Modeling the assessment of the economic factors impact on the development of social entrepreneurship

T Absalyamov\textsuperscript{1,2,3}, R Kundakchyan\textsuperscript{2}, L Zulfakarova\textsuperscript{2} and Z Zapparova\textsuperscript{2}

\textsuperscript{2} Kazan Federal University, Kazan, 420008, 18 Kremlyovskaya str., Russia

\textsuperscript{3}E-mail: abstimur@yandex.ru

Abstract
The article deals with the research of modern trends in the development of social entrepreneurship in Russia. The results of the research allow the authors to identify a system of factors that affect the development of entrepreneurship in the modern Russian economy. Moreover, the authors argue the regional specificity of the development of social entrepreneurship. The paper considers specific features and formulates the main limitations of the development of entrepreneurship and the competitive environment in the social sphere. The authors suggest an econometric model for assessing the influence of economic factors on the development of socially-oriented entrepreneurship and present an algorithm for calculating its components. The results of the econometric analysis identify the main factors of the change in the performance indicators of entrepreneurial activity and determine the degree of their impact on social entrepreneurship. The results and conclusions can serve as an estimation of the socioeconomic consequences of the sustainability disruption of the entrepreneurial potential realization in the social sphere.

Keywords: econometric model, economic factors, entrepreneurial potential, social entrepreneurship

1. Introduction
In recent times the problems and prospects of entrepreneurship development and the innovative activities in Russia have been receiving increasing attention. Today, a number of programs for the development and support of entrepreneurship have been developed and are being implemented in Russia. However, unfortunately, they do not fully take into account the specifics of the development of Russian business and the consequences of changing the external environment for Russian business [1].

Russian researchers are trying to find an explanation for the specifics of the current stage of development of entrepreneurship both in the Russian economy and in its regions. Of particular importance is the study of the influence of the national cultural and socio-economic characteristics of the region on the development of private entrepreneurship, the specifics of the formation of the economic culture of Russian entrepreneurship and its impact on entrepreneurial activity [2].

More and more studies are devoted to a comparative assessment and analysis of the differences between Russian and international entrepreneurship, based on different methods [3]. Regional differentiation of entrepreneurial activity with the use of key criteria indicators for assessing
entrepreneurial activity in the Volga regions was carried out in the works of M.A. Sarancha and E.A. Rubleva [4]. Particular attention was paid to the HSE study of innovative activity of the regions [5]. Almost all of the studies made it possible to classify Tatarstan as a region that occupies a leading position in the development of innovative and entrepreneurial activity among Russian regions. In this connection, the goal of the work was to identify and study the key components of the national model for the development of innovation activity and entrepreneurship in the Republic of Tatarstan, to identify the specifics of the region's participation in the political, economic and cultural life of the country in order to develop recommendations for other Russian regions and transfer experience to other countries.

2. Materials and methods

To conduct the present research we used a methodological approach, based on the allocation and use of the dialectical method, which determines the system of principles and methods of research; General scientific methods (systemic, structural-functional, synergetic, observation, deduction, etc.), which allow to adapt philosophical methods to fundamental theoretical and methodological positions of special sciences; Private-scientific methods (methods of social and human sciences) as a set of methods, research techniques and procedures that are applied taking into account the content of the interdisciplinary subject of research (global and expert interviews, the method of included observation, interviewing, etc.).

To write this article, we relied on the analysis of existing research in the field of entrepreneurship in Russia and abroad, international reports Global Entrepreneurship Monitor, Global Competitiveness Report, Global Competitiveness Index, Report on Innovative Activity of Regions (HSE) and current situation in the Russian economy. We have used the statistical data of recent years, as well as data from surveys of enterprise managers.

3. Results

As shown by the analysis of statistical data and the results of numerous surveys of entrepreneurial and innovative activity in the regions, the Republic of Tatarstan firmly stands in top-3 among the regions of the Russian Federation. Moreover, the study of innovation activity in the regions, conducted in 2016 by the Higher School of Economics (HSE), allowed Tatarstan to take the first place among the regions (fig. 1).
Figure 1. Russian Regional Innovation Index, source: HSE.

The study distributes the regions on the basis of cluster analysis in four groups based on the value of the integral indicator. In 2014, Tatarstan managed to overtake Moscow and strengthen its leading position, moving from second place to first. The integral indicator "Russian Regional Innovation Index" is calculated on the basis of four subindexes - "Social and Economic Conditions of Innovative Activity" (ISEC), "Scientific and Technical Potential" (ISTP), "Innovation Policy Quality" (IIPQ) and "Innovative Activity" (IIA).

The study of the state of innovation activity on the part of subindexes showed that the republic is one of the three leaders in three main subindexes (table 1).

Table 1. Tatarstan subindexes ranks, source: HSE.

|            | ISEC rank | ISTP rank | IIPQ rank | IIA rank |
|------------|-----------|-----------|-----------|----------|
| Tatarstan  | 3         | 17        | 2         | 1        |

High values of the first three indices show the balance of various aspects of the innovative development of the Republic of Tatarstan, which is not common for other regions.

The maximum value of the subindex "Quality of innovation policy" of the Republic of Tatarstan (0.7895) belongs traditionally to the full range of innovative policy instruments used to support entrepreneurial and innovative activity in the region. The republic has established the State Educational Institution "Center for the Implementation of Programs for Support and Development of Small and Medium-Sized Enterprises of the Republic of Tatarstan", the NGO "Entrepreneurship Support Fund of the Republic of Tatarstan", the "Guarantee Fund of the Republic of Tatarstan", the Center for Support of Entrepreneurship, the Coordination Center for Support of Export-oriented enterprises, the Center for Innovations in the Social Sphere, the Business Incubation Center, as well as industrial parks, industrial sites, regional engineering centers, NGO "Kama center of cluster development of small and medium-sized businesses", a special economic zone of the industrial-production type "Alabuga", Special economic zone Innopolis, etc.
Due to the creation of an effective infrastructure for supporting entrepreneurship and implementing a well-thought-out innovation policy, the Republic of Tatarstan became the leader of the National rating of the investment climate in the regions of the Russian Federation for the third consecutive time. Results of the rating were announced in the framework of the St. Petersburg International Economic Forum [6].

The conducted calculations show a tangible gap between the regions of the Russian Federation in terms of the level of development of innovation activity. If the Republic of Tatarstan has a given indicator of 0.5747, Kalmykia - the most passive subject of the Russian Federation in this field - 0.0417 (minimum non-zero value). As can be seen, the gap is 14 times.

The republic also has a high rank of the subindex "Socio-economic conditions of innovation activity" (ISEU), which is 18% higher than the national average. Tatarstan has very high (exceeding the average Russian) values for six of the eight rating indicators. And only the level of employment in the knowledge-intensive sectors of the service sector and the availability of Internet in households the republic does not achieve average estimates for the country.

The conducted researches showed that a number of factors influenced the innovative and entrepreneurial activity of the republic, which formed a phenomenon called the Tatarstan model of entrepreneurship and innovation activity development. These factors are:

1. Active creation of institutions to support the development of entrepreneurship and innovative activity, including various Centers, Entrepreneurship and Innovation Support Funds, Special economic zones and Advanced Development Territories.
2. Resource potential of the region, the republic's strength in energy resources and agricultural lands, which contributed to the active development of entrepreneurship in the areas of mining and agriculture [7]. These areas, and primarily oil production and processing, have traditionally contributed to the country's achievement of high indicators of socio-economic development.
3. The industrial potential of the region, the presence of heavy industry, including the defense industry enterprises, which today contributes to the active introduction of innovative technologies, the development of entrepreneurship in the high-tech sector.
4. Scientific potential and staff. The region is distinguished, first of all, by the high level of provision of science and technology with financial and human resources, as well as the achievement of the most significant scientific and technical results relative to other regions [8]. Availability of educational institutions of the Federal level in the territory of the republic - Kazan Federal University, KNRTU (Kazan national research technical university), KAI (Kazan aviation Institute), KSUAE (Kazan state university of architecture and engineering) etc.
5. Cultural factors, the presence of objects included in the list of cultural heritage of UNESCO. Implementation of mega cultural and sports projects, which contributed to the active development of entrepreneurship in the tourism sector, in the field of tourism infrastructure [9]. National and religious features of the region, the presence of two main denominations - Islam and Orthodoxy, as well as the national mentality.

The factors listed above made it possible to present the Tatarstan model of entrepreneurship development in the following form:

\[
\text{Entrepreneurship in Tatarstan} = f (\text{ISEI}, \text{RPR}, \text{IDP}, \text{SPHR}, \text{NCF})
\]

Where
- ISEI - Institutes for support of entrepreneurship development and innovation activities;
- RPR - Resource potential of the region;
- IDP - Industrial development potential;
- SPHR - Scientific potential and human resources;
- NCF - National and cultural factors.

4. Conclusion
To sum up, the study of the specifics of the development of entrepreneurship and innovation activities in the regions of the Russian Federation made it possible to attribute the Republic of Tatarstan to the leaders among its subjects. In the presented work, the factors that form the basis of the Tatarstan model of entrepreneurship development were identified and make it the most effective policy in the field of entrepreneurship development and support of innovative activity.

The presented model can serve as the objects of further research with a view to transferring best practices to other regions.

References

[1] Global Entrepreneurship Monitor – GEM Report 2016/2017 http://www.gemconsortium.org/report [accessed on 4.04.2017]
[2] Troshikhin V.V. Ekonomicheskaia kul'tura rossiyskogo predprinimatel'stva Vestnik Belgorodskogo universiteta kooperacii, jekonomiki i prava. 2017 №2.:64-77.
[3] Safiullin, M. R., Elshin, L. A., & Prygunova, M. I. Ustoychivost' i perspektivy razvitija delovoj aktivnosti malogo i srednego predprinimatel'stva v regional'noy ekonomike rossiyskoy federacii. Kazanskiy ekonomicheskiy vestnik, 2015. (5), 46-53.
[4] Sarancha, M. A., & Rubleva, E. A. Ocenka mashtabov i urovnja razvitija malogo predprinimatel'stva v Privolzhskom federal'nom okrufe. Vestnik Udmurtskogo universiteta. 2014
[5] Rejting innovacionnogo razvitija sub'sektov Rossijskoj Federacii. Vypusk 4 / pod red. L. M. Gohberga; Nac. issled. un-t «Vysshaja shkola ekonomiki» – M.: NIU VShJe, 2016. – 248 s. – ISBN 978-5-7598-1508-2(v obl.).
[6] National rating of investment climate conditions in Russian Federation subjects 2017 https://asi.ru/investclimate/rating/ (accessed on May 25th 2017)
[7] Zulfakarova L. F., Kundakchyan R. M., Astafieva L. K. ACTUAL PROBLEMS OF INCREASED EFFICIENCY OF USE OF THE REGION'S RESOURCE POTENTIAL //Journal of Economics and Economic Education Research. – 2016. – T. 17. – C. 74.
[8] Sakhapov, R. L., and S. G. Absalyamova. "The use of telecommunication technologies in education network." Remote Engineering and Virtual Instrumentation (REV), 2015 12th International Conference on. IEEE, 2015.
[9] Absalyamov, T. 2015. The influence of cultural and sport mega-events on sustainable development of the city. Procedia-Social and Behavioral Sciences,188, 197-201.