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"ENTREPRENEURSHIP IN THE RUSSIAN REGIONS: THEORY AND PRACTICE"

Specialty: 5.2.3. Regional and Sectoral Economics

ANNOTATION
dissertation for the degree of Doctor of Economics

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Main results of the dissertation of S.P. Zemtsov

"Entrepreneurship in the Russian regions: theory and practice"

The dissertation for the degree of Doctor of Economics in specialty 5.2.3. Regional and Sectoral Economics by S.P. Zemtsov is a comprehensive research of patterns and factors in evolution of entrepreneurial activity as a significant socio-economic phenomenon in the context of long-term development of the Russian regions.

The relevance of the dissertation subject is determined by the increasing role of internal factors of regional development in the time of deglobalization because of global external shocks in recent years, associated with the COVID-19 pandemic and large-scale sanctions. The analysis of economic trends in recent decades shows that adaptive abilities of the domestic business sector play a significant role in overcoming various shocks and crises in the Russian economy. The specifics of entrepreneurship, particularly the risk tolerance of entrepreneurs, their flexibility, and their focus on creation, allows us to consider it a significant factor in the transformation and long-term development of the regional economy. During external shocks networks of numerous and diverse medium-sized, small and micro-enterprises, individual entrepreneurs, and the self-employed, which form regional entrepreneurial ecosystems in their interaction with large businesses, universities, and other counterparties, can enhance regional resilience.

Increasing global geopolitical, technological and climate risks reduce the prospects for raw material economic growth in Russia, which previously both generated spatial inequality and provided opportunities for equalizing regional policies. In the new Strategy of Spatial Development of the Russian Federation for the period up to 2030 it is proposed to promote the expansion of entrepreneurial initiatives in order to reduce interregional and intraregional economic differentiation. The significant role of entrepreneurship as a factor of territorial organization of the economy and long-term socio-economic development of Russia is emphasized: large businesses determine general economic trends and are mostly extraterritorial, while the development of small and medium-sized enterprises is mainly interrelated with

regional and municipal processes. At the same time, the regional specifics of the business climate significantly affect the characteristics and strategies of entrepreneurs' behaviour. In some regions, the share of small and medium-sized enterprises (SMEs) is about 40% of the gross regional product (GRP), for example in the Novosibirsk region, and more than 50% of employment, including self-employed, for example in Moscow and St. Petersburg.

Entrepreneurship can play an important role in technological modernization and structural adjustment of the Russian economy caused by external restrictions. Technology companies, including numerous regional startups, can create new markets for modern goods and services. Mobile communication and modern Internet technologies markets can serve as examples. The need to ensure technological sovereignty forces authorities to accelerate import substitution in the most vulnerable sectors, which is impossible without providing the required resources and creating proper incentives for entrepreneurs, primarily in regions that are leading scientific and technological centres.

In accordance with national goals, it is necessary to improve strategic planning documents at the federal and regional levels, including entrepreneurship and technological spheres. New long-term challenges require appropriate scientific research.

The degree of scientific development of the topic. Until recently, in the theory of regional economics in Russia and abroad, entrepreneurial activity was rarely considered as a separate significant object of research. The main attention was paid to the generalized territorial structure of the economy, branches or territorial units. For example, the activity of entrepreneurs was often considered as an exogenous factor of economic growth, and in most theoretical and empirical models it was not mentioned at all. Some regional studies abroad are devoted to identifying long-term, including centuries-old, factors of entrepreneurial activity, but for most post-socialist countries, where doing business was previously limited, such scientific works are rare due to scarcity of data and lack of established scientific schools.

In Russia, many applied studies of SMEs at the regional level are mainly aimed at describing the current situation without using spatial and econometric analysis. It rarely leads to significant results for economic theory development. They generally underestimate the external context. The application of an evolutionary approach may improve the understanding of socio-economic reality that it considers entrepreneurial activity as a socio-economic phenomenon that exists for a long period and is formed under the influence and in relation to its environment in a particular territory. The use of strict calculation procedures will allow identifying regional factors that stimulate entrepreneurial activity in different periods, and accordingly can contribute to the development of practical recommendations.

The research object is entrepreneurial activity as a significant socio-economic phenomenon for the regional development of Russia.

The subject of the study are trends, patterns, models and factors of territorial organization and functioning of small and medium-sized businesses in Russia in relation to regional development.

The theoretical basis of the study. The concepts and approaches reflected in the works of foreign and domestic scientists devoted to regional development research are used (J. von Thunen, W. Christaller, A. Lösch, A. Weber, A. Marshall, W. Isard, P. Krugman, M. Storper, M. Feldman, B. Asheim, A. Rodríguez-Pose, R. Capello, R. Boschma, R. Martin, E. Malecki, R. Florida, M. Porter, M. Fritsch, N.N. Baranskiy, N.N. Kolosovskiy, A.G. Granberg, A.I. Tatarkin, P.Ya. Baklanov, V.N. Leksin, V.L. Baburin, E.A. Kolomak, A.N. Pilyasov, N.V. Zubarevich, O.V. Kuznetsova, V.V. Klimanov, etc.), as well as entrepreneurship studies (R. Cantillon, J. Schumpeter, D. Birch, P. Reynolds, P. Davidsson, D. Storey, D. Smallbone, B. Jovanovic, R. Nelson, S. Winter, W. Baumol, I. Kirzner, M. Fritsch, Z. Acs, D. Audretsch, H. de Soto, R. Thurik, J. Lerner, F. Welter, S. Shane, E. Stam, L. Szerb, G.B. Kleiner A.A. Yudanov, T.G. Dolgopyatova, A.Yu. Chepurenko, V.V. Radaev, A.A. Yakovlev, Yu.V. Simachev, N.A. Kravchenko, A.G. Vilenskiy, G.V. Shirokova, D.E. Tolmachev, V.A. Barinova, etc.).

Empirical basis of the study. Official statistical sources were used as well as various information portals, such as SPARK-Interfax, expert surveys, and sociological data, including those collected by the author during numerous field surveys of small and medium-sized businesses in the Russian regions.

The methodology. The methodological basis of entrepreneurship research is *an evolutionary approach to the study of economic processes*, considered at different times and from different positions in the works of J. Schumpeter, T. Veblen, N.D. Kondratiev, R. Nelson, W. Baumol, J. Diamond, P. Romer, R. Boschma, R. Martin, Yu.V. Yakovets, V.I. Mayevskiy, V.M. Polterovich, V.L. Baburin, A.N. Pilyasov and others. Within the framework of this approach, regions are considered as complex hierarchical territorial socio-economic systems (TSES), simultaneously formed by agents of different nature in the process of cooperation and competition with each other; and developing cyclic under the influence of changing technologies, structural, institutional and other changes. This is consistent with the idea of a region as a separate administrative-territorial unit, which has properties that determine its partial similarity to the state, market, and society at the same time (close to the ideas of A.G. Granberg). Entrepreneurs and their businesses as significant economic agents (business agents) of regions, their activities, relationships with each other and regional communities are considered in this approach as objects of study.

The dissertation research applies theoretical and methodological approaches developed in the regional economy abroad and in Russia. Methods of spatial analysis, including spatial econometrics, were used to model entrepreneurial activity and its factors. Among scientists, whose approaches are used, it should be noted: W. Isard, P. Haggett, W. Bunge, R. Chorley, R. Hotelling, A. Venables, M. Fischer, L. Anselin, M. Fritsch, O.A. Demidova, E.A. Kolomak, etc. The methodological basis for dependencies identification was provided by models based on the production function, described in the theoretical works of R. Solow, R. Lukas, T. Schultz, P. Romer, R. Barro, X. Sala-i-Martin, P. Aghion, D. Acemoglu, V.M. Polterovich and others. At the same time, special attention is paid to institutional issues mentioned in the

publications of D. North, D. Acemoglu, A. Rodríguez-Pose, R.M. Entov, A.D. Radygin, A.A. Auzan, A.N. Pilyasov and others. When determining the potential factors of entrepreneurial activity, the author relied on traditional and new location theories presented in the scientific works of J. von Thunen, W. Christaller, A. Lösch, A. Weber, J. Friedmann, P. Krugman, J.-F. Thisse, R. Boschma, R. Capello, N.N. Baranskiy, N.N. Kolosovskiy, Yu.G. Saushkin, A.G. Granberg, P.Ya. Baklanov, etc. The results of empirical studies of the causes of regional differentiation are used to explain the identified spatial patterns (A. Rodríguez-Pose, E. Glaeser, R. Domanski, R. Martin, R. Crescenzi, M.K. Bandman, A.I. Tatarkin, A.I. Treyvish, N.N. Mikheeva, E.G. Animitsa, V.L. Baburin, E.A. Kolomak, A.N. Pilyasov, N.V. Zubarevich, O.V. Kuznetsova, A.V. Kuznetsov, V.V. Klimanov, D.Yu. Zemlyansky, etc.), including those obtained during studies of diffusion of innovations and entrepreneurship (T. Hägerstrand, M. Feldman, M. Fritsch, B. Asheim, M. Tripple, T. Broekel, R. Florida, Z. Acs, D. Audretsch, M. Belitski, E.M. Buchwald, V.L. Baburin, N.A. Kravchenko, A.N. Pilyasov, N.Yu. Zamyatina, G.A. Khmeleva, A.S. Mikhaylov, S.R. Khalimova, A.A. Fedyunina, etc.). When identifying and describing regional entrepreneurial geosystems, the author used the methods of typologizing regions developed earlier in the publications of R. Boshma, F. McCann, N.V. Zubarevich, O.V. Kuznetsova, A.O. Polynev, I.V. Grishina, S.M. Drobyshevskiy and others, as well as approaches to the study of regional clusters, proposed by M. Porter, M. Enright, A. Saxenian, M. Lorenzen, S.N. Rastvortseva, I.V. Pilipenko, E.S. Kutsenko, and others. The rationale for the policy recommendations was based on the results of work in the field of regional policy: A. Hirschman, D. Foray, F. McCann, R. Capello, O.S. Pchelintsev, P.A. Minakir, A.I. Chistobaev, B.S. Zhikharevich, V.E. Seliverstov, V.N. Leksin, O.V. Kuznetsova, N.V. Zubarevich, A.N. Shvetsov, V.V. Klimanov and others.

The dissertation uses general scientific research methods (analysis and synthesis, deduction and induction), various statistical analysis tools, including econometric, cartographic tools, and elements of sociological methods. Most of the scientific

statements proposed by the author passed the verification stage using strict formal procedures, were discussed at numerous seminars, conferences, and when publishing articles.

The purpose of the dissertation research is to identify the main trends, factors and patterns in the evolution and territorial organization of entrepreneurial activity in the Russian regions, in order to expand the theory of regional science and to develop practical recommendations for stimulating business activity.

In accordance with this goal, the following tasks are defined:

1. Based on a review of theoretical and empirical studies, to conceptualize entrepreneurship in the context of regional socio-economic development.

2. To identify historical and geographical patterns of regional development in Russia tracing the evolution of entrepreneurial activity in the past and assessing its relationship with the current state of small business.

3. To establish the fundamental patterns and factors of regional development, using the proposed methodology for assessing long-term links between the institutional conditions that were formed centuries ago and modern entrepreneurial activity in the Russian regions.

4. To identify trends, general spatial patterns and specifics in the development of small and medium-sized businesses in the post-Soviet period in accordance with socio-economic processes in the Russian regions.

5. To determine regional characteristics that are related to entrepreneurial activity in Russia, using econometric methods as one of the approaches of evidence-based regional policy.

6. To assess the impact of public policy measures on the development of small and medium-sized businesses in the Russian regions, especially during periods of external shocks, in the context of evidence-based policy.

7. Based on the previous analysis, to formulate the goals and principles of the new systematic entrepreneurship policy for the Russian regions in the changing conditions.

Main scientific result is providing evidence of the long-term persistence of entrepreneurial activity in a large post-socialist country, which is associated with a set of the identified regional characteristics, including previously unquantified and/or not used in such assessments: natural and climatic costs, economic and geographical position, market potential, economic structure, socio-cultural and institutional conditions, demand and supply of entrepreneurial services, new technologies, and public policies. They can form sustainable regional entrepreneurial geosystems of various types discovered by the author. The dissertation solves the problem of providing scientific and methodological support for the growth and sustainability of the regional economy by justifying approaches to increasing the importance of constructive entrepreneurship, which is based on small forms of entities that have the ability to scale and form structural basis for entrepreneurial ecosystems. For this purpose, based on rigorous methods of spatial and statistical analysis on a unique empirical basis, the reasons are explained why in some Russian regions constructive entrepreneurship has been relatively developed for centuries and increases the stability of the economy, while in others, entrepreneurial activity stagnates even with significant state support. *The solution of this scientific problem is of great socio-economic importance for regional development*, as it allows to form an evidence base for conducting spatial policy, including the implementation of differentiated support for small and medium-sized businesses, depending on the characteristics of entrepreneurial geosystems. Modelling of regional conditions and factors of entrepreneurial activity makes it possible to conduct quantitative assessments of state policy efficiency and, on this basis, make decisions on its adjustment to increase national economic effects.

Scientific novelty of the research results, received by the author, corresponds to the scientific specialty of the Higher Attestation Commission of the Ministry of Education and Science of the Russian Federation 5.2.3. Regional and sectoral Economics (the nomenclature of the scientific specialties approved by the order of the Ministry of Education and Science of the Russian Federation No. 118 of 24.02.2021 is indicated in brackets) and includes the following:

1. The definition of the concept of "entrepreneurship" has been meaningfully supplemented by the inclusion of spatial conditionality in its characteristics: the activity of searching, creating and/or developing new markets for goods/ services in a certain territory under conditions of uncertainty to receive some profit. The roles of entrepreneurship in regional development are revealed: economic, social, innovative and spatial-organizational, previously not explicitly distinguished. For the purposes of regional analysis, the category of "constructive entrepreneurship" were introduced into scientific circulation; it develops from small entities that have the ability to scale and form the basis of entrepreneurial ecosystems (1.1. Theories of spatial and regional economics).

2. A methodology has been developed for analysing long-term trends in entrepreneurial activity, considering approaches to its historical quantification. The presence of irregular spatiotemporal waves of business activity of the population has been found in Russia. Based on the large volume of historical data collected on the example of the post-socialist country, econometric evidence is presented that entrepreneurial activity is persistent (historically stable) and depends on the evolution of business activity of the population in the past. This is explained by the inherited unique geographical, functional and socio-cultural features of the territories (1.1. Theories of spatial and regional economics).

3. New approaches to the temporal study of the regional institutional environment have been developed, including specific combination of inclusive and extractive institutions. Based on econometric calculations, it is proved that institutions of the past, forming the culture of local communities, can have a significant long-term (centuries-old) impact on entrepreneurial activity. This partly explains the impossibility of rapid fundamental changes in the spatial organization of the economy and a certain inertia of regional development in general (1.1. Theories of spatial and regional economics).

4. Based on the analysis of spatial patterns and long-term trends of the post-Soviet period, evidence is substantiated that constructive entrepreneurial activity is

neither a random nor a completely deterministic phenomenon. It may have a specific trajectory of dynamics in a particular territory, while having a certain inertia, including those associated with the influence of characteristics of neighbouring regions. The basic features of the stages of the spatial-temporal wave of entrepreneurial activity are revealed (1.2. Spatial organization of the national economy; spatial distribution of economic resources).

5. Based on data collected over a long period of time, the evidence is econometrically substantiated that constructive entrepreneurial activity in Russia is associated with a set of regional characteristics identified and classified by the author, including those not quantified earlier for these purposes: natural costs, geographical position, market potential, economic structure, socio-cultural and institutional conditions, demand and supply of entrepreneurial services, new technologies (1.3. Regional economic development and its factors. Problems of balancing regional development).

6. The basic regional conditions and factors of technological entrepreneurial activity are established in accordance with the author's approach to identifying technological startups as new private enterprises in the high-tech sector with non-zero revenue. Regional conditions and factors include the concentration of human capital, favourable investment climate, regional innovation system development and embeddedness of university culture. On average, startup activity is higher in regions with universities specialised in science, technology, engineering, art, and mathematics (STEAM) (1.3. Regional economic development and its factors. Problems of balancing regional development).

7. It was established, based on econometric calculations, that preferential tax policy in the Russian regions was significant for the development of SMEs. Considering the author's estimates of the regions' exposure to external shocks of 2020-2021 (pandemic) and 2022-2023 (sanctions), it has been proven that certain measures, including the expansion of financial support for businesses and the population, contributed to the preservation of the number of SMEs. At the same time, the

importance of the previous authorities' efforts to improve the formal institutional conditions of doing business is econometrically justified for SMEs development (1.11. Regional economic policy: goals, tools, evaluation of results).

8. For the first time, the goals, principles and methods of implementing the geosystem approach in regional entrepreneurship support policy were developed, which made it possible to identify 7 stable types of regional entrepreneurial geosystems in Russia, named as: entrepreneurial centres, developed diversified, developed industrial, southern diversified, northern, eastern remote and southern underdeveloped (1.11. Regional economic policy: goals, tools, evaluation of results).

Theoretical significance of the study.

First, the author summarizes the role of entrepreneurship in the regional economy, identifies and describes its spatial and organizational functions. This justifies the need to consider entrepreneurial activity and the proposed category of constructive entrepreneurship as significant scientific objects of regional research, in post-socialist countries as well.

Secondly, irregular spatial and temporal waves in the evolution of business activity of the population on the territory of Russia are identified based on the analysis of data for several centuries. High persistence of territorial patterns of entrepreneurial activity in a post-socialist country is proved, even after many dramatic changes. It partially determines the inertia of the spatial structure of the economy. The complex of scientific works on cyclical dynamics of socio-economic processes is supplemented with a new parameter – entrepreneurial activity. At the same time, based on the analysis of the last spatiotemporal wave of constructive entrepreneurial activity diffusion, the main characteristics of its stages in the post-Soviet period are described, which can be used for future similar studies in Russia and abroad.

Third, the dissertation is the first to propose a methodological approach and results of the long-term impact assessment of inclusive and extractive institutions embedded in the culture of local communities on modern entrepreneurial activity in the

Russian regions, which helps to better understand the causes and factors of long-term regional dynamics.

Fourth, specifications of econometric models for assessing the impact of regional conditions and factors on constructive entrepreneurial activity was proposed. This is the first time that assessment of this kind has been performed on a large array of spatiotemporal data. Many of the presented variables have not been used previously or have not had proper empirical quantification in similar regional studies in Russia, for example: natural costs, economic and geographical position, socio-cultural and institutional conditions, demand and supply of business services, public policy. In a certain sense, general factors of small enterprises' location in the Russian regions have been identified, which expands the theory of regional economy.

Fifth, basic principles and goals of the geosystem approach has been proposed and justified for a science-based regional policy in the SMEs field. It helps to identify several types of regional entrepreneurial geosystems in Russia.

Practical significance of the work.

First, the author proposed and used in the empirical assessments an indicator of constructive entrepreneurial activity – the number of small enterprises to the labour force. The indicator can be used as a target in the Strategy of Spatial development of Russia, in the Strategy of SMEs development in Russia and other documents of strategic planning of regions and municipalities in accordance with the Federal Law of 28.06.2014. No. 172-FZ "On Strategic Planning in the Russian Federation".

Secondly, the methods developed by the author for modelling constructive entrepreneurial activity and the results obtained, that explain the reasons for its regional differentiation, make it possible to conduct an evidence based regional, technological and SME support policy, depending on the characteristics of the regions' entrepreneurial geosystems. In particular, the results can be used in updating the Strategy of Spatial Development of Russia and the Strategy of SMEs development in Russia, and during the implementation of national projects aimed at achieving technological leadership.

Third, the review of entrepreneurship policy practices at the regional level, as well as the recommendations proposed by the author, can be used to stimulate business activity of the population in long-term (strategic) development documents of the Russian regions in accordance with Federal Law No. 172-FZ of 28.06.2014 "On Strategic Planning in the Russian Federation".

Fourth, the proposed approach to modelling business activity, considering public policy measures, allows to conduct quantitative assessments of the efficiency of such policies, and, accordingly, to make decisions on its validity and necessary adjustments to increase positive national economic effects at the regional level. The approach can be applied by both regional and federal authorities, including the Accounts Chamber of the Russian Federation, to assess and adjust measures to support SMEs.

Fifth, the dynamics of the number of small and medium-sized enterprises and other indicators of entrepreneurial activity proposed by the author, for which monthly statistics is collected, can serve as run ahead indicators of socio-economic development, and, accordingly, can be used by regional and federal authorities, analytical and scientific organizations, businesses and other interested parties for prompt diagnostics of deviations from the target values. The proposed approach also makes it possible to identify factors that affect economic activity in the regions, and, accordingly, to make more efficient decisions by regional and federal authorities.

Testing of research results. The dissertation is based on the results of the author's long-term work experience at the Institute of Applied Economic Research of the RANEPA, the Coordination Centre of the Government of the Russian Federation, as well as in working groups of the Expert Council under the Government of the Russian Federation. Some results of the study were annually sent in the form of analytical materials to the Ministry of Economic Development of the Russian Federation and to the Ministry of Science and Higher Education of the Russian Federation, and some materials and tools were used to assess the effects of the national SME development project in expert and analytical work for the Accounts Chamber of the Russian Federation. Some points were used during the preparation of individual

initiatives for the socio-economic development of the Russian Federation until 2030, the Strategy for the Development of Small and Medium-sized Businesses of the Russian Federation until 2030, the federal concepts "Innokam" and "INO Tomsk", as well as 12 strategies for the socio-economic development of the Russian regions and cities. The author, as an expert, was invited to discuss the Spatial Development Strategy of Russia (versions from 2019 and 2024).

The results were tested during more than 50 author's presentations at leading Russian and international conferences.

Some parts of the study were used by the author in the course "Geography of Innovation Processes" at Lomonosov Moscow State University, as well as in the course "Science and Technology Policy" of the Russian Academy of National Economy and Public Administration.

Structure of the dissertation. The dissertation consists of an introduction, 6 chapters with the main findings for each chapter, a conclusion, a list of sources used, a list of abbreviations, and several appendices. The work has a total volume of 381 pages, including 35 tables, 51 figures, 21 formulas, a list of used sources consist of 799 titles.

Job was done personally by the author, including the stages of determining the purpose and objectives of the study, collecting information, developing methodology, implementing calculations, and drawing conclusions, considering the approaches and results of several studies performed in collaboration with other researchers.

Publications. The dissertation results are presented in 72 scientific publications (total volume 181 printed sheets; the author's contribution is not less than 59.2 printed sheets): 8 monographs, 3 chapters in international collections, 61 articles in scientific journals recommended by the Higher Attestation Commission of the Ministry of Higher Education and Science of Russia, including 38 articles in the journals of the Scopus database.

S.P. Zemtsov