

Methodological Aspects of the Sustainability of the Socio-Economic System as an Integral Indicator of Regional Development

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Abstract. This article discusses the basic conceptual concepts of "sustainability", which in some senses are different, but do not exclude each other. A number of problems of socio-economic development, which are interrelated with the ideas of sustainability. The stability of the socio-economic system of the region is considered as a process that includes a number of elements. The key issues of stability of the socio-economic system of the region, as well as the most promising focus of the analysis of this issue. As well as answers to a number of questions, such as: What exactly is meant by the concept of "socio-economic stability of the region"? How should the "socio-economic sustainability of the region" be conceptualized and measured? What are the determinants of socio-economic stability in the region? How is the socio-economic sustainability of the region linked to different models of regional development?

1. Introduction

To implement the scientific approach to the problems it is necessary to give an objective assessment of the initial state of the regional economy, investment and socio-economic processes. A variety of recent studies show that most of the modern socio-economic processes taking place in various fields and fields of activity, mostly determined by economic, social, cultural and technological unification. These processes are a catalyst for changes in the socio-economic environment, on the one hand, and on the other, causes a certain fragmentation of the structure of the presence of these subjects. Under the area of presence, it is necessary to understand a certain territorial location of the subject, as a rule, it is a certain territory - region. It is the region of presence that determines the peculiarities of the development of the subject of economic activity, both in the short and long term. This situation makes us take a different look at the modern features of the region's development, as the location of the subjects of economic activity, where the basic economic, technological, social and other processes are implemented, as well as the process of planning its development.

2. Problem Statement

For Russia, as for the majority of countries with numerous administrative and territorial divisions, is characterized by an inherent property of territorial systems - uneven socio-economic development of its constituent regions. On the one hand, this circumstance is predetermined by a number of objective reasons, including a unique variety of climatic and environmental conditions, a large territorial extent and a significant differentiation of natural resource potential, which creates prerequisites for territorial

socio-economic inequality. On the other hand, the destructive effects of the multi-layered regional policies implemented over the past two to three decades have contributed to the growing disparities in living standards and quality of life, reduced the efficiency of the production complex and underutilized the economic potential of individual regions and the need for strategic planning.

The difficulty of solving the problem lies in its internal contradiction, since ignoring or weak "stability" of the socio-economic development of the regions ultimately leads to increased tension in society; as well as excessive interference that violates the principles of economic freedom and independence of the regions and negatively affects the motivation for accelerated economic growth (mainly in the leading regions). The above actualizes the problem of analysis of the stability of socio-economic development of regions, improving the methodology for assessing the degree of territorial differentiation and the search for ways of effective "alignment".

What is meant by the sustainability of the socio-economic system of the region? In order to form a certain position on this issue, in our opinion, at the first stage it is advisable to consider the definitions that were given by both domestic and foreign researchers. E. Hill, H. Wial, and H. Wolman define the sustainability of a regional socio-economic system as "the ability of a region to successfully recover from shocks to its economy that either derail it from the path of growth or have the potential to derail it from the path of growth" [17].

A significant number of General and private studies have recently been devoted to the methodological support of the process of assessing the sustainability of the socio-economic system, the results of which are presented in various thematic sources. In the formation of this field of knowledge the most significant contribution was made by such researchers as Hill, E., Wial, H., Wolman H. [17], Martin R.[3], Sunley P., A. I. Borodin, N. N. Kiselev, V. P. Zabolotski [8], E. V. Makarova, R. M. Yusupov, S. R. Brozkova, A. V. Dorokhov, A. L. Gaponenko, A. V. Kretinin, E. S. Bograshov, B. K. Yessekina, S. Sapargali

Currently, the concept of "sustainability" is used in various contexts, as perceived in a positive context, an attribute of the object (system), or as a desirable feature that should be enhanced and provided [2; 18]. In this sense, the concept of sustainability has become part of the terminological apparatus of research on the development of certain aspects of the regional, local and urban economy. Moreover, sustainability is rapidly becoming an imperative underlying "regional construction". Despite the widespread replication of this concept, there are still a number of issues that create uncertainty, in particular:

1. What exactly should be meant by the concept of "socio-economic stability of the region"?
2. How should the "socio-economic sustainability of the region" be conceptualized and measured?
3. What are the determinants of socio-economic stability in the region?
4. How is the socio-economic sustainability of the region linked to different models of regional development?

Given these circumstances, we believe that the topic of this article is important for consideration, both in theoretical format and for the practical activities of the region.

3. Methodology

One of the defining concepts of the region is its socio-economic system. In the study of the concepts of "social" and "economic" system, we identify the main dominants of the definition, emphasized by the majority of researchers. In our opinion, for the convenience of perception of the research results, the semantic dominants of the considered definitions are presented in table 1.

Table 1. Semantic dominants of definitions of the concepts "Social system" and "Economic system».

<p>The semantic dominant of the authors of the definitions the concept of «Social system»</p>	<p>The semantic dominant of the authors of the definitions the concept of «Economic system»</p>
<p>Common feature</p> <ol style="list-style-type: none"> 1. A finite set of elements forming a single integral connection. 2. Consistency of relations both within the system and with elements of the external environment. 3. A complex hierarchical structure that implies the existence of an organizational structure. 4. The presence of links of different levels of complexity. 	
<p>Particular features</p>	
<ol style="list-style-type: none"> 1. The mechanism regulating the system of relations imposes only partial obligations on the subjects of the system (norms and rules of conduct, etc.). 2. The links of the system are formed between people and different social groups. 	<ol style="list-style-type: none"> 1. The mechanism regulating the system of relations is obligatory for all subjects of the system (laws, rules of action, etc.). 2. The subject of the economic system, as a rule, is a separate organization or person in the context of this organization, which affects the economic system through the production, consumption and distribution of economic benefits, based on property relations and geo-graphic boundaries. 3. A specific mechanism of management that allows you to regulate the actual economic relations. 4. Relationships are formed through the exchange of specific resources. 5. Availability of economic, communication, social, technological and financial processes. 6. Institutional component 7. Availability of processes of production and consumption of material goods.

Compiled by the author on the basis of data [9; 11-16; 18-20]

The study showed that the economic system has all the features of a social system, it also has a more complex and original form. Thus, the economic system may include elements of other systems - "political, demographic, natural, environmental and other" [10]. This provision shows that one of the determining factors of the economic system is socio-economic relations. Thus, the socio-economic system should be understood as the convergence of the social and economic system.

Sustainability of the socio-economic system of the region is a process that includes several elements:

1. Vulnerability (sensitivity or propensity of firms and workers in the region to different types of shocks);
2. Shocks (origin, nature and extent of disturbance, as well as the nature and duration of their occurrence);
3. Resistance (initial impact of the shock on the region's economy);
4. Sustainability (how firms, workers and institutions in the region adapt and adapt to shocks, including the role of external mechanisms, including government intervention and support structures);

Recovery (the extent and nature of the recovery of the region's economy from shocks, and the nature of the way in which the region is recovering)

In the course of this study, the problems associated with the use of sustainability in the context of socio-economic development were identified [3]:

1) Socio-economic systems are fundamentally different from other systems (eg, environmental, physical, etc.), so the use of the theory of sustainability of the latter is not possible

This problem is the problem of analogy. Some researchers argue that since social and economic systems are fundamentally different from environmental and physical systems, sustainability ideas derived from these disciplines are not acceptable. Extrapolation of findings and borrowings from other disciplines should be done with caution. Analogies should be used as reference points for a similar re-specification in a design that has a closer ontological correspondence with the entity under study.

2) In socio-economic systems, there is a human factor, which under certain influences can have a decisive impact, while in the Sciences of ecology, physics and other human influence, on the contrary, is ignored.

A number of researchers believe that the application of the concept of sustainability to socio-economic systems is not appropriate because of the strong influence of the human factor, despite the fact that the origins of the concept are in the natural Sciences. From another point of view, the concept of sustainability is inherently "normative overload" and sustainability itself is seen as a desirable "good thing" that can lead the system into a dysfunctional or ineffective state that is not really desirable or sustainable, and compliance with which can prevent much-needed reorientation of the purposes and modes of operation of the relevant economic or social system.

3) the Concept of sustainability develops the idea of "returning to normal" and is consistently seen as a "good thing", and often ignores the "wrong" sustainability – resistance to change while maintaining dysfunctional or inefficient structures or systems. The idea of sustainability as a "return to normal" links the concept to equilibrium, whereas spatial socio-economic systems are rarely, if ever, in equilibrium.

Some researchers believe that the notion of sustainability supports the idea of a "return to normal life". The equilibrium assumption is not really necessary even for the "rebound" version of the stability concept. It is significant that regional economic systems have empirically identifiable long-term trajectories of development that depend directly on the trajectory itself, since this is enough to study the impact of shocks on these trajectories is a relevant topic for which the idea of sustainability can be useful. The fact that economic and social systems are essentially evolutionary non-equilibrium systems does not in any way exclude the potential relevance and use of sustainability ideas. On the contrary, sustainability can play a key role in shaping long-term economic evolution and is likely to evolve as the economy develops. The claim that sustainability necessarily implies a "return to normality" is not adequate because what constitutes "normality" is in fact problematic and not merely assumed or imposed by the concept of sustainability.

4) stability Analysis shows that systems react dichotomously to shocks, either returning to the initial state or being pushed into a new state, whereas in reality the response is a complex mixture of continuity and change.

Another voiced problem voiced by researchers in this subject area is that stability causes a sharp dichotomy between the return to a pre-existing state after shock and transformation into another post-shock state. For example, the concept of "increased environmental sustainability" and the concept of hysteresis in the theory of complex systems and in some versions of economic theory suggest that if the shock to the system is too large, the system will not be able to return to its pre-stasis state, but will be forced into another state or regime. However, in most economic and social systems, the response to shock is not a sharp dichotomy between returning to the pre-state of the system and moving to a completely different state: such catastrophic changes are rare. Sustainability is likely to include both continuity and change: some structural features, components and processes may change while others persist. The notion of reliability discussed above explicitly allows for different degrees and types of structural and other changes in order to restore or preserve core functionality and performance: it is not

a simple dichotomy between continuity (unchanged) and (complete) change. In a regional or local economic context, changes in some structures, characteristics, functions and processes may be necessary to restore and maintain the trajectory of regional economic growth, and such changes may be driven by market adjustments by social and economic actors or may be stimulated and facilitated by political activities. But local economic structures do not change overnight, even in response to major shocks. Sustainability is not a function or result, but a complex process that allows for many possible combinations of change and continuity.

5) Sustainable thinking emphasizes holism and systems ontology, and presupposes systems are easily defined. Regional and local economies are fuzzy and often difficult to distinguish.

Another line of disagreement regarding the use of the concept of sustainability to study economic and social phenomena is the argument that it elevates the ideas of "system" and "holism". It is argued that such a "systemic ontology" implies that regional and local economies can be easily and meaningfully delimited, and focuses on maintaining overall regional or local economic coherence and functioning. This is said to ignore the heterogeneous nature of local and regional economic systems. All these issues are relevant, but they are not limited to or specific to the study of regional sustainability: they should be taken into account in any study of (uneven) regional development. No matter how we define "regional" and "local" economies, they are always characterized by a high degree of openness to external events and forces, they invariably consist of many spatially distributed and often intermittent networks of interacting heterogeneous economic agents (from firms to workers and institutions), and they tend to have fuzzy boundaries and complex dynamics involving emergent and self-organizing effects and processes. In short, regional and urban economies are complex systems. A comprehensive systemic view of regional or urban sustainability, focusing on the dynamics of the regional, local or urban economy as a whole, not only recognizes that these dynamics are determined by the different behaviours and (re)actions of the micro-components that make up this economy, but also allows for the emergence of regional (or urban) scale effects arising from these micro-behaviours, which in turn can have a "negative impact" on these micro-components.. This view also avoids exaggerating the endogenous determinants of the sustainability of the local economy and neglecting the importance of its "external" connectedness, linkages and dependencies. The study of stability is largely related to the dynamics of systems considered as heterogeneous, coupled, multiscalar integrity.

6) Sustainability provides little "value added" compared to other concepts used to describe and explore regional economic growth and development, such as competitiveness and sustainability.

This problem is based on the fact that sustainability has no relevance or "value" in the study of socio-economic systems. A number of researchers argue that sustainability makes a small contribution to the analysis of socio-economic systems and is used when other concepts cannot be used in the analysis. It is argued that economic systems, as opposed to physical, environmental, etc., are unlikely to return to the same structure and functions after the shock. This criticism is aimed at a narrow interpretation of stability as a simple "rebound back" to the pre-Social state. The main contribution of the idea of sustainability to the area of "value added" is that it focuses on the impact of shocks and their role in shaping the trajectories of regional growth and development. For example, competitiveness, which is also not easy to define, is linked to long-term and evolving comparative (and absolute) economic performance more than to how economies respond to shocks. It is now possible that the competitiveness of firms and industries in the region will have a significant impact on the vulnerability, response and recovery of the region's economy in the face of shocks. Thus, increasing the competitiveness of companies in the region can make them more resistant to shocks. Thus, competitiveness can be a determining factor in the sustainability of an economy, but it is not the same as economic sustainability. As M. points Out. Scott, the value of the concept of sustainability vis-à-vis the concepts of competitiveness and sustainability lies in its explicit emphasis on shocks, failures and unknowable disturbances, as well as how such failures interact with processes of gradual and incremental change at time and spatial scales. The value of the idea of sustainability is that it encourages us to recognize the potential impact that major shocks can have on uneven regional

development and to explore how regions, human settlements and cities differ in vulnerability and responses to shocks.

It is worth noting that the sustainability of the socio-economic system of the region is a recursive process, as the shock and the recovery process itself can lead to changes in the economic structure and functions of the region or lead to changes, which in turn can affect the resistance of the region and resistance to subsequent shocks. In other words, the stability of the socio-economic system of the region is formed and determined by the reaction of the region's economy to shocks, therefore, sustainability affects both the development of the regional economy and the evolution itself [7]. At the next stage, we will identify the key issues of stability of the socio-economic system of the region, as well as the most promising focus of the analysis of this issue (table. 2).

Table 2. Key issues of sustainability of the socio-economic system of the region in the context of the elements of the process.

Scope	Key issue	The focus of the analysis
Vulnerability to shocks	Why regions differ in their vulnerability / susceptibility to shocks?	To what extent is vulnerability a predictable feature of the region's socio-economic system, or is it entirely dependent on shocks?
Anxiety / Shock	What is the nature of the shock? What area of the socio-economic system is affected by the shock?	Sudden, short-term decline (for example, economic recession, closure of the enterprise, loss of supply chains, etc.) or medical cumulative pressure (for example, gradual displacement from markets, etc.), as well as the intensity and duration of the disturbing impact.
Initial state or initial speaker	What is the baseline or dynamics of the variable (s) of interest in the absence of shocks?	Pre-current levels or trends in production, employment, per capita income, etc.
Resistance to shock	How badly was the initial state or development dynamics disrupted by the shock?	The scale of the reaction to the shock, compared to what could be expected.
Stability	What are the mechanisms by which firms, workers and institutions in the region respond to and adapt to shocks?	Opportunities for structural and market reorientation and adaptation; redistribution of regional resources.
Recovery	To what and how quickly you need to recover?	Return to the original or dynamic state before the shock? or the movement to a new reference or dynamic state, as well as the nature of the latter.
Determinants stabilities	Why are some economies in the region more resilient than others?	Factors shaping regional economic sustainability and how and how these factors change over time

The sustainability of the regional socio-economic system should be based on the principles of sustainable development, of which the basic principles are: improving the quality of life; guaranteed

the health of the people; meeting the basic living needs of both the population and future generations; combating poverty; rational patterns of production and consumption; environmental management; preservation of ecosystems, protection of climate and ozone layer; ensuring environmental safety; elimination of all forms of violence against man and nature (prevention of war, terrorism and ecocide); global partnership.

Thus, the results of the study allow us to conclude the following:

The basic conceptual concepts of "stability", which in some senses are different, but do not exclude each other, are considered.

A number of problems of socio-economic development, which are interrelated with the ideas of sustainability.

The stability of the socio-economic system of the region is considered as a process that includes a number of elements.

The key issues of stability of the socio-economic system of the region, as well as the most promising focus of the analysis of this issue.

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