

## SMART SPECIALISATION AS A BASIC COMPONENT OF SOCIO-ECONOMIC DEVELOPMENT

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**Abstract.** The European Union plays a pivotal role in supporting all regions and Member States to enhance their potential for innovation, competitiveness and sustainable development and growth. A primary instrument in the promotion of regional development is the implementation of the smart specialisation (SS) concept, which entails the identification of regional strengths and the cultivation of competitive advantages through the utilisation of the prevailing economic and innovation infrastructure. The analysis of the EU countries' experience has demonstrated that the SS concept fosters the establishment of an industrial and innovative foundation for the regional economy, delineates the distinctive characteristics of economic, scientific and technological specialisation among regions, and delineates the trajectories of their productivity, competitiveness and economic growth. In light of the crisis situation in the social and economic development of Ukraine's regions, the development and implementation of SS strategies at the regional level has the potential to enhance regional competitiveness, generate employment opportunities, and improve social conditions. Furthermore, the implementation of these strategies can also generate additional financial opportunities to support regional development. The *subject* of the present study is a set of theoretical and methodological aspects of innovative regional development through the implementation of the SS concept. The authors have set the task of formulating the main segments of the SS concept as a priority component of increasing the competitiveness of regions, improving their socio-economic climate and proposing a modernization of the conceptual category "SS of socio-economic development of regions" for a more substantive definition of the directions of innovative regional policy. The *methodological basis* of the study is based on the general principles of scientific knowledge: the principle of objectivity, which requires the identification of all the main obstacles to the implementation of the SS strategy in the regions; the principle of historicism, which provides for the coverage of the historical origins of the SS concept; the principle of a systematic approach, which allows to clarify the essence of the term "SS of the region"; the principle of logical generalisation, which contributes to the substantiation of the basic requirements for the successful implementation of the SS concept of the region and the definition of the key principles of SS implementation in the region. The study of such an innovative tool for regional development as SS has enabled the identification of several key segments of its essential content, which are taken into account by scientists and substantiated by the existing modern principles of its implementation. The authors analyse the individual stages of the emergence of the SS concept from the perspective of its historical formation, relevance and interconnection with the sustainable socio-economic growth of the region. This study pays particular attention to the main conceptual provisions of the SS concept. These include research and innovation strategies of SS, the choice of the region as the main object of specialisation, the use of scientific, technological and economic specialisation, and the attribution of key assets and the possible potential for diversification of the international position of the region as a local node in global chains to the main criteria for choosing subject areas. Simultaneously, the content of the primary barriers to the implementation of the SS strategy in the regions is delineated. These barriers are responsible for the slowdown in the promotion of innovation, industrial and socio-economic policy, and their further development. The principles of SS implementation in the region are outlined, with the establishment of the existing connection of their adaptation. The existence of a relationship between the SS concept and regional development, industrial and innovation policy is substantiated. *Results.* The SS concept of the regions is a priority

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tool for their competitiveness, social and economic development, taking into account production, innovation and economic potential. Achieving the strategic socio-economic intentions of regional development, ensuring the preservation of their specialisation and existing potential is impossible without the implementation of an effective SS Regions Concept. For Ukraine, the SS Regions concept represents the EU's assistance in promoting the development of Ukrainian regions and helping to overcome the prolonged economic downturn. It has been demonstrated that the benefits of this approach for Ukraine include the accession of regions to the EU network of regions, attracting investors to the region, increasing the number of joint projects with the EU, supporting regions in the process of economic transformation and aligning professional potential with market requirements. The authors of the study posit that the successful implementation of the concept of SS regions, the achievement of an appropriate level of competitiveness, and the improvement of socio-economic development can only be achieved through effective co-operation and synergy between local authorities, business, academia, and civil society.

**Keywords:** smart specialisation, startup specialisation, socio-economic development, region, concept, innovative tool, industrial policy, national economic system.

**JEL Classification:** M13, O10, R11

## 1. Introduction

In today's world, the concept of smart specialisation (SS) is considered one of the effective segments of socio-economic development of countries, based on an innovative tool in the system of state support of industrial development, primarily at the level of regions. Based on the fact that SS is aimed at searching, identifying and developing regional specialisation, from the perspective of the national economic system of developed countries, it is considered a fundamental conceptual model combining the processes of innovation formation and socio-economic policy. It is generally accepted that SS is not primarily concerned with the promotion of innovations, but rather with the instigation of long-term structural changes in the region's economy. This approach places emphasis on future prospects, namely the establishment of a policy that will enable the region to secure significant market share in global markets.

The chosen area of research is relevant due to the presence of problematic aspects in the system of socio-economic development of Ukraine, which is in martial law. It has been demonstrated that the system of socio-economic development of the country is subject to a constant and pervasive influence of negative factors that impede the implementation of the planned strategic and tactical directions of its regional development. The introduction of a new policy of regional development in Ukraine is proposed, a policy which has been widely implemented in EU countries. It is posited that this policy will allow regions to develop in the context of military challenges, relying on their unique socio-economic potential to strengthen their competitive advantages.

A significant contribution to the resolution of several challenging aspects of SS was made by the works of European scholars J. Bruszkowski, J. Pyk, P. David, D. Foray, B. Hall, M. Kardas, G. Tobor and others. The concept of "smart specialisation of the region"

was introduced into the scientific field by foreign researchers M. Aranguren, B. Van Ark, M. Voyer, O. Zukauskaitė, I. Christensen, H. Kroll, M. Markula, and V. Mushtra. For Ukrainian science, the SS issue is relatively new, but O. Amosha, O. Berezina, N. Berezniak, T. Dalevska, I. Dunayev, I. Zalutskiy, I. Leshukh, O. Lyakh, M. Melnyk, O. Rakovych, L. Rozhkova, O. Snihova, M. Soldak, I. Storonianska, D. Cherevatskyi, A. Shevchenko, and O. Yatsiuk are already conducting research in this area. The researchers concentrated on the disclosure of various problematic segments of SS implementation and provided meaningful directions for their solution. Moreover, scientific developments have substantiated the feasibility of using SS as an effective tool for financial, budgetary and strategic planning of regional development.

The *purpose of the article* is to provide scientific and constructive substantiation of the theoretical and methodological provisions on the content of SS as an instrument for innovative development of regions, to outline the types of principles as the main segments of adaptation of scientific, technical, innovation, regional and industrial policy with a focus on the impact on socio-economic development in the future.

## 2. SS in the Historical Sense

An examination of the historical origins of the SS concept reveals that it was initially pioneered by prominent foreign economists D. Foray, P. David and B. Hall. These economists regarded the SS strategy as a means to address the prevailing crisis by establishing the necessary conditions and instruments to stimulate economic growth in a specific region or nation. Nevertheless, the advent of the SS concept was preceded by research conducted by European scientists in an attempt to ascertain the reasons for the significant discrepancy between the economic

growth rates of the United States and European countries. The findings of their research elucidated several factors contributing to this disparity, including transatlantic variations in the labour market, characterised by the quality of human capital, the rigidity of European labour markets, differences in the adaptation and adoption of novel management practices, the organisation of the investment process, and the availability of venture capital.

Moreover, the global economic crisis, the challenges posed by globalisation processes, and the weakening economic positions of European countries gave rise to the search for a tool to develop policies to prevent them. The period from 2000 to 2006 was characterised by research conducted by European scientists into the establishment of the SS scientific platform, which culminated in its emergence during the 2008-2009 period. In the last decade, SS has become increasingly prevalent in the European Union. However, at the inception of SS, it was essentially sectoral in nature. Over time, it underwent adaptation to the regional context, thereby facilitating its utilisation as a tool for regional development policy making. The initial implementation of SS in the regional development policy of the European Union occurred during the 2014-2020 period.

### **3. SS Concepts: Conceptual Provisions and Development**

The results of scientific research conducted by European and national scientists have enabled the specification of the content of the main conceptual provisions of the SS concept: research and innovation strategies of smart specialisation through the concentration of public resources, as well as from other sources, in the investment of the knowledge sector in certain types of activities to strengthen and use competitive advantages; selection of the region as the main object of specialisation; use of scientific, technological and economic specialisation as the main direction of strategy implementation; inclusion of key assets and possible potential for diversification of the region's international position as a local node in global chains among the main criteria for selecting subject areas (Vasylytsiv et al., 2022). The establishment of the content of the main conceptual provisions of the SS concept enabled the determination of a more specific sequence for the adaptation of the necessary segments of regional policy.

Scientific research on the periodization of the development of the SS concept as a methodological basis for regional development in the countries of the European Union and beyond has shown the following main stages. The formation of the scientific concept and its subsequent recognition within the context of the SS of the region as a prerequisite for accessing

funding for territorial development strategies through the EU structural funds occurred during the period 2000-2010. The establishment of European digital platforms to facilitate SS processes occurred from 2011 to 2014. Subsequent to this, from 2015-2022, Ukraine recognised the necessity to implement the SS concept at the state level, and in 2018 the term SS appeared in Ukrainian legislation for the first time. Concurrently, the period was distinguished by the initiation and advancement of regional strategies grounded in the SS paradigm. In consideration of the extant achievements, efforts are currently underway to modernise the regulatory requirements for the formulation of regional and local development strategies in Ukraine, with the EU experience being a pertinent reference point. The development and modernisation of various segments of the SS is still ongoing and is increasingly becoming a model not only for industrial and innovation, but also for socio-economic policy of the regions in general.

### **4. Main Barriers to the Implementation of the SS Strategy in Ukraine**

As a result of a comprehensive study by domestic scientists on the adaptation of the SS strategy in Ukraine, negative segments were identified that slow down the promotion of innovation, industrial and socio-economic policies for the further development of both the country and the regions. The researchers concluded that the main barriers to the implementation of the SS strategy in Ukraine include: significant weakness of the institutional environment in Ukraine, which results in a wide range of obstacles that employers face when trying to implement SS ideas; lack of experience in multi-level management in the regional aspect; lack of interconnection and inconsistency of SS from the perspective of different segments with other programmes at the national level; lack of clarity in identifying sources of funding for the implementation of the SS strategy; weak interaction between science and industry in the early stages of innovation and low demand for intellectual property (Storonianska, 2021).

There is no doubt that the barriers faced by EU countries in shaping regional SS strategies can be transformed and adapted as challenges for territories and hromadas in Ukraine using several proven tools: maintenance of a proper balance between urban and rural hromadas, while developing the necessary infrastructure to support the quality of life of local hromadas; stimulating innovation by small and medium-sized businesses, ensuring the continuity of the "entrepreneurial discovery process", involving universities and business development agencies; integration of innovation processes, especially in the environmental and digital sectors (Soroka, 2023).

Aware of the existence of obstacles to the implementation of the strategy of territorial development in Ukraine and recognising the leading role of the need to minimise them, it is advisable to introduce scientific and methodological support to the processes of adaptation of the concept of territorial development from the perspective of regional development, to expand the scope of specialised applied research and to specify the sources of financial resources that will ensure the introduction of innovative segments in regional policy.

### 5. Principles of Regional SS Strategies

A fundamental aspect of the execution of regional SS strategies pertains to the principles that underpin their implementation. A notable challenge in this process is the necessity for these strategies to be founded exclusively on a synthesis of scientific, technical, innovation, regional and industrial policies. In the course of formulating regional SS strategies, a pivotal principle of investment in research and innovation was employed as a constituent element of their implementation. The findings of the research undertaken by EU experts have enabled the identification of four fundamental principles underpinning economic transformation: rigorous selection and critical mass; competitive advantage; inclusion and clusters; and shared governance. These principles are predicated on a number of effective segments, namely: the limitation of the number of priorities; the avoidance of duplication and fragmentation; the concentration of funding sources; the mobilisation of the intellectual capital of the research sector; the identification of business needs; the development of clusters; and the identification of effective innovation systems based on public-private partnerships.

Concurrently, the principles of the SS concept advocated by European researchers are characterised by enhanced intricacy. These principles encompass economic growth and the establishment of new enterprises, innovation, specialisation, priority, entrepreneurial discovery, the utilisation of general-purpose technologies, openness, monitoring and evaluation (Yegorov, 2020). It is evident that the process of their adaptation confers certain advantages, as it contributes to a more substantial impact on the formation of industrial, innovation and regional policy. The following list enumerates the priorities: the possibility of creating innovation clusters, which ultimately stimulates the economic growth of the region; the more rational and efficient use of limited financial resources of the region; the use of innovative tools for assessing the situation in the region, and on this basis, the making of more realistic management decisions; the strengthening of the interaction of

the business sector of the region with scientific achievements, and as a result, the stimulation of the introduction of organisational and marketing innovations; the achievement of higher business results; and the intensification of the processes of adapting incremental innovations that contribute to structural changes in the regional aspect.

The principle of "monitoring and evaluation" of the SS concept merits particular consideration. In the European Union, the principle of "monitoring and evaluation" of state programs was introduced in 1988, and a range of approaches to organising the process of conducting monitoring studies and program evaluation were observed. Concurrently, a mandatory requirement was instituted to evaluate all programs funded by various EU Structural Funds, with the subsequent publication of the results of these evaluations. In the context of the SS concept, this principle is predicated on systematic monitoring of situations and identification of certain innovative trends in the region's development, taking into account the information flow created as a result of the evaluation of all segments of the planned development programs. This methodological approach is intended to ensure that errors are avoided in the determination of regional development priorities, while also contributing to the study of the region's overall "innovation climate".

The Ukrainian scientist M. Slynko was the first to identify and substantiate the five key principles of SS implementation in the region. These principles are as follows: the reasonable use of the resource potential of a particular place or territory; a strategic approach to choosing investment areas and focusing on the region; the involvement of stakeholders in strategic decision-making; a wide front of innovations and an effective performance monitoring system (Slynko, 2021). The value of the proposal of the national scientist is that it specifies the essence, features and appropriate focus of attention of representatives of the business sector for each principle.

### 6. The SS Concept of Regions as a Key to Sustainable Socio-Economic Growth

The relationship between the SS concept and regional development, industrial and innovation policy was established by European scientists such as A. Polido, S. Moreno Pires, C. Rodriguez, F. Teles, P. McCann, R. Ortega-Argiles, Kalle A. Pirainen, E. Nigaard Tanner, L. Alkersig and others. The findings of the research yielded several substantiated segments that demonstrated the relationship between the SS concept and regional development. Moreover, these findings argued for the necessity of considering all aspects of the innovation approach. Concurrently, the socio-economic development of regions was selected

as the underlying foundation. The manifestation of the relationship between the SS concept and sustainable socio-economic regional development is demonstrated by European scientists on the basis of the following segments: the SS strategy can become an important driving force for the development of regions and their socio-economic environment; SS is not only an innovative approach designed to stimulate economic growth in regions, but also promotes the development and active use of competitive advantages; the SS concept is based on regional strategies aimed at promoting the innovative development of various spheres; conducting a detailed analysis of the innovation potential and setting priority investment targets in the regions of the European Union.

Understanding the close relationship between the concept of SS regions and the formation of a policy of sustainable socio-economic growth makes it possible not only to establish the content of an innovative approach to regional policy making, but also to contribute to the key objective of solving problematic issues of economic and social content in the future. Among other things, the concept of SS regions is designed to promote the development of the business sector, and successful private business projects will create new specialisation at the local, regional and national levels.

### 7. SS: Logical and Conceptual Series

This topic has attracted significant attention from researchers in the field of economic science in recent years. The disclosure of the theoretical and methodological aspects of the implementation of the SS concept in domestic practice requires a focus on the existing scientific approaches to understanding the essence. The term SS emerged and underwent substantial development during the period 2005-2007, with its initial documented mention in the scientific community appearing in the work of D. Foray and B. Van Ark. It is from this period that the scientific elite believes that SS as a managerial phenomenon and an effective tool for the regional economy has been included in the scientific portfolio of the theory of regional and national governance of economically developed countries. According to the OECD definition, SS is defined as an industrial and innovation framework for the regional economy. The SS framework aims to demonstrate how public policy, structural conditions, and especially research and development and investment in innovation policies can influence the economic, scientific and technological specialisation of regions. The hypothesis is that this, in turn, can influence regional productivity, competitiveness and economic growth.

In the contemporary context, a plurality of approaches exists for the interpretation of the content of the

SS concept, each of which is likely to have its own positive assessments. Nevertheless, the existence of these diverse approaches underscores the absence of a unifying understanding of the fundamental essence of SS within the ambit of the conceptual category. It is obvious that scientific research on the content of the SS to some extent complements and expands the list of necessary segments that can more substantively influence its understanding. This is confirmed by the existence of different approaches and points of view. Scholars note the following:

A new model of regional and interregional partnership, which has a significant potential for regional development (Berezina, 2018).

The process of identifying competitive advantages, priorities and maximising the development of scientific potential in any region, strong or weak, high-tech or low-tech (Butko et al., 2020).

An alternative strategy of regional development based on the targeted innovative growth of a small number of investment-attractive economic activities with sufficient resource and innovation potential will help improve the level and quality of life of the territory's population and increase the economic efficiency of production and economic activities of all business entities in the region (Slynko, 2021).

An innovative tool for building regional capacity through two key approaches, namely, localism and the knowledge economy (Yatsyuk, 2018).

According to the results of the study, the diversity of scholars' views on the essential content of the SS indicates the presence of certain peculiarities:

The definition of the content of the SS is established in two respects. On the one hand, it is interpreted as a policy instrument; on the other, as a concept of strategy (which has much in common with cluster policy, the ultimate goal of which is to increase the competitiveness of the economy of European states and their regions) (Voznyak, 2021).

To distinguish two approaches to understanding the content of SS: one group of researchers considers SS as an innovative strategy of the region to create its competitive advantages in relation to other regions and countries, and the other group of researchers takes a broader interpretation, including in its content the development of measures to maximise the innovative potential of the region, using all its competitive advantages, taking into account local characteristics and the opinions of all stakeholders (Prasolova, Danylyshin, 2022).

Economic security of countries is very important for their future development. In the current conditions of development of countries, the issue of correct understanding of processes and phenomena, determination of tasks and functions of bodies ensuring the functioning of the economic security system, expediency of their structure, scientific, methodological

and methodical support of processes related to its organisation and provision is becoming more relevant.

The SS of the regions of the country has a rather powerful role aspect and is of great importance for the future development of the regions. The peculiarities of the implementation of the SS of the regions are the possibilities of their economic growth through better development of production, innovation and human potential. At present, Ukraine is developing in extraordinary conditions that encourage the adoption of more realistic and effective solutions for its own development, among which the issue of regional development on the SS platform is acute. In this regard, the issue of a correct understanding of processes and phenomena, the definition of the tasks and functions of the bodies that ensure the functioning of the SS regions, the feasibility of their structure, the scientific, methodological and methodical support of processes related to their organisation and provision become relevant.

### 8. SS Content: Modernisation and Reasoning

In order to address the ongoing challenge of regional development in Ukraine, a pivotal strategy could be to enhance the SS adaptation processes. This approach would allow for the consideration of regional development specifics, thereby ensuring the identification of the industrial, innovative and resource potential of each region. This strategy is of paramount importance for the overall system of socio-economic development in Ukraine's regions, as it is instrumental in facilitating a stable and gradual economic recovery. Concurrently, the question of the necessity to elucidate the fundamental substance of the conceptual category "SS of socio-economic development of regions" arises, with the objective of modernising and aligning with the exceptional conditions of the country's development, which is currently in an active military phase. It is undeniable that without a correct understanding of the content of the SS of socio-economic development of regions it is almost impossible to make an effective, well-founded management decision in order to achieve the strategic goals of Ukraine's economic development.

It is imperative to emphasise that within the European Union, the SS concept is presented as a process of identifying competitive advantages, establishing priorities and maximising the development of scientific potential in any given region. Conversely, in Ukraine, it serves as the foundation for the formulation of a regional strategy that obliges regional development entities to reasonably set strategic goals and objectives for the innovative development of not only priority economic activities, but also areas of social security in the future. It is evident that a focus on the economic and social development of

regions, grounded in the fundamental segments of SS, will facilitate the adoption of innovative methods and techniques that can influence the development of effective regional policy in general.

In consideration of extant scientific perspectives, it is posited that the notion of "SS of socio-economic development of regions" should be regarded as a compendium of instruments for industrial, economic, innovation and social policy of regions. This compendium is designed to facilitate the adaptation of all segments of the planned strategic socio-economic development, which are represented by strategic criteria, justified by innovative methods and techniques that demonstrate their value, and provided with a programme of monitoring and control over the timeliness of their implementation. These instruments are supported by targeted public investments and contribute to the region's competitiveness and improvement of its social sphere in the future.

In the authors' opinion, the proposed approach to disclosing the essence of the concept of "SS of socio-economic development of regions" is justified by a number of advantages:

- Availability of a package of tools for industrial, economic, innovation and social policy of the regions, which provides a wider range of choices for strategic development criteria;
- the ability to ensure the adaptation of all segments of the planned strategic social and economic development;
- the existence of strategic criteria for the socio-economic development of the region, which should be substantiated by innovative methods and techniques that argue their value;
- the programme for monitoring and controlling the timeliness of meeting the criteria for socio-economic development of the region is proposed to be included;
- the need to ensure targeted public investment that will allow timely implementation of the planned strategic paths of socio-economic development, affect the region's competitiveness and improve its social sphere in the future.

The modernisation of the content of the concept of "SS of socio-economic development of regions" and rethinking of its role will facilitate the implementation of the planned strategic development paths. This will be achieved by taking into account the main segments that can serve as stages of implementation of the strategic socio-economic tasks of the region's development. In addition, the definition of the circle of responsible persons who should ensure their implementation in the future will be a key part of the process.

### 9. Conclusions

In the context of evolving developmental conditions and the prevailing crisis phenomena in the regional

development of countries, the primary focus is directed towards the implementation of the SS concept. This concept integrates national and regional innovation strategies, establishing priorities for the creation of competitive advantages and promoting the advancement of both the economic and social spheres of regions. The management of the modernisation of existing economic and social structures in regions, as well as the development and implementation of a long-term SS strategy, extends beyond the innovation regulator and incorporates segments of the industrial, economic and social spheres. This enables the process of identifying regional competitiveness, priorities and maximising the development of production, financial and human potential in any region.

It has been established that the fundamental principles of SS implementation in the region are as follows: the reasonable utilisation of a given location's resource potential; a strategic approach to the selection of investment areas; employers' commitment to strategic decision-making; a wide range of innovations; and an effective performance monitoring system. The necessity to update the concept of SS of regions

in order to facilitate the establishment of a policy of sustainable socio-economic growth has been identified. This will assist in achieving the key goal of solving the problematic issues of regional development, taking into account the existing features of their functioning.

It has been demonstrated that, within the context of the intensification of the processes of adaptation of the SS regions concept, socio-economic development is contingent upon the selection of efficacious instruments of influence encompassing production, innovation and economic segments. Consequently, it is imperative to rethink and modernise the content of the SS of socio-economic development of regions. It should be understood as a package of instruments of industrial, economic, innovation and social policy of the regions capable of ensuring the adaptation of all segments of the planned strategic socio-economic development, represented by strategic criteria, justified by innovative methods and techniques that argue their value and provided with a program of monitoring and control over the timeliness of their implementation.

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Received on: 15th of October, 2024  
Accepted on: 29th of November, 2024  
Published on: 30th of December, 2024