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METHODOLOGICAL TOOLS TO MEASURE THE STATE OF REGIONAL ENTREPRENEURIAL ECOSYSTEM

At present, the development of entrepreneurship is a priority task of social and economic development of Russia. The observed rates of socio-economic and innovative development of regions indicate that the private business initiative is not sufficiently developed. At the same time, the private business initiative is the leading driver of economic renewal of the territories. As practice shows, current measures, aimed at stimulating entrepreneurship, do not provide the growth of business activity and seem insufficient. These measures do not consider specific spatial context in which the business develops. Therefore, these reasons significantly reduce the effectiveness of these stimulating measures. In this regard, we estimate that the environment in which the elements of the system interact is gaining a great importance in the framework of a system approach to the study of the entrepreneurship development at the regional level. In practice, to manage the development of business structures in a spatial context, the ecosystem approach seems to be very promising. This approach takes into account the nature of the interactions of economic agents and their relationship with the environment. We highlight that the ecosystem approach to entrepreneurship is a transition from a traditional economic view of entrepreneurship, which is market-oriented to a new economic view that emphasizes people, networks and institutions. We substantiate that it is necessary to develop a methodological toolkit for monitoring the attractiveness of a regional entrepreneurial ecosystem for the generation and development of entrepreneurial processes. It is being an important element of the mechanism for designing and managing the development of business ecosystems. To determine the current state of the entrepreneurial ecosystem in a region, we have proposed a methodology for monitoring the state of the regional entrepreneurial ecosystem. This method is based on a statistical analysis of the demographic quantitative and qualitative indicators characterizing the intensity of the development and extinction of entrepreneurial processes. As a result, we have expanded the concept of the ecosystem approach. Furthermore, we have justified its application for the investigation of entrepreneurial processes at the regional level. To study the current state of regional entrepreneurial ecosystems, we suggest to use a special statistical apparatus. This apparatus is based on demographic indicators characterizing the viability and growth potential of entrepreneurial structures in a specific spatial context. To further develop the ecosystem approach for the study of entrepreneurship at the regional level, there is an urgent need for further research that will allow to identify and understand the patterns of the development of entrepreneurial ecosystems. It will increase the effectiveness of practical measures for designing a mechanism for managing the development of regional entrepreneurship.

Keywords: region, regional economy, socio-economic development of a region, entrepreneurship, ecosystem approach, regional business ecosystem, regional context, entrepreneurial processes, business demography, attractiveness of regional business ecosystem

Introduction

Modern challenges facing our country bring to the fore the solution of the problems of the full-scale modernization of the Russian economy based on the principles of innovative development. It seems that an effective solution of this problem is impossible without the involvement of a dynamically developing private business in the processes of economic modernization. Private business initiative is a key factor for growth in any economy, which, in its turn, is the basis of political stability and a healthy society.

Thus, without providing conditions that stimulate private business initiative and activity of business structures, the government will not be able to solve the problems of economic modernization, which will undoubtedly affect Russia's competitive positions in the global economic space. Russia will not be able to gain a leading position in the high-tech global economic space without a developed and constantly expanding business segment. A favorable business climate that promotes free enterprise, the rule of law and an independent judicial system that guarantee the protection of property rights, a well-structured and not bureaucratic investment and financial system that provides affordable

financing for business are those pillars that can give stability and dynamic development to the Russian entrepreneurship. Thus, it is necessary to further develop the private entrepreneurial sector of the Russian economy, eliminate various barriers to the development of entrepreneurship, more effectively protect and defend the rights of the business community.

At the same time, as the analysis of statistics shows, all attempts of the government to bring the development of small and medium-sized enterprises to the level of at least developing countries do not yet lead to breakthrough results. The presence of significant problems in the course of business in the contour of the current business environment of Russian business is confirmed, in particular, by the calculated rate of the share of the number of business entities actually performing economic activities in the total number of small and medium-sized enterprises. So, in 2010, as a result of conducting continuous monitoring of small and medium-sized businesses (SMBs) activities it was determined that out of 1,644,269 small enterprises, 1242,309 (76 %) carried on its business. The number of operating medium-sized enterprises was 24084 of 25170 (96 %). Out of 2927488 self-employed entrepreneurs (SEE), 1914157 (65 %) actually were operating. According to the results of continuous monitoring of the small and medium-sized businesses activities, conducted in 2015, 1449,669 small enterprises out of 22,22372 SMBs, carried out economic activities, that is, slightly more than 65 %. 18,821 (97.6 %) out of 19,278 medium-sized enterprises actually carried on economic activity. Thus, it can be assumed that only about 70 % of the total number of small businesses conduct real economic activity. This indicates the presence of factors in the Russian business environment constraining the growth and development of business entities. The negative impact of these factors should be leveled, including competent government policy in the field of small and medium business support. At the same time, the implementation of programs for the development and support of small and medium-sized businesses encounters problems that are, in our opinion, caused by the fact that the events held are poorly integrated into the regional context of entrepreneurship and do not take into account the diversity of relationships and connections among various elements and processes of the regional business system. This state of affairs is typical not only for small and medium-sized businesses, but in general for all economic entities (including large business enterprises, public ownership companies, state (municipal) unitary enterprises, etc.) that carry out business activities in the contour of regional business environment.

In turn, this state of affairs is due to the poor knowledge of the actual contextual business environment in the region, in the contour of which business processes are generated and developed. This does not allow to consider the development of regional entrepreneurship in its relationship with the environment, which leads to a distortion of received information about the impact of real conditions on business development and the adoption of erroneous management decisions on their adjustment.

Experimental

Current situation indicates the need for further scientific and methodological study of entrepreneurship development problem in the Russian regions. In this regard, as noted earlier, a systematic approach to the study of entrepreneurship at the regional level has a serious scientific interest and prospects [1–3]. At the same time, within the framework of the system approach, the environment in which the elements of this system (primarily economic agents) interact with each other and with the environment starts to acquire immense importance. This allows us to conclude that the practice of building of effective models for managing the development of entrepreneurship at the regional level requires a new approach for researching the features of entrepreneurship development, which should be based on the relevance to take into account the institutional, social, political context, in the outline of which direct development of entrepreneurship takes place [4–8]. For example, it is scientifically substantiated that the vector of business development in a transition economy is often mediated by the nature of the institutional environment [9–16]. Consequently, insufficient attention to institutional factors, and even more so, their disregard can lead to mistakes in management decision- making and ignoring future consequences for the socio-economic development of territories.

In this regard, from the point of view of further development of a system approach to the study of regional entrepreneurship and its adaptation to solution of practical problems of managing the development of business structures in a spatial context, the use of an ecosystem approach is very promising. This approach goes back to the works of J.F. Moore [17, 18], and now the concept of

entrepreneurial ecosystems is becoming more common in foreign and domestic research articles on the study of entrepreneurship [19–24].

Z. Aks and co-authors defined the entrepreneurial ecosystem as a dynamic, institutionally secured interaction between entrepreneurial operation, abilities and aspirations of individuals, which stimulates the distribution of resources through the construction and operation of new enterprises [19]. B. Spiegel [23] defines entrepreneurial ecosystems as combinations of social, political, economic, and cultural elements in the region that support the development and growth of innovative start-ups and encourage emerging entrepreneurs and other participants to take risks from starting, funding and providing other assistance to enterprises with high levels risk. C. Mason and R. Brown explain the entrepreneurial ecosystem as a set of interrelated business entities (both potential and existing), entrepreneurial organizations (for example, firms, venture capitalists, business angels, banks), institutions (universities, public state institutions) and entrepreneurial processes (eg., the birth rate in a business, the number of companies with high growth rates, etc.) that formally and informally combine to generate, support and manage business processes in the local business environment [25].

In general, it can be concluded that the eco-approach to the study of socio-economic systems development focuses on the external business environment and is based on the premise that there are certain factors beyond the organization's borders that can enhance the overall competitiveness of the company. From this point of view, this approach has common features with other concepts of economic development of territories, for example, such as the cluster approach and innovation systems. Cluster approach focuses on geographic concentrations of interconnected companies, specialized suppliers, service providers, firms in linked industries and related institutions in specific areas, which generally compete with each other, while also interacting in a collaboration framework. [26]. The concept of a regional innovation system (RIS) focuses on networks, agencies and institutions that link knowledge-creation centers, such as universities and government research laboratories in the region and innovation firms. These links allow knowledge to spread among various organizations, increasing the region's overall innovation [27]. In this context, it should be noted that the transition from the concept of a regional cluster to a regional innovation system that has emerged recently in the scientific and expert environment is due, firstly, to the greater formalization of inter-company interactions, and secondly, to the strengthening of the role of institutions and their involvement in the innovation process [28].

The approach based on the entrepreneurial ecosystem differs from the cluster approach and the approach associated with the development of innovative systems in the fact that the entrepreneur, not the firm is the main subject of analysis. Thus, an approach based on the entrepreneurial ecosystem focuses on the entrepreneur, not the company, while also emphasizing the socio-economic context role associated with entrepreneurial processes [29]. The ecosystem influences both decision making at the individual level and entrepreneurial intentions, as well as the ability of the new enterprise to fully realize its potential. This emphasis on entrepreneurial actions and the potential fulfilment that contributes to the growth of welfare created by this activity is perhaps the most important distinguishing feature of an entrepreneurial ecosystem concept [30]. Another significant difference of entrepreneurial ecosystem's approach is that it considers not only entrepreneurship as part of the system, but also emphasizes the constructive role of entrepreneurs as key actors in creating the system and in maintaining it in a healthy way.

Any ecosystem includes a number of interrelated key elements that constantly interact and mutually reinforce each other. The entrepreneurial ecosystem has a similar structure and includes a number of elements that combine and interact with each other to promote innovation and growth [29]. Therefore, the approach to entrepreneurial ecosystems emphasizes that entrepreneurship as a process occurs in a community of interdependent participants [31]. So, D. Eisenberg formulates the six elements of the ecosystem: politics, finance, culture, support system, human capital and markets [32]. His approach largely coincides with the approach of the World Economic Forum[1], which highlights the key factors of a successful ecosystem, including accessible markets, financial resources, human capital, support systems, government and regulatory framework, education and training, universities as drivers of development, cultural environment.

[1] Entrepreneurial Ecosystems Around the Globe and Early-Stage Company Growth Dynamic // Published by World Economic Forum, Geneva, Switzerland, 2014 http://reports.weforum.org/entrepreneurial-ecosystems-around-the-globe-and-early-stage-company-growthdynamics/wpcontent/blogs.dir/34/mp/files/pages/files/nme-entrepreneurship-report-jan-8–2014.pdf.

E. Auzio and J. Levy identify framework conditions and system conditions within the framework of the business ecosystem [30]. Framework conditions include social (informal and formal institutions) and physical conditions that allow or limit human interaction. In addition, access to more or less exogenous demand for new products and services is of great importance. These conditions can be considered as the main factors of value creation in the entrepreneurial ecosystem. However, in order to fully understand how these factors make it possible to create values, they must be considered in conjunction with the system conditions that contribute to the development of entrepreneurial activity. System conditions are the basis of the ecosystem and the authors also include networks of entrepreneurs, management institutions, finance, talent, knowledge and support system to these conditions. The presence of these elements and the interaction between them are crucial for the ecosystem success. At the same time, the result of an entrepreneurial ecosystem is not just the expansion of entrepreneurial activity (although this is very important), but entrepreneurial activity as a process through which people create opportunities for the development of innovations. And it is precisely this that ultimately leads to the creation of new values in society, and therefore this is eventual result of the entrepreneurial ecosystem, whereas entrepreneurial activity is more likely an intermediate output of the system.

Summarizing the above, it can be stated that the approach based on the entrepreneurial ecosystem includes a transition from the traditional economic view on market-oriented entrepreneurship to a new economic view focusing on people, networks and institutions [33].

Ecosystem approach application at the regional level is very important. J. Kozmetsky pointed the importance of regional ecosystems, which make it possible to approach problems based on an integrated, holistic, flexible approach, taking into account political, socio-economic, cultural, technological and managerial aspects in the context of the ongoing changes and limited time frame [cit. ex: 34]. In our opinion, each region has its own unique regional entrepreneurial ecosystem architecture and its effectiveness in terms of generation and development of entrepreneurial processes is determined by the interaction quality of the ecosystem elements between themselves and the environment. Implementation of elements interaction channels of a regional entrepreneurial ecosystem depends largely on its structure, since structure of a region is not just a set of elements, but a single industrial ecosystem that integrates institutions, cultural environment, economics, and corporate body [35–37].

We propose to define the regional entrepreneurial ecosystem as a set of interrelated business entities (both potential and performing economic activities), their functioning environment and interactions between them (the exchange system) determining the degree of generation, development and extinction of entrepreneurial processes in a local spatial environment in a reliance on the analysis of the "entrepreneurial ecosystem" definition.

At the same time, we understand the entrepreneurial process as "a stable, goal-oriented consistently performed set of actions (works) carried out by an economic agent on an initiative and risk basis, which transform inputs (resources) into outputs (products, services) with the purpose of obtaining entrepreneurial income" [3].

From our point of view, the ecosystem approach enables a more qualitative and reliable assessment of the entrepreneurship development parameters due to the fact that it focuses on a specific spatial and temporal context of entrepreneurship development, which contributes to the nature of interactions of economic agents, their models of business, investment, innovation activity and their relationship with the environment. At the same time, the study of the nature and models of interactions of economic agents and their relationships with the business environment is not the subject of this article. Authors set the task of developing a methodological approach and toolkit for assessing the current state of the existing regional business ecosystem based on an array of verified economic statistics data.

Model

Specific business ecosystems have developed in the Russian regions at present. Their assessment from the point of view of promoting the development of entrepreneurship is the most important research task. From our point of view, the development of methodological tools for monitoring the attractiveness of a regional entrepreneurial ecosystem for generating and developing entrepreneurial processes is an integral part of designing a mechanism to effectively manage the development of business ecosystems. In this context, it is important to assess the state of the ecosystem from the point of view of its attractiveness for reproduction (birth) of new enterprises, since the key indicator of the quality of a regional business ecosystem is the demographic indicators of organizations. Here,

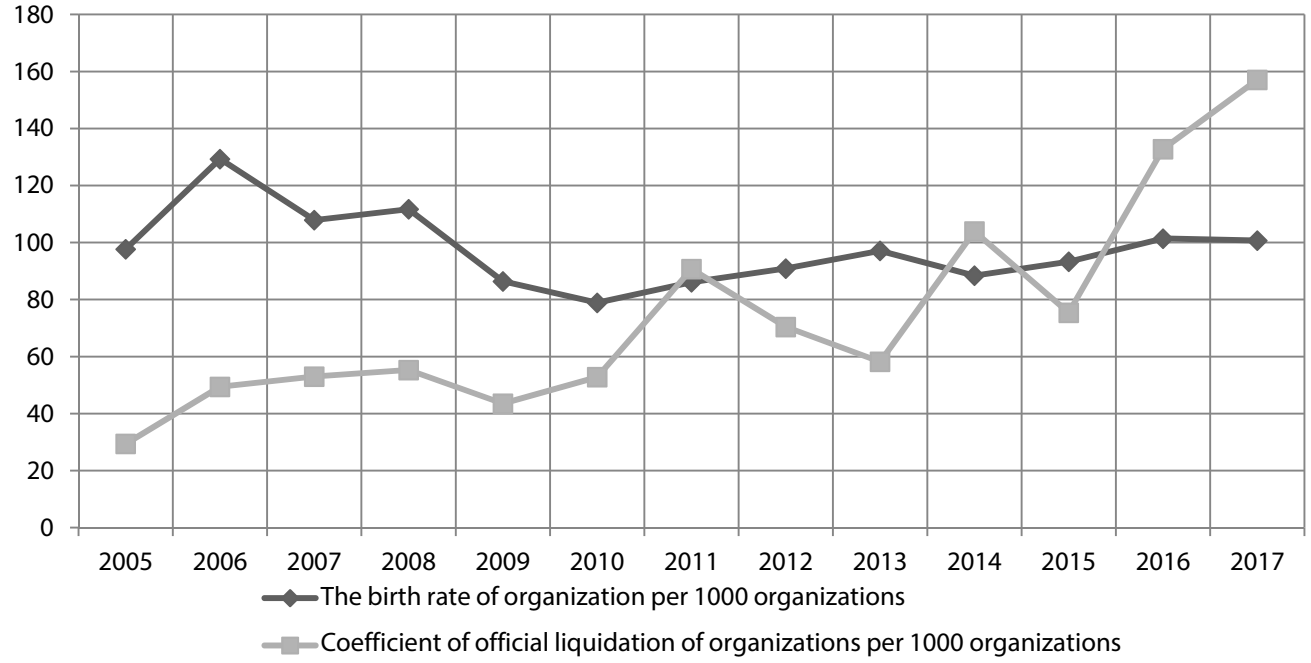

Fig. 1. *Profile of the dynamics of the demography of organizations in the Republic of Bashkortostan*

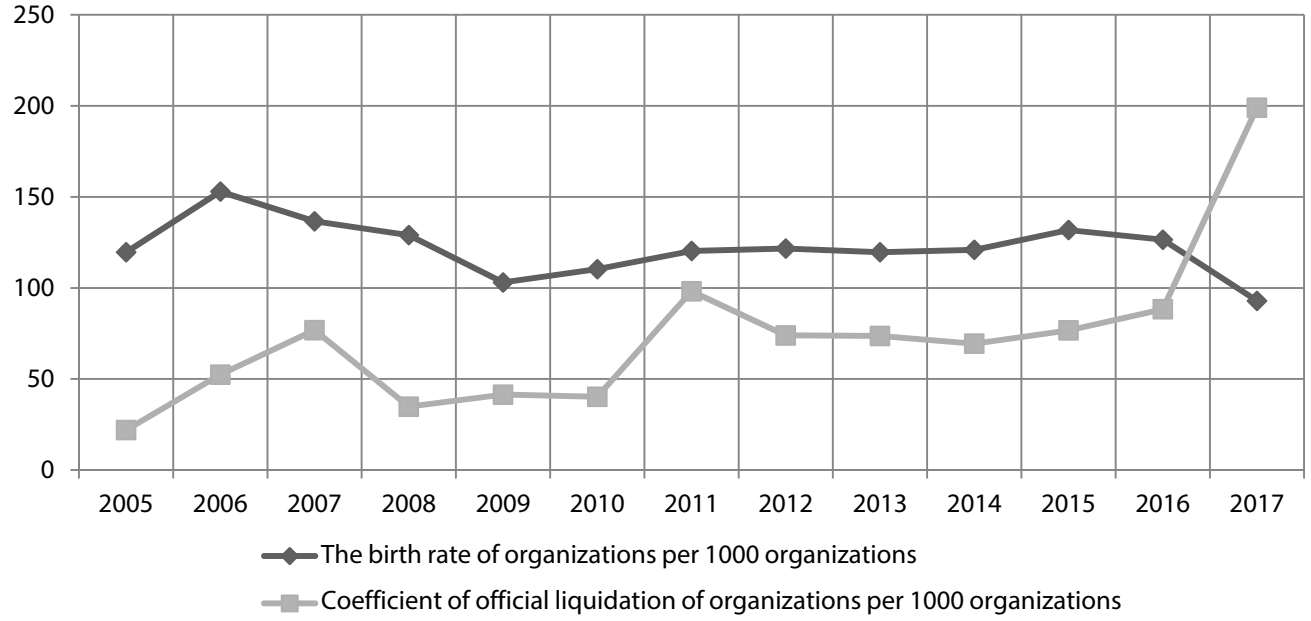

Fig. 2. *Profile of the dynamics of the demography of organizations in the Republic of Tatarstan*

the indicators characterizing the demography of organizations in the regions—the fertility rate of organizations[2] and the coefficient of official liquidation of organizations[3]—are very interesting. In our opinion, these factors to a certain extent can characterize the ecosystem environment in which economic processes take place. For example, if we look at the ratio of these coefficients in the Republic of Bashkortostan, we will see that since 2005 the liquidation rate was four times higher than the birth rate of organizations, while in the Republic of Tatarstan this happened only once (Fig. 1, 2).

Comparison of the birth rates of organizations in two regions of the Russian Federation suggests that for 12 years the level of organizations birth in the Republic of Tatarstan remained higher than in

[2] The birth rate of organization — the ratio of the number of registered organizations for the reported period to the average number of organizations recorded by the government statistics agencies in the Statistical Register according to the state registration in the reported period, calculated per 1000 organizations (Federal State Statistics Service, see http://www.gks.ru/wps/wcm/connect/rosstat_main/rosstat/ru/statistics/enterprise/reform/#).

[3] Coefficient of official liquidation of organizations — the ratio of the number of officially liquidated organizations for the reported period to the average number of organizations registered in the Statistical Register by state statistics agencies according to state registration in the reported period, calculated per 1000 organizations (Federal State Statistics Service www.gks.ru/wps/wcm/connect/rosstat_main/rosstat/ru/statistics/enterprise/reform/#).

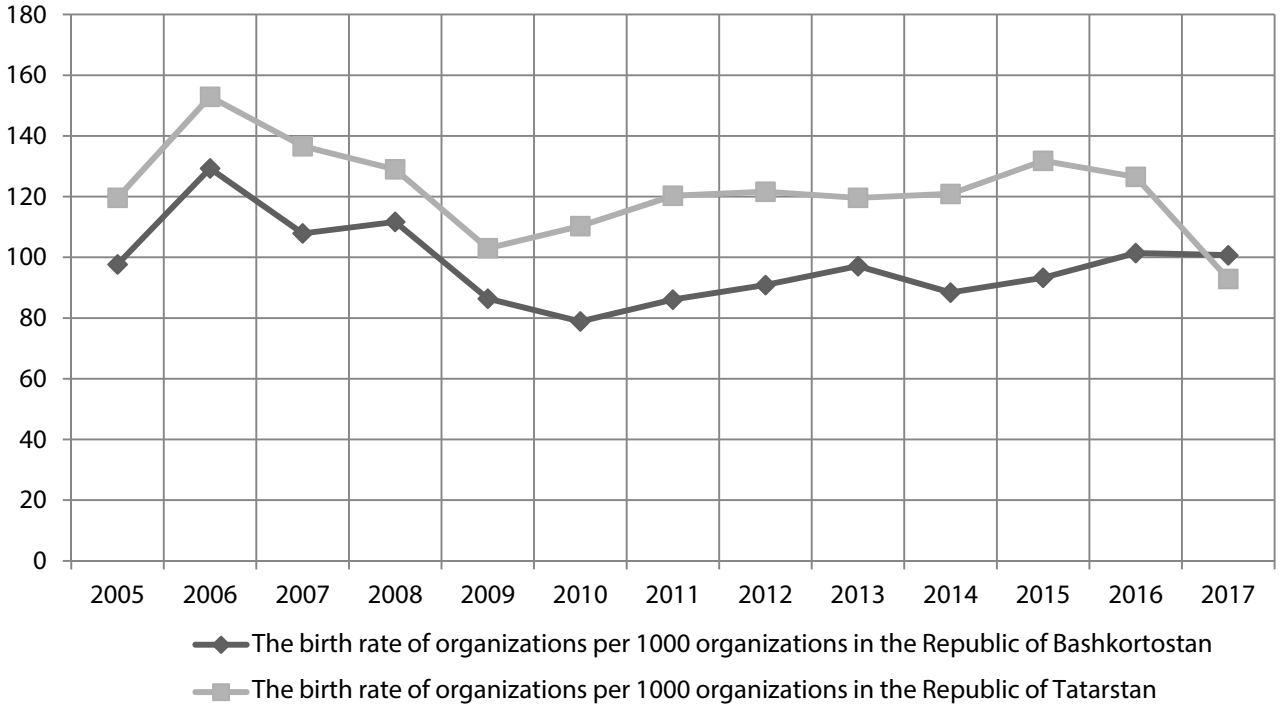

Fig. 3. *Comparison of the birth rates of organizations in the Republic of Bashkortostan and the Republic of Tatarstan*

the Republic of Bashkortostan and only in 2017 it became lower (Fig. 3). There are many reasons for such a gap in this indicator among regions with similar socioeconomic potential. One of them, in our opinion, is that Tatarstan seems to have managed to build a more "fertile" regional business ecosystem that stimulates the development of economic processes in it and, as a result, provides an increase in the number of organizations — economic agents involved in the system of economic relations.

However, within the framework of this article, we are interested not only in the dynamics of demographic indicators of birth and liquidation of organizations, but, above all, in terms of the qualitative state of development of business structures. Thus, an important indicator of the state of a regional entrepreneurial ecosystem is not only the number of born organizations, but also the quantitative and qualitative indicators characterizing the activity of business structures: the number of enterprises with high growth potential[4], fast-growing enterprises[5], gazelles[6] etc.

In order to assess the current state of the business ecosystem, we have developed a methodology for monitoring business demography and proposed to use the indicator, which we call the demographic index of the regional business ecosystem. The demographic index of the regional business ecosystem is the ratio of the integral indexes of business processes development (I_R), and the extinction indexes of business processes (I_U) in the contour regional business system.

The following subindexes are used to calculate the integral index of the development of entrepreneurial processes in a regional entrepreneurial ecosystem (I_R): the ratio of the number of born enterprises to the number of active enterprises (I_{R_1}), the ratio of the number of fast-growing enterprises (in terms of employees) to the number of active enterprises (I_{R_2}), the ratio of the number of enterprises with high growth potential (in terms of number of employees) to the number of active enterprises (I_{R_3}), the ratio of the number of gazelle enterprises (in terms of the number of employees) to the number of active enterprises (I_{R_4}), the ratio of the number of fast-growing enterprises (by turnover) to the number of active enterprises (I_{R_5}), the ratio of the number of enterprises with high growth potential (by turnover) to the number of active enterprises (I_{R_6}), the ratio of the number of enterprises-"gazelles" (by

[4] According to the Rosstat methodology, enterprises with high growth potential are enterprises with at least 10 employees at the beginning of the growth period, at which the increase in the number of employees or three years turnover remains at least 10 % per year.

[5] High-growth enterprises are enterprises with at least 10 employees at the beginning of the growth period and with an average annual increase in the number of employees or turnover exceeding 20 % per year over a three-year period.

[6] Gazelle enterprises are a subgroup of fast-growing enterprises whose age does not exceed five years. That is, all enterprises aged 4 and 5 years with an average annual increase in the number of employees or turnover exceeding 20 % per year over a three-year period are considered "gazelles" (Federal State Statistics Service // http://www.gks.ru/wps/wcm/connect/rosstat_main/rosstat/ru/statistics/enterprise/reform/#).

Table 1

Fragment of the matrix of inter-regional comparisons by the integral index of the entrepreneurial processes development in the regional entrepreneurial ecosystem (I_R)

Constituent territory of Privolzhsky Federal District (Russian Federation)	I_{R_1}	I_{R_2}	I_{R_3}	I_{R_4}	I_{R_5}	I_{R_6}	I_{R_7}	I_R
Republic of Bashkortostan	0,871	0,526	0,681	0,335	0,336	0,184	0,537	0,445
Republic of Mari El	0,621	0,263	0,468	0,981	1,004	0,388	0,22	0,486
Republic of Mordovia	0,605	0,615	0,919	0,585	0,607	0,589	0,57	0,633
Republic of Tatarstan	0,798	0,306	0,484	0,482	0,468	0,338	0,354	0,440
Udmurt Republic	0,694	0,765	0,865	0,672	0,671	0,308	0,352	0,581
Chuvash Republic	0,661	0,418	0,688	0,597	0,614	0,447	0,237	0,496
Perm Territory	0,565	0,326	0,475	0,405	0,4	0,066	0,082	0,258
The Kirov region	0,524	0,459	0,597	0,444	0,493	0,232	0,257	0,408
The Nizhny Novgorod region	0,75	0,354	0,545	0,399	0,382	0,339	0,417	0,439
The Orenburg Region	0,597	0,51	0,651	0,381	0,381	0,061	0,116	0,297
The Penza region	0,734	0,454	0,637	0,616	0,609	0,181	0,11	0,398
The Samara Region	0,823	0,343	0,445	0,307	0,299	0,066	0,102	0,259
The Saratov Region	0,637	0,455	0,612	0,511	0,537	0,201	0,444	0,460
The Ulyanovsk Region	0,71	0,399	0,56	0,573	0,579	0,197	0,154	0,399

turnover) to the number of active enterprises (I_{R_7}). The subindexes values are determined by correlating the value of the selected indicator of the region with the maximum value of this indicator among 85 compared regions of the Russian Federation. The integral index is calculated by the geometric average formula:

$$I_R = \sqrt[7]{I_{R_1} I_{R_2} I_{R_3} I_{R_4} I_{R_5} I_{R_6} I_{R_7}}. \quad (1)$$

The calculation of the index of entrepreneurial processes development in the regional entrepreneurial ecosystem (I_R) is carried out on the example of the regions of the Privolzhsky Federal District and is presented in Table 1.

The following sub-indexes are used for calculating the integral index of extinction of entrepreneurial processes (I_U): the ratio of the total number of liquidated enterprises to the number of active enterprises (I_{U_1}), the ratio of the number of liquidated one-year enterprises to the number of active enterprises (I_{U_2}), the ratio of the number of liquidated five-year enterprises to the number of active enterprises (I_{U_3}), the ratio of the number of "extinct" enterprises to the number of active enterprises (I_{U_4}). The corresponding sub-indexes are calculated by dividing the selected indicator of the region by the maximum value of this indicator in 85 regions of the Russian Federation. The value of the integral index is calculated by the geometric average formula:

$$I_R = \sqrt[4]{I_{U_1} I_{U_2} I_{U_3} I_{U_4}}. \quad (2)$$

The calculation of the extinction index of entrepreneurial processes in the regional entrepreneurial ecosystem (I_U) is carried out on the example of the regions of the Privolzhsky Federal District and is presented in Table 2.

The business demographic index of the regional entrepreneurial ecosystem state I_D is an indicator of the ratio of the index of development of entrepreneurial processes in the regional entrepreneurial ecosystem (I_R) and the index of extinction of entrepreneurial processes in the regional entrepreneurial ecosystem (I_U) (Table 3).

Thus, it appears that the ratio of indexes of development of entrepreneurial processes and their extinction reflects a relative measure of the intensity of entrepreneurial processes behavior in the region during a certain period, while exceeding the value of the business-demographic index of the regional entrepreneurial ecosystem (I_D) greater than 1 characterizes a higher relative potential for increasing entrepreneurial activity. For example, calculations of a business demographic index based on the presented methodology according to results of 2017 showed that there is a high relative potential for increasing entrepreneurial activity in the Republic of Mordovia, the Penza and Saratov regions among the regions of the Privolzhsky Federal District. When building a dynamic series of a

Table 2

Fragment of the matrix of inter-regional comparisons by the integral index of the extinction of entrepreneurial processes in the regional entrepreneurial ecosystem (I_R)

Constituent territory of Privolzhsky Federal District (Russian Federation)	I_{U_1}	I_{U_2}	I_{U_3}	I_{U_4}	I_U
Republic of Bashkortostan	0,594	0,828	0,526	0,236	0,497
Republic of Mari El	0,769	0,725	0,677	0,285	0,573
Republic of Mordovia	0,249	0,24	0,238	0,289	0,253
Republic of Tatarstan	0,818	0,852	0,94	0,193	0,596
Udmurt Republic	0,635	0,387	0,693	0,781	0,604
Chuvash Republic	0,492	0,695	0,685	0,298	0,514
Perm Territory	0,499	0,405	0,513	0,27	0,409
The Kirov region	0,381	0,84	0,458	0,29	0,454
The Nizhny Novgorod region	0,726	0,531	0,9	0,172	0,494
The Orenburg Region	0,429	0,46	0,494	0,269	0,402
The Penza region	0,36	0,321	0,508	0,266	0,353
The Samara Region	0,489	0,647	0,583	0,202	0,439
The Saratov Region	0,491	0,468	0,527	0,314	0,442
The Ulyanovsk Region	0,7	0,607	0,733	0,267	0,537

Table 3

Calculation of the business-demographic index of the state of the regional entrepreneurial ecosystem of the constituent territories of the Privolzhsky Federal District (I_D) for 2017

Constituent territory of Privolzhsky Federal District (Russian Federation)	I_R	I_U	Business-demographic index of the state of the regional entrepreneurial ecosystem of the constituent territories of the Privolzhsky Federal District (I_D) for 2017 $I_D = (I_R / I_U)$
Republic of Bashkortostan	0,445	0,497	0,895
Republic of Mari El	0,486	0,573	0,848
Republic of Mordovia	0,633	0,253	2,502
Republic of Tatarstan	0,440	0,596	0,738
Udmurt Republic	0,581	0,604	0,962
Chuvash Republic	0,496	0,514	0,965
Perm Territory	0,258	0,409	0,631
The Kirov region	0,408	0,454	0,899
The Nizhny Novgorod region	0,439	0,494	0,889
The Orenburg Region	0,297	0,402	0,739
The Penza region	0,398	0,353	1,127
The Samara Region	0,259	0,439	0,590
The Saratov Region	0,460	0,442	1,041
The Ulyanovsk Region	0,399	0,537	0,743

business demographic index, it becomes possible to assess trends in the development of a regional entrepreneurial ecosystem.

The proposed methodology for monitoring the demographic processes of entrepreneurship in the regional entrepreneurial system based on a comparison of the ratio of the index of entrepreneurial processes in the regional entrepreneurial ecosystem (I_R) and the extinction index of entrepreneurial processes in the regional entrepreneurial ecosystem (I_U) can be used in developing practical recommendations and proposals. These practical recommendations and proposals can be applied for organization and development of a regional ecosystem conducive to a more dynamic generation of entrepreneurial processes in a spatial context.

Translation

Results and discussions

In the course of the study it was substantiated that for a better understanding of the generation, development and extinction of entrepreneurial processes logic in the regions, it seems appropriate to apply an ecosystem approach. This approach makes it possible to perform a more qualitative and reliable assessment of the parameters of entrepreneurship development due to the fact that particular attention is paid to a specific regional context, ignoring of which leads to a decrease in the applied significance and effectiveness of measures aimed at the progressive development of entrepreneurship in the Russian regions.

The necessity of developing methodological tools for monitoring indicators of the attractiveness of the regional business ecosystem from the standpoint of its adaptability to the generation and development of business processes is substantiated.

A method of monitoring the dynamics of business demographic processes in the regional entrepreneurial ecosystem is proposed.

The methodology for monitoring the state of business demography, which allows, among others, to assess the potential for expanded reproduction of entrepreneurial processes in the regional business system was tested using the example of the regions of the Privolzhsky Federal District.

Conclusion

At present, the most important task in the implementation of programs for the socio-economic development of Russian regions is the formation of an efficient and attractive business ecosystem in them. Only that kind of an ecosystem, which is based on market mechanisms for the development of entrepreneurship, strengthened by reasonable government regulation and support, can ensure an expanded reproduction of business processes. It is a healthy ecosystem that provides incentives for the growth and expansion of business activities and the development of productive entrepreneurship [38].

At the same time, the method of demographic indicators of entrepreneurship development in the contour of the existing regional business systems developed and proposed within this article is only the initial stage of work on building in the scientific environment a holistic understanding of how the regional business system operates and develops.

In our opinion, there is no clear and complete picture of how an ecosystem works at present, and the encoded data only on the inputs and outputs of the ecosystem do not yet inform us about how the inputs are converted into results. Consequently, in order to fully understand how exactly entrepreneurial ecosystems work, it is not enough to identify the structure of ecosystems, since the output result of an ecosystem often appears as complementary chains of multi-level effects. For example, if this ecosystem does not contribute to the development of fast-growing enterprises, then it is necessary to understand what is causing this problem: lack of funding, inefficient institutional environment, insufficient number of entrepreneurs motivated to develop their business, or something else. Monitoring the real causes of narrow spaces occurrence in an ecosystem often requires a clear understanding of a number of interrelated cause-and-effect relationships. If the factors that influence the results of entrepreneurial ecosystem functioning are not fully identified, efforts aimed at formation of its favorable contour may not lead to the expected effects.

Thus, in order to increase the efficiency of the proposed approach, further research is needed. It is necessary to identify the development parameters of the regional entrepreneurial ecosystem, to assess the quality of the existing configuration of the business ecosystem in terms of its impact on business activity in the region, and to propose practical solutions and recommendations on the improvement of the business mechanism for managing the development of regional entrepreneurship in the constituent territories of the Russian Federation.

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