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**CONCEPT OF SMART SPECIALIZATION IN THE
CONTEXT OF THE DEVELOPMENT OF
UKRAINE'S ECONOMY**

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Introduction. Over recent years, Ukraine has made considerable efforts in shaping the current state policy for the development of regions, where priority development of the territories is a further reformation of the system, which together will ensure the country's economic growth. Therefore, it is precisely today that has never before been given special attention to the European innovation concept of the development of regions on the basis of smart specialization.

Aim and tasks. The purpose of the article is to study the peculiarities of the smart specialization approach to the development of the policy of regional development of Ukraine, namely: 1) studying the concept of smart specialization, its principles and essence; 2) determining the boundaries specialization as a tool in the development of the region; 3) development of recommendations based on the use of analytical methods to identify potential priority areas of smart specialization.

Results. The article analyzes smart-specialization, as an instrument of regional development, allows to integrate the key aspects of vital functions and development and instrumental in an active collaboration and co-operation of different participants of process of development for the sake of creation of general prospect, and also foresees creation of unique resources and possibilities on the basis of unique industrial, of a particular branch structures and proper base of knowledge. The use of smart-specialization, as to the instrument of development of regions, is regulated four simple rules: choice and critical mass; competitor advantage; interconnection and clusters; general management, - that behave to the sphere of researches and innovations which are also used in other spheres, and in particular to social, economic, protective environment and others like that.

Conclusions. For Ukraine, implemented models of smart specialization is an urgent task, and on its basis it is possible to unlock the regional potential for structural and technological changes, as well as industrial modernization of innovative principles. This is important in terms of overcoming the destructive tendencies of conservation of the inefficient economic structure of the regions of Ukraine based on the artificial identification of certain industrial regions as priority.

Keywords: smart specialization; regional development; public regional policy.

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КОНЦЕПЦІЯ СМАРТ-СПЕЦІАЛІЗАЦІЇ В КОНТЕКСТІ РОЗВИТКУ ЕКОНОМІКИ УКРАЇНИ

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Вступ. Упродовж останніх років Україна доклала чимало зусиль у формуванні сучасної державної політики розвитку регіонів, де пріоритетним завданням розвитку територій є подальше реформування системи, що в сукупності забезпечить економічне зростання країни. Тому саме сьогодні, які ніколи раніше, особливої уваги необхідно приділити європейській інноваційній концепції розвитку регіонів на основі смарт-спеціалізації.

Мета і завдання. Метою статті є вивчення особливостей підходу розумної спеціалізації до розробки політики регіонального розвитку України, а саме: 1) вивчення концепції смарт-спеціалізації, її принципів і сутності; 2) визначення областей спеціалізації як інструменту розвитку регіону; 3) розробка рекомендацій, що базуються на використанні аналітичних методів для виявлення потенційних пріоритетних напрямків смарт-спеціалізації.

Результати. У статті проаналізовано підхід смарт-спеціалізації як інструмент регіонального розвитку, що дозволяє інтегрувати ключові аспекти життєдіяльності та розвитку та сприяє активній співпраці та взаємодії різних учасників процесу розвитку задля створення спільної перспективи, що передбачає створення унікальних ресурсів та можливостей на основі унікальних промислових, галузевих структур та відповідної бази знань. Використання смарт-спеціалізації, як інструменту розвитку регіонів, регламентується чотирма простими правилами: вибір та критична маса; конкурентна перевага; взаємозв'язок та кластери; спільне управління, - що відносяться до сфери досліджень та інновацій, які також застосовуються у інших сферах, а зокрема соціальній, економічній, охоронній довкілля

Висновки. Для України реалізація моделі розумної спеціалізації є актуальним завданням, і на її основі можна розкрити регіональний потенціал для структурних і технологічних змін, а також промислової модернізації інноваційних принципів. Це важливо з точки зору подолання деструктивних тенденцій збереження неефективної економічної структури регіонів України на основі штучної ідентифікації окремих промислових регіонів як пріоритетних.

Ключові слова: смарт-спеціалізація, регіональний розвиток, державна регіональна політика.

Introduction. Over recent years, Ukraine has made considerable efforts in shaping the current state policy for the development of regions, where priority development of the territories is a further reformation of the system, which together will ensure the country's economic growth. To this end, the existing approaches to development regulation are reviewed through the extension of the local government's powers to ensure conditions for economic prosperity, increasing the responsibility of local authorities for the quality and complexity of the region's development, and increasing the importance of the local level influence in the system of strategic management, that is, the shift of the centers of initiation from national level to the level of individual territories. However, despite all attempts to implement it, public institutions have shown partial unwillingness to work under such conditions. Therefore, it is precisely today that has never before been given special attention to the European innovation concept of the development of regions on the basis of smart specialization, because [1; 2; 3] its key feature is to support unique industries or types of economic activity based on the specialization of the region.

Analysis recent research and publications. The concept of smart specialization of regions [3; 4] was developed by the expert group of the Directorate for Technology and Innovation of the European Commission "Knowledge for growth" and primarily aims [4; 5] at solving the problem of fragmentation and duplication of scientific and technical research in European countries. EU member states themselves outline the vector of science and technology policy and often develop the same technology and industry, which results in a decrease in the efficiency of scientific research [6; 7; 8].

In works [1; 3-15; 17; 19; 21-24] the concept of smart specialization is presented and practical recommendations for its application are developed. Smart specialization is not new; it is an attempt to correct the thinking and methodology of supporting socio-economic development in the countries of the European Union.

However, the issue of using the concept of smart specialization in the context of regional development throughout the country remains unresolved.

Aim and tasks. The purpose of the article is to study the peculiarities of the smart specialization approach to the development of the policy of regional development of Ukraine, namely: 1) studying the concept of smart specialization, its principles and essence; 2) determining the boundaries specialization as a tool in the development of the region; 3) development of recommendations based on the use of analytical methods to identify potential priority areas of smart specialization.

Results. Immediately after the end of the economic crisis, the European Union in 2010 outlined its own vision for economic growth in the Europe 2020 strategy, whose key task is to overcome structural deficiencies through the development of three mutually reinforcing components [6; 9; 10]:

- smart development based on knowledge and innovation;
- sustainable development, ensuring more efficient use of resources and competitiveness;
- inclusive development, which leads to an increase in the employment rate of the economically active population, social and territorial integrity.

An integral part of the European Strategy 2020 is the Innovation Union initiative, which has been adapted by the European Commission. In fact, this initiative introduces an innovative strategy for building European capacities in the context of smart, sustainable and inclusive development, and presents the concept of smart specialization. Regarding definition "smart specialization", the developers of the concept is interpreted as follows [10; 11]: National or regional research and innovation strategy for smart specialization – is integrated, local transformation program that aims to:

- government support and investment for key regional priorities, challenges and needs for the development of science-intensive production, including information and communication technology (ICT) activities;
- individual approach and competitive advantages stemming from the region's capacity;

– support for the development of technological and practical innovations by stimulating investment in the business environment;

– encouraging stakeholders to actively participate in regional development;

– constructive, empirical and includes careful monitoring and evaluation.

The state strategy of regional development of Ukraine until 2022 was developed on the basis of European experience. In accordance with the developed strategy, each Ukrainian region should prepare its own action plan based on its own competitive advantages, strengths and opportunities for development.

Having completed the physical-geographical and economic analysis, one can conclude that certain territories or regions have economic, social or environmental opportunities. In all territories, certain types of economic activity cannot be developed or carried out, since certain territories have certain advantages or disadvantages [12; 13].

Due to the economic, social and environmental differences, and on the basis of cooperation with the subjects of the region, a regional development strategy should be developed.

In order to further socio-economic growth of the region, it is advisable to apply a smart specialization approach that will identify the priority areas of research for creating competitive advantages that take into account new opportunities and development, as well as prevent duplication and fragmentation of research and innovation activities. Smart specialization [6; 10; 14], as a tool for regional development, integrates key aspects of life and development: economic, social, environmental and technical; promotes active cooperation and interaction of various participants in the development process in order to create a common perspective; integrate the efforts of all sectors in order to strengthen and competitiveness of society and the territorial economy in the conditions of globalization.

Taking into account the basic principles of regional development, a key principle of smart specialization was formed. It consists in [8; 10; 14] the accumulation, orientation and concentration of knowledge and their

combination with a limited number of priority economic activities, so that countries or regions become competitive. Thus, smart specialization involves creating unique resources and capabilities based on unique industry, industry structures and relevant knowledge base.

In the concept of smart specialization the knowledge of the subjects of economic activity of the region becomes of great importance, since it is the participants of the economic activity who are fully in the knowledge and information on the peculiarities of the production process in their locality. In the developed concept, its authors introduce the definition of “process of entrepreneurial discovery” and, according to their interpretation, means [10; 15] the process of disclosing strengths of the country or region based on research, technological and innovation spheres.

However, European experience shows that in order to increase the effectiveness of the implementation of smart specialization in Ukrainian realities, there may be some structural changes that may be caused by one of the following non-mutually exclusive processes [10; 16; 17]:

– the transition from the existing industry to the new one;

– modernization;

– diversification;

– the establishment of an entirely new type of activity.

As a result of such structural changes, there may be a false idea that smart specialization is to create monoculture and homogeneity, but everything happens to the exact opposite. Most of the above-mentioned structural changes, which are formed by the concept of regional development, actually involve the creation of diversity, that is, there will be a transition to new activities or the diversification of all existing industries. In particular, it will promote the development of cross-sectoral and cross-border cooperation, as announced in the Association Agreement between Ukraine and the EU. Intersectoral links [14; 17] can provide regions with a certain level of originality and specialization in order to differentiate themselves and provide a competitive edge over other regions.

Smart specialization as a tool for regional development can be widely used, but its application should be treated with caution, mainly due to the economic and institutional features of each region [6; 10; 16]. In the concept of smart specialization, the two-dimensionality of integration becomes important, which is important in the process of regional development planning [7; 10; 14]:

Horizontal Integration:

– *Integration of the components of the strategy:* socio-economic development, the level of administrative services, the state of the infrastructure, the intensity of the use of natural resources and the protection of the environment;

– *Intersectoral integration.*

Vertical integration - coherence of regional development plans with hierarchically higher systems [7; 8].

When implementing a completed strategy, interaction and synergy between its components are important, so if neglecting these relationships can lead to management problems that will result in the inefficient use of scarce resources, the reason for this is a highly specialized approach to development planning, since it does not foresee The unification of motives, goals, subjects and practices in various sectors of the national economy, and in contrast to the sectoral approach, an integrated approach contributes to sustainable development.

It should be noted that integration is not simply an arithmetic addition of several components or their elements, because when performing the mechanical action of addition without analyzing their differences and not envisaging the possibility of synergy, the objectives of economic, social, environmental, technical and spatial development with a high probability will not be achieved [18; 19; 25].

The concept of smart specialization, developed at the end of last decade, remains one of the main policy directions in the EU regions [5; 7; 20]. Today, one of the key tasks of the state regional policy is the improvement and modernization of strategic planning instruments for regional development. By adding the European methodology of smart specialization to the State Strategy for Regional Development, it will identify the priority areas of economic activity by identifying the key strengths and

identifying the competitive advantages of each region in certain areas of economic activity, which [3; 21; 22] in turn will increase the efficiency of using their own and attracted financial resources of the regions at the expense of their focus on the development of innovation in potentially promising economic activities.

The use of smart specialization as a tool for regional development is governed by four simple rules related to the field of research and innovation, which are also applied in other areas, including social, economic, environmental protection, etc. [10; 14; 19]:

- selection and critical mass;
- competitor advantage;
- interconnections and clusters;
- joint management.

The strategic platform, as the initial planning process, determines long-term planning. The operational component of the strategy consists of medium-term development plans, which include the formulation of operational objectives and tasks, and the short-term part, whose main task is to develop a plan of implementation. It is such a consistent implementation of the stages of the implementation of the concept of smart specialization, make up the design and the same methodological basis of the concept [9; 23; 24]:

- analysis of the regional context and innovation potential;
- establishing an inclusive management structure;
- developing a common vision for the future of the region;
- choice of a limited number of priorities for regional development;
- establishing a coherent policy, roadmap and action plan;
- implementation of monitoring and evaluation system.

It should be noted that the above steps can be implemented consistently, but it should be remembered that they should not be considered as separate and autonomous stages of the process, but as interacting components of a complex design and modeling scheme that depend on the specifics of the regional context. To select a certain number of priorities we propose to apply fuzzy logic methods, including fuzzy clustering method called method of fuzzy c-means.

The method of fuzzy C-means was used for the formation of clusters at the regional level and the level of national policy, as evidenced by the work [13].

Conclusions. The approach of smart specialization as an instrument of regional development is analyzed, which allows to integrate key aspects of life and development and promotes active cooperation and interaction of various participants of the development process in order to create a common perspective, which involves the creation of unique resources and opportunities based on unique industrial, sectoral structures and appropriate base of knowledge. The peculiarities of the approach of smart specialization to the development of development strategies in the part of regional policy are studied by studying the concept of smart specialization, its principles and essence and determining the limits of application of smart specialization as a tool for regional development. It is established that the use of smart specialization is regulated by four simple

rules: choice and critical mass; competitive advantage; interconnection and clusters; joint management related to the field of research and innovation, which is also applied in other areas, in particular social, economic, and environmental environments. It is proposed to use methods of fuzzy clusterization to identify potential priority areas of smart specialization, among which is the method of fuzzy C-intermediate, which has been successfully tested for the formation of clusters not only at the regional level, but also at the level of national policy. For Ukraine, implemented models of smart specialization is an urgent task, and on its basis it is possible to unlock the regional potential for structural and technological changes, as well as industrial modernization of innovative principles. This is important in terms of overcoming the destructive tendencies of conservation of the inefficient economic structure of the regions of Ukraine on the basis of the artificial identification of certain industrial regions as priority.

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