



Features of Assessment of Regional Business Cycles: Methodical Approaches and Paradigm of the Research

Marat R. Safiullin¹, Aliya A. Abdukaeva^{1,2}, Leonid A. Elshin^{1,2,3*}

¹ Institute of Management, Economics and Finance, Kazan Federal University, Kazan, Russia

² State Budgetary Institution Center of Perspective Economic Researches of Academy of Sciences of the Republic of Tatarstan, Kazan, Russia

³ Department of management and entrepreneurship, Kazan National University of Science and Technology, Kazan, Russia

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Abstract

Emerging trends in the development of socio-economic systems, characterized by a high level of dynamics of institutional transformations and corresponding macroeconomic generations based on progressive forms of creating added value, require improved approaches to the analysis methods of their development. If earlier the priority development areas were the processes of economy industrialization, the implementation of large-scale decisions, the high localization of economic processes, now the following strategic development guidelines come to the fore: formation and large-scale replication of local low-concentrated growth points; diversification of business activity; development and dissemination of technological, institutional, product changes; development of social parameters of economic growth, based, inter alia, on the principles of environmental friendliness of economic and operational activities, etc. All this creates the basis for improving the traditional approaches to modeling economic growth and development existing in the theory of regional economics. At a methodological level, the solution of issues posed is the subject of this article. The methods of formalized assessment and construction of economic cycles of both macro- and mesolevel are proposed through the prism of expectation theory in it. Relying on the proposed toolkit for designing advanced development cycles (3D expectations of economic agents), the study reveals approaches forming the basis for a comparative analysis of economic cycles of various levels and scales.

Keywords: Cyclical fluctuations of economy, Regional economic cycles, Expectations, forecasting the economy, Comparison of economic cycles, methodology

1 Introduction

The multiplicity of factors forming the "points and quality of growth" of regional socio-economic systems greatly complicate the objective modeling processes, which determines the need to improve methodological approaches to the analysis and assessment of regional development factors. Today, figure on mono- and micro-parametric (including a very limited set of exogenous parameters) models of economic growth, as it mainly happens in neoclassical and neo-Keynesian concepts (1-4), means a decrease in the objectivity of estimates obtained and their corresponding conclusions.

A similar course of reasoning and assumptions is true in the context of studying the economic cycles of the region. Given that the regions, for a number of reasons, adapt and respond differently to any changes that occur, including within the framework of the national or global socio-economic environment, the nature and trajectories of their development will have personalized features, including cyclical fluctuations of their systems. Thus, an in-depth study of regional economic cycles requires a fundamental analysis of a wide range of factors determining their sensitivity to them, as well as determining the formation of distribution channels for cyclic fluctuations of other economic systems that are mutually integrated into a specific regional economy. The knowledge and scientific justification of this process will allow optimizing the solution of a number of issues in the field of regulation and "manual control" of the phases of economic cycles of the region in case of the need to give additional impulses to adjust the emerging economic cycle.

Corresponding Author: Leonid A. Elshin, (a) Kazan Federal University, (b) State Budgetary Institution Center of Perspective Economic Researches of Academy of Sciences of the Republic of Tatarstan, and (3) Kazan National University of Science and Technology. E-mail: Leonid.Elshin@tatar.ru.

2 Methods

It shall be noted that the issues related to the study of the nature of cyclical development of economy at the level of individual regional entities have been quite actively studied by the scientific community from the late 50s - early 60s.

Among the most striking works of Russian researchers in this area, it is necessary to highlight the so-called resource cycles of V. Komar (5), the concept of regional cycles of N. N. Kolosovsky (6) based on the wave-like change in energy production costs of economic agents of the region, the cycles of O. V. Gritsay (7) based on the industrial-urban development of the region, etc. The same active position in the application of cyclic approaches in the development of regions was used by foreign economists, among which the works of D. Friedman (8), W. Alonso (9), J. Tinbergen (10), et al. shall be singled out. All of these works are characterized by their narrow focus and specific nature of the choice of exogenous factors that determine their unique approaches to identifying the cyclic development of regions. Unfortunately, it should be noted that these works are based mainly on either descriptive approaches or approaches related to the scientific and logical justification of hypotheses and assumptions put forward. At the same time, such an important component of the scientific knowledge of the studied phenomena and processes as modeling of generation factors of cyclical fluctuations in regional economic systems is almost completely ignored, which largely determines the subjectivity of the estimates and conclusions.

We would also like to dwell on modern research in the field of regional economic cycles. In our opinion, an important study in this area is the work of A.V. Schavinsky. In it, the author puts forward a number of very interesting hypotheses regarding the patterns of regional economic development. In particular, the author claims: "...the features of regional economic cycles of Russia are as follows: 1. Regional economic cycles are derived from macrocycles and therefore do not have their own boundaries, but have common points of rise, peak and recession for the entire domestic economy. 2. The difference between regional cycles is found in independent development dynamics, which can have higher or lower growth rates compared to the average Russian ones, i.e. regional cycles have different oscillation amplitudes. 3. Regulation of the waves of meso-economic level shall be carried out by individual methods, depending on the type of region and its economic specialization. 4. It is impossible to distinguish long-term cycles at the regional level, since they are associated with national innovations and cannot be distinguished at the mesolevel" (11, 16).

We are in solidarity with the absolute majority of the conclusions advanced by A.V. Shchavinsky. However, we find a number of controversial provisions requiring an expansion of the research angle among his statements. For example, there is a contradiction to the research approaches in his work. On the one hand, the author claims that the study of the development of macrolevel economic system (national economy) cannot do without studying the influence of the mesolevel economic systems on it, since the latter largely determine the macrolevel trends. According to the author's wording "...the Russian economy is aggregated from the

economic systems of the regions, each of which provides an individual contribution to the potential of all-Russian economic growth. For a reasonable interpretation of the provisions of theories of economic cycles, it is very important to take into account the factors and conditions operating at the mesolevel when the region enters a new reproductive cycle" (11, 15). On the other hand, the work substantiates that it is macroeconomic cycles that are the basis for the formation of mesolevel economic cycles (regional cycles).

In fact, it shall be noted that the author, despite opposing approaches to the root cause of cyclical generations of the economy, in fact, reveals the process duality concerning generation of regional economic cycles (we will discuss this issue in more detail in section 2.4 of this thesis research). At the same time, it is important that a unified methodological approach has not been formed in the economic theory that reveals the peculiarities of cyclic fluctuations in their relationship at the macro-, meso- and microlevels until now.

In addition, this issue of the relationship of macro- and mesocycles (on a territorial basis) shall not lie exclusively in the plane of their vertical integration. It is also important to define and understand the system of principles for the generation of mesocycles as a result of their horizontal integration (interconnection with mesocycles of other regions), which is completely excluded from the scientific research field of view of A.V. Schavinsky.

Unfortunately, like most of the works devoted to the issues of regional cyclism, the research of A.V. Schavinsky is based solely on the basis of scientific and logical reflections of a theoretical level in this part. At the same time, as we mentioned earlier, in order to minimize subjective assessments and conclusions, it is necessary to elaborate the offers and hypotheses put forward at the level of economic, mathematical and other kind of modeling. This task is quite complex in the context of the issue under consideration, requires thorough scientific and empirical study, and does not find its single solution at the moment.

In our opinion, a very fruitful work in the field of attempts to model the regional economic cycles based on approaches of empirical data analysis is the work of T.S. Ilyina. The author tries to adapt the paradigm of the theory of economic cycles to the regional level in it. The assessments, proposed assumptions and hypotheses were based by the author on assertion that the economic cycle of the region is "the result of mutual influence and interaction of the life cycle of individual goods, organizations, industries, on the one hand, and of a successive change in the cycle phases of the national economy in the medium term as a whole, on the other hand" (12-14).

3 Results

Despite the results of an empirical level characterizing the cyclical development of regions, all of them are formed on the basis of observation of the development paths of individual and integral performance indicators, which, as in the case of the previously considered works, contributes only to the identification of consequences, and not the causes giving rise to them. At the same time, the identification of these causes is the main scientific interest in view of the fact that their determination will allow understanding the

underlying factors that form various kinds of relationships generating channels for the propagation of cyclical fluctuations in the regional economic systems.

It should be noted that an understanding of the interconnections of different factors determining the amplitude and speed of phase transformations of regional economic cycles lies in the plane of structural and logical reasoning and can be based on empirical analysis. At the same time, the proof of the identified logically justified interaction schemes and relationships is an absolutely non-trivial task.

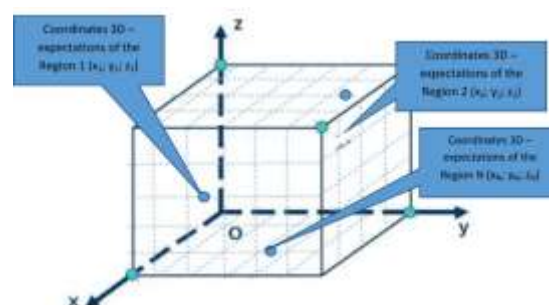
In our opinion, the task can be solved by comparing the expectations of economic agents in a concentrated form, expressing the economic activity of regional economic systems in the short, medium and long term, generating, in turn, the economic cycles of regions of the corresponding amplitude.

If the expectations can be expressed in a single system of statistical measurement, then their comparison with each other in the territorial (horizontal) and macroeconomic (vertical) sections allows detecting the nature of the relationship between them. Thus, for example, it can be assumed with a high degree of certainty that the so-called macroeconomic expectations (macroeconomic expectations regarding the prospects for the development of the national socio-economic system in the future) have an impact on the regional level expectations. We can also assume the opposite - the economic activity of the regions forms the basis of the expectations of economic agents about the development of the national economy. In our opinion, the assumption that the expectations of business entities are a consequence of their horizontal interaction in the territorial aspect is quite fair. In other words, the activity of economic agents in one region (macro-territories) has an impact on the intensity of business operations in other regions (macro-territories).

Undoubtedly, the hypothesis put forward to solve the problem of detecting the relationship nature between cyclic fluctuations of different territorial (as well as hierarchical) levels requires, in addition to its direct justification, the development of methodological tools forming the basis of the evidence base.

From a scientific and methodological point of view, as well as relying on the structural and logical basis of the described approach, it is possible to form a concept for building advanced development cycles based on measuring the "area of three-dimensional expectations of economic agents (3D-expectations)" regarding current and upcoming transformations in three basic coordinates - economic, social and institutional at the meso-, macro- and global levels, which allows making a comprehensive assessment of the key parameters and limits of generation of the economic cycles of individual territories (Figure 1). In accordance with it, the regional economic cycles are an expression of the change process (dynamic fluctuation) of 3D-expectations of economic agents concerning the prospects for the development/transformation of factors at the regional, national and global (world) level. In the process of their evolution, 3D-expectations form a relative community of expectations of economic agents of a particular region, which determines the unique (personified) nature of the trajectory of

its cyclical development. Moreover, the system of 3D-expectations of economic agents of one region may have a high level of convergence with the system of emerging 3D-expectations of other regions, however, given the multidimensionality and multifactority of their formation (three-dimensional approach), it can be assumed that the trajectories of their cyclic fluctuations will never coincide. Based on this judgment, it can be concluded that the regional economic cycles are fluctuations in the emerging 3D-expectations of regional economic agents regarding the transformation of institutional and market parameters of the socio-economic environment at the regional (meso), national (macro) and global levels. Moreover, the features of regional economic cycles (amplitude, frequency, etc.) will never have exact coincidences, which is why different dissonance phenomena of regional development are formed.



x - the scale of expectations characterizing transformations in the economic environment (meso- and macrolevels);
y - the scale of expectations characterizing transformations in the social environment (meso- and macrolevels);
z - the scale of expectations characterizing transformations in the institutional environment (meso- and macrolevels).

Figure 1: Concept of the system of 3D-expectations in the theory of regional economic cycles

4 Summary

The interpretation of 3D-expectations of economic agents given in Figure 1 has undoubtedly and largely a conditional abstract nature. It should be understood that the coordinate axes characterizing the level of sentiment and economic activity, formed as a result of assessment and perception of the institutional and market factors of the meso-, macro- and global level, can reflect a much wider range of indicators. For example, the values of expectations at the regional level can have very differentiated spectrum of values as a result of a certain kind of isolation and uniqueness of regional socio-economic systems.

Given the above concept, it is necessary to formulate a conclusion that the regional economic cycles will always be characterized by asynchrony with respect to the national economic cycle due to the effect of 3D-expectations (Figure 2). Understanding the essence of this kind of asynchrony, as well as the factors generating it, creates the basis for the development of methodological tools to regulate the parameters of regional economic cycles when, for example, the phase of economic recovery periodically lags relative to the macroeconomic cycle. Or, for example, when the growth

amplitude in one region is significantly delayed relative to other regional systems.

	Expectations of economic agents shaped by factor			Conditional level of economic activity generation in the region
	Mesolevel	Macrolevel	Global level	
Region 1	Green	Yellow	Red	Above average
Region 2	Green	Yellow	Red	Average
Region N	Green	Yellow	Red	Below average

Figure 2: Alternative interpretation of 3D-expectations of economic agents

5 Conclusions

The stated concept of the study of regional economic cycles largely contributes to solving a number of key issues in the theory of regional economics, which have either not been reflected, or have not received a generally accepted point of view until now. At the same time, understanding and identifying some patterns that determine the relationship between cycles of different levels (both in territorial and in amplitude sections (long, medium and short term cycles)) is of significant scientific and practical interest.

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