf993778a37d3514b3e30675af742aac>
8. European Commission. (2019). Annual sustainable growth strategy 2020. *COM (2019) 650 final*.
9. Grassia, M. G., Marino, M., Mazza, R., Misuraca, M., Zavarrone, E., & Friel, M. (2022). Regional competitiveness: A structural-based topic analysis on recent literature. *Social Indicators Research*, 173, 83–108. <https://doi.org/10.1007/s11205-022-02951-4>
10. Huggins, R., Izushi, H., & Thompson, P. (2013). Regional competitiveness: theories and methodologies for empirical analysis. *The Business and Economics Research Journal*, 6(2), 155-172.
11. Ivanov, S. M. (2023). Comparative assessment of the effectiveness of the development of individual regions of Ukraine using Data Envelopment Analysis [Porivnialna otsinka efektyvnosti rozvytku okremykh rehioniv Ukrainy za dopomohoiu Data Envelopment Analysis]. *Bulletin of the Ukrainian Economy*, 1(44), 13-23. (in Ukrainian).
12. Judrupa, I. (2021). Regional Competitiveness as an Aspect Promoting Sustainability of Latvia. *European Journal of Sustainable Development*, 10(1), 650-667.
13. Kalashnik, N.S. (2020). Principles of forming a balance of interests: challenges and opportunities for the unification of territorial communities. [Pryntsyty formuvannya balansu interesiv: vykyky ta mozhlyvosti dlia obiednannya terytorialnykh hromad]. *Effectiveness of Public Administration*, 62, 60-68. <https://doi.org/10.33990/2070-4011.62.2020>
14. Kalashnyk, N., Khudoba, O., Kolosovska, I., Zayats, D., & Panfilova, T. (2021). Public policy in the field of state-private partnership. *AD-Alta Journal of Interdisciplinary Research*, 11(2), 64-69.
15. Kouskoura, A., Kalliontzi, E., Skalkos, D., & Bakouros, I. (2024). Assessing the key factors measuring regional competitiveness. *Sustainability*, 16, 2574. <https://doi.org/10.3390/su16062574>
16. Kovacic, A. (2017). Europe, competitiveness and sustainable development. LAP LAMBERT Academic Publishing.
17. McCann, P. & Ortega-Argilés, R. (2016). The early experience of smart specialization implementation in EU cohesion policy. *European Planning Studies*, 24(8), 1407-1427.
18. Palinchak, M., Tsalan, M., Brenzovych, K., Kucher, A., Kajánek, T., & Grešš, M. (2021). Competitiveness as the Basis of EU Regional Policy: Smart Specialization and Sustainability. *European Journal of Sustainable Development*, 10(4), 227-239. <https://doi.org/10.14207/ejsd.2021.v10n4p227>
19. Polido, A., Pires, S. M., Rodrigues, C. & Teles, F. (2019). Sustainable development discourse in smart specialization strategies. *Journal of Cleaner Production*, 240, 118224. <https://doi.org/10.1016/j.jclepro.2019.118224>
20. Sánchez de la Vega, J., Buendía Azorín, J., Segura, A., & Yago, M. (2019). A new measure of regional competitiveness. *Applied Economic Analysis*, 27(80), 108-126. <https://doi.org/10.1108/AEA-07-2019-0010>
21. Santos, A., Barbero, J., Salotti, S., Diukanova, O., & Pontikakis, D. (2023). On the road to regional 'Competitive Environmental Sustainability': The role of the European structural funds. *Industry and Innovation*, 30(7), 801-823. <https://doi.org/10.1080/13662716.2023.2236048>
22. Yermachenko, V., Bondarenko, D., Akimova, L., Karpa, M., Akimov, O., Kalashnyk, N. (2023). Theory and practice of public management of smart infrastructure in the conditions of the digital society' development: Socio-economic Aspects. *Economic Affairs*, 68(1), 617-633, March 2023. <https://doi.org/10.46852/0424-2513.1.2023.29>
23. Yfantí, S., Sakkas, N., & Nistikaki, A. (2019). Environmental sustainability and regional competitiveness. *Energy and Power Engineering*, 13, 149-161.

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ПІДХОДИ ДО РОЗУМІННЯ КОНКУРЕНТОСПРОМОЖНОСТІ РЕГІОНІВ У РОЗБУДОВІ ЕКОНОМІКИ: ПОРІВНЯЛЬНИЙ АНАЛІЗ КРАЇН ЄВРОПИ ТА УКРАЇНИ

Вступ. Кожна зі складових конкурентоспроможності має важливе значення для встановлення глобальних цілей розвитку регіону, а інтегрує їх саме показник конкурентоспроможності. Різноманітність і фрагментарність цих досліджень призвела до відсутності істотної теоретичної бази, яку було б покладено в основу різноманітних методологій аналізу та вимірювання, що використовуються у сфері регіональної конкурентоспроможності. У такому ландшафті видається доцільним розглядати концепції та практики, що застосовуються в ЄС, як найбільш різноманітне за особливостями та розвитком регіонів утворення, та спробувати відобразити цей досвід через призму конкурентоспроможності регіонів у розвитку української економіки.

Актуальність дослідження. Завдання дослідження є особливо актуальним у контексті російської агресії в Україні – як для тилкових регіонів, які стикаються з необхідністю пошуку додаткових ресурсів і потенціалу, інновацій для збереження конкурентоспроможності в суворих умовах воєнного стану, так і для регіонів у зоні бойових дій, тобто регіонів, яким доведеться вирішувати завдання швидкої реконструкції та відновлення після війни, відновлення економічних зв'язків і місця на світовій арені.

Методи. Теоретичною та методологічною основою дослідження стали наукові праці та прикладні роботи провідних вітчизняних і зарубіжних фахівців у галузі регіональної економіки, зокрема, стосовно оцінювання та управління конкурентоспроможністю економіки території, різні методичні рекомендації, що використовуються для оцінювання конкурентоспроможності регіону в Україні та країнах Євросоюзу, а також розроблення дієвої системи ухвалення та реалізації управлінських рішень. Методологія дослідження ґрунтується на системному підході. Як інструменти дослідження використовували методи діалектики та синергетики.

Результати. Хоча в публічному дискурсі в Україні декларується четвертий етап розвитку та конкурентоспроможності регіонів ХХІ століття, насправді всі регіони країни перебувають на третьому етапі розвитку – характерному для ХХ століття. Головне питання сьогодні – розроблення детальних дорожніх карт для кожного регіону України окремо, з урахуванням усіх особливостей регіону (зокрема соціально-культурних) та реалій війни. Необхідним є врахування показників сталого розвитку, без яких декларований рівень конкурентоспроможності регіону не буде репрезентативним. Конкурентоспроможність – явище динамічне, тому сьогодні управління конкурентоспроможним регіональним розвитком потребує дедалі більшої оперативності, а отже, створення системи безперервного моніторингу.

Ключові слова: конкурентоспроможність регіонів; інновації; стійкість; конкурентні переваги; регіональна політика.