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Assessment of Entrepreneurial Territorial Attractiveness by The Ranking Method

Marina A. Gavrilova[a], Victor M. Shepelev[a], Inessa V. Kosyakova[a], Lyudmila F. Belikova[b] and Olga F. Chistik[c]

[a]Samara State Technical University, Samara, RUSSIA; [b]Russian State Vocational Pedagogical University, Ekaterinburg, RUSSIA; [c]Samara State University of Economics, Samara, RUSSIA

ABSTRACT

The relevance of the researched problem is caused by existence of differentiation in development of separate regional units (urban districts and municipalities) within the region. The aim of this article is to offer a method, which determines the level of differentiation in development of various components of the region, and also in producing a set of recommendations for local government administration to achieve higher level in development of their territories. The leading approach to the research of this problem is the ranking method of regional units according to cumulative socioeconomic potential and integral risk. The results of the research are: the estimation procedure for entrepreneurial territorial attractiveness is offered and tried out, with the use of municipal formations of the Samara region as an example; the advantages and "bottlenecks" in development of the concrete urban district are educed; specific measures for realization of advantages and (or) elimination of "bottlenecks" are offered. The materials of the research can be useful for developing strategy for improvement of the region by regional public authorities, for leveling-off of social and economic differentiation of separate regional units, and also for developing of scientifically based municipal programs of support and development of entrepreneurship.

KEYWORDS
Entrepreneurial territorial attractiveness, socioeconomic potential, integral risk, ranking method

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Introduction

CORRESPONDENCE Natalia P. Karpova natl08@rambler.ru

Development of private entrepreneurship and encouragement of economic activity of the population become the main factor of overcoming the global crisis developments and promote effective formation of external economic relations.

These processes assume at the same time implementation of state regulation and support, realized through activities of state and regional authorities, which provide favorable conditions for functioning of private and small enterprises. It is necessary to be able to estimate the entrepreneurial territorial attractiveness to make this activity purposeful.

It is logical to assume that the purpose of realization of entrepreneurial abilities (entrepreneurial activity) as well as the programs of support and development of entrepreneurship carried out by the state, is pursuance of the best of possible condition of entrepreneurial potential, which is characterized by the maximum economic growth. Where the level of entrepreneurial territorial attractiveness is higher, there will be investments, if the planned effect of investments will be higher than possible loss of investments and income from it (investment risk).

We coin a term of entrepreneurial attractiveness as interconnected evaluation of two components of the territory characteristics: assessment of the economic basis of the territory and all possible types of risks, which are connected with entrepreneurship. We also suggest estimating entrepreneurial attractiveness by the ranking method allowing to define the place of this or that regional unit among others in the region. The assessment, which gives an idea of relative sizes, without defining an absolute value of this or that indicator (in monetary terms), is called a rating.

The problem of entrepreneurial attractiveness of the territory was considered in the articles of S. Ezmale (2012), H.M. Hamri, O.Z. Ouariti & A. Sadiqui (2014), S.E. Falco, N. Cucari & M.R. Cirillo (2015), G.G. Fetisov & V.P. Oreshin (2012), C. Boari, T. Elfring & F. Xavier (2016).

Methods

Research methods

The following methods were used in the course of the research: theoretical (analysis; synthesis; concretization; generalization; analog method; modeling); empirical (research of socioeconomic basis of territories, identification of all possible types of risks connected with entrepreneurship, economic observation); methods of mathematical statistics (ranking method, definition of a rating, group of territories) and graphic representation of the results.

Experimental research base

The municipal formations of the Samara region are the experimental basis of the research.

Investigation stages

The research of the problem was conducted in three stages:

— at the first stage there was the theoretical analysis of existing methodological approaches to assessment of territory, thesis research on the issue, and also theories and research methods in this field; the issue, the aim,

and the research methods are identified; the plan of the investigational study was drown up.

— at the second stage the estimation procedure of the entrepreneurial territorial attractiveness was developed; the assessment of entrepreneurial attractiveness of the urban unit of the Samara region was made, the conclusions, received in the course of the research, were analyzed, checked and specified.

— at the third stage the research work was completed, the theoretical and actionable conclusions were specified, the received results were generalized and systematized.

Results and Discussions

Structure and content of the methods

The estimation procedure of the entrepreneurial territorial attractiveness was developed on the basis of the structural and functional approach. This procedure is the interdependent assessment of two components of the characteristics of the territory: the socioeconomic base of the territory and all possible types of risk, connected with entrepreneurship.

The economic base (potential) considers the main macroeconomic characteristics: territory saturation with factors of production, consumer demand of the population, availability of fixed assets and other parameters. Cumulative economic potential is a composite of nine private potentials (labor, industrial, financial, institutional, infrastructural, natural-resources, consumer, innovative, scientific and educational). But each of them is characterized by the whole group of indicators.

The rank of each regional unit on each type of potential depends on quantitative evaluation of potential value as shares (in per cent) in the total potential of all regional units of the region.

Identification of all possible types of risk, connected with entrepreneurship, will allow to define the reasons of lagging of this or that territory in development behind the leading territories. The most difficult is to be able to identify risks quantitatively in advance. For this purpose, it is necessary to know probability of occurrence of undesirable event or loss. The objective probability value can be received as a result of calculation of frequency with which an undesirable event takes place on the basis of statistical data, and then distributions of this frequency to the general number of supervision. We assume that the last experience is typical, and it will continue in the future. The assessment of each type of risk (wastes, negative cases, material losses, etc.) in measurements will allow to bring them together and to give an integrated estimation of risk on each regional unit.

We united possible types of risk in 8 groups (political, legislative, economic, financial, social, criminal, ecological, management risks). The rank of each regional unit is determined by the index value of the integral risk. It depends on relative divergence from the regional average level, which is taken as a unity.

When carrying out the complex analysis of probable losses for estimation of the risk level, it is important not only to establish all sources of risk, but also to educe what sources prevail. It also allows seeing the rating of territories on types of risk.

The general indicator of economic potential or risk is calculated as the sum of private indicators. Then the total rank of the regional unit is defined. The result turns out the same as while summing ranks (numbers are arranged in ascending or descending order of separate indicators). But in our case, besides the rank of the territory, the quantitative estimation is also made: the level of its economic potential as the object of investment and the degree of investment risk in comparison with regional average. Thus, this technique allows to allocate regions with the most favorable opportunities for economic development, and to define the most risky territories for investment.

The component index I_j on each regional unit is calculated by the formula:

$$I_j = \sum I_n / Q \qquad (1)$$

where I_n - is a private index on each concrete indicator n (n=1, 2, m)

Q – number of indicators, included in this index.

In regard to the economic basis, the best is the maximum value. In case of determination of risk, the best is the minimum value. Sometimes ranks (or private indicators) are summarized with some weight, which is defined by the expert way or by polling of businessmen. Weight values make sense if to define them individually for each regional unit. In such case the rating will change if the opinions of businessmen or experts considerably differ across the territories. However, such compulsory correction of values of private scores sharply strengthens the influence of a subjective factor. It is also possible to use tools of the correlation and regression analysis. Weights in our calculations are taken identical.

The integral rating results from ordinary addition of the component indexes divided into quantity of indexes (or additions of ranks on each indicator). The higher the rating is, the better potential (risk) of the territory is:

$$Y_i = \sum I_j / P \qquad (2)$$

where P – number of indexes.

Stages of the methods implementation

Formative stage

In 2014-2015 this method was tried out as illustrated by the municipal formations of the Samara region.

Table 1. Cumulative potential of municipal formations of the Samara region in 2014-2015

Rank of potential in 2014-2015	Rank of risk in 2014- 2015	Urban districts of the Samara region	Share of overall potential in %	Ranks of components of potential of entrepreneurial attractiveness in 2009-2010								
				Labor	Industrial	Financial	Institutional	Infrastructural	Natural-resources	Consumer	Scientific and educational	Social and managerial
1	1	Samara	45,55	1	1	1	1	1	2	1	1	2
2	2	Togliatti	27,03	2	2	2	2	2	1	2	2	1
3	4	Sizran	8,58	3	3	4	3	3	3	3	3	3

4	3	Novokuibishevsk	4,65	4	5	3	4	8	4	4	4	7
5	7	Kinel	3,05	5	7	6	5	5	7	6	5	6
6	10	Zhigulevsk	2,93	7	6	8	7	4	6	7	7	8
7	5	Chapaevsk	2,74	6	8	7	8	6	5	8	6	4
8		Otradny	2,55	8	4	5	6	7	10	5	8	9
9		Pokhvistnevo	1,87	9	9	9	9	9	8	9	9	5
10		Oktyabrsk	1,05	10	10	10	10	10	9	10	10	10

Table 2. The integral risk of municipal formations of the Samara region in 2014-1015

Rank of risk in 2014-2015	Rank of potential in 2014- 2015	Urban districts of the Samara region	Average weighted index of risk (Total of urban districts = 1)	Ranks of components of risks of entrepreneurial attractiveness in 2009-2010							
				Legislative	Political	Economic	Financial	Social	Criminal	Ecologic	Managemental
1	1	Samara	0,836	2	3	2	2	7	10	4	1
2	2	Togliatti	1,083	1	8	4	6	9	9	3	3
3	4	Novokuibishevsk	1,122	3	4	1	1	6	2	9	6
4	3	Sizran	1,128	4	9	3	5	4	1	7	4
5	7	Chapaevsk	1,327	7	6	5	8	5	6	1	8
6	8	Otradny	1,495	6	7	7	9	8	5	6	5
7	5	Kinel	1,531	10	2	6	4	1	7	2	7
8	9	Pokhvistnevo	1,954	9	5	9	3	2	8	10	2
9	10	Oktyabrsk	2,033	8	1	8	10	3	4	8	9
10	6	Zhigulevsk	3,628	5	10	10	7	10	3	5	10

Grouping of the territories according to the potential and risk levels is implemented on the following combinations:

Table 3. The grouping of the territories according to the potential and risk levels

Potential level	Risk level
Maximum	Minimum
Low	Extreme
Insignificant	Moderate
High	Minimum
High	Moderate
High	High
Average	Minimum
Average	Moderate
Average	High
Low	Minimum
Low	Moderate
Low	High

As a result, we mutualised all the urban districts in the following groups:

Table 4. Distribution of the urban districts of the Samara region according to the rating of entrepreneurial attractiveness in 2014-2015.

Number on the picture1*	Urban district
Maximum potential – minimum risk (1A)	
1	Samara
Average potential – minimum risk (2A) **Low potential – minimum risk (3A)** **High potential – moderate risk (1B)**	
9	Togliatti
Average potential – moderate risk (2B)	
4	Novokuibishevsk
8	Sizran
Lowered potential – moderate risk (3B1)	
10	Chapaevsk
6	Otradny
3	Kinel
Insignificant potential – moderate risk (3B2)	
7	Pokhvistnevo
Maximum potential – high risk (1C) Average potential – high risk (2C) Lowered potential – high risk (3C1) **Low potential – high risk (3C2)**	
5	Oktyabrsk
Lowered potential – extreme risk 3D1	
2	Zhigulevsk
Low potential – extreme risk 3D2	

* - Urban districts are in subsequent increase of the index of the integral risk

Stating stage

Primary focus of the research is on the analysis of risks of the municipal formations.

Samara became the least risky municipal formation of the Samara region in 2010, insignificant risk level is observed in the majority of other municipal formations - in Togliatti, Novokuibishevsk, Sizran, Chapaevsk, Otradny, Kinel, Pokhvistnevo.

The high integral risk in Oktyabrsk "is reached" at the expense of the last place in the rating on financial risk and the penultimate place on administrative risk. Rather bad indicators (the 8th place) are on legislative, economic and ecological risks. The rating shows that all risks are interconnected and follow one of another. If to carry out the analysis by the components of each risk, then we will see the following chain: for example, in Oktyabrsk there is the biggest share of loss-makers, and the worst indicator on accounts payable. It testifies to deficiency of social and economic policy, significant for the territory; to low use of opportunities of the stimulating tax, legislative, distributive mechanisms of economic policy. At the same time frequent change of the legislation is observed.

The maximum financial risk of commercial activity is caused by considerable degree of wearing-out of fixed assets (about 60% at the beginning of 2014) and the biggest gap between the income of the population and level of utility payments (24,91% of all population) which are the components of economic risk. The worst indicator on the amount of the objects, which have stationary sources of emissions on 1 thousand hectares, makes the 8th place according to environmental risk. The ninth place on administrative risk is caused by the considerable level of infant mortality as percentage of number of children born, the lowest level of health promotion and the highest level of demographic tension (number of dead on one born). Also the indicator of share of the population living in shabby and emergency houses (the 9th place) is high. It is important to develop essentially new policy on management of budgetary funds for this municipal formation.

Zhigulevsk became the most risky municipal formation in 2014. This happened at the expense of political, economic, social and administrative components (the 10th place). The policy risk shows, how the population is dissatisfied with policy of the party in office. According to economic risk, Zhigulevsk takes the last place because of the highest tension in labor market. It is calculated as a number of jobless people on one declared vacancy. And exceeds the average level by 39,8 times. The last place on social risk is reached owing to the high level of overdue repayments of salary (3,34% of the wages fund that exceeds the average level by 23,86 times). The considerable share of overdue repayments (about 70 % of the general debt) falls into Samara. However it makes only 0,17% of the wages fund. Despite lack of work, backdated wages, there is no negative migration balance in Zhigulevsk. 10 place on administrative risk is generally caused by the highest rate of share of the population living in shabby and emergency houses (6,7% this exceeds the average level by 9 times). The Mayor's office of Zhigulevsk should pay more attention to the social policy, to raising the well-being of the population, to expansion of employment due to public works, and also to opening of small enterprises. Such advantages as the lowest degree of wearing-out of fixed assets (the component of economic risk), existence of various production infrastructures (the 4th place on infrastructure potential), rich natural resources (the 6th place on natural resource potential) will help to attract new investors. Also Zhigulevsk makes the top three on availability of minerals (Zhigulevsk, Oktyabrsk, Sizran).

Though Samara shows the smallest risk, we can't say that it has foothold, because we can observe the opposite situation concerning some risks. In particular, Samara ranks the last for the criminal risk (32,7 crimes on 1 thousand people, that is 1,29 times higher than the average level). It lies in 7th place for the social risk, and only for the administrative risk – 1st place. There is danger for Samara to pass from the area of the minimum risk to the area of moderate risk in the near future.

Quite good position is held by Togliatti (high potential, moderate risk). Though Togliatti amounts to the average potential, where there are also Novokuibishevsk and Sizran. Not to reduce the rating level and even to increase it, this municipal formation has to control the situation on all the components of potential and determine possible directions for increasing share in cumulative potential. On many indicators the share Togliatti is already higher, than in Samara. Such indicators are:

— “Own-produced goods dispatch, performance of work and services using its own resources in manufacturing”, “Carrying cargos by highway transport of enterprises of all kinds of activity” (Industrial potential – 2 place);

— “Accrued foreign investments” (Financial potential - 2 place);

— “Availability of incubators, financial funds for supporting and development of entrepreneurship” (Institutional potential – 2 place);

— “Total length of enlightened parts of streets”, “Length of street water-carriage system inclusive of replacement and repair” (Infrastructural potential - 2 place);

— “The most broad woodlands”, “Current charges on environment protection” (Natural-resources potential -1 place);

— “Number of places in residential social service institutions of senior citizens and physically challenged people”, “Number of contracts executed with small business entities”, “Expenses on development and supporting small and medium business” (“Social-managemental” -1 place).

On some other indicators, the gap is insignificant.

The first place on social-managemental potential demonstrates effective activity of the local government bodies of Togliatti. This can promote the leading positions on such potentials as industrial, financial, institutional, and infrastructural.

Sizran is characterized by the average potential and moderate risk. And Novokuibishevsk gravitates toward the lowered potential. Such position of this municipal formation was reached because of not really good indicators on infrastructural and social-managemental components of the cumulative potential (the 8 and 7 place). At the same time it is characterized by the high level of financial potential (3rd place). The circumspect financial injections in production infrastructure, increase of the level of social-managemental potential (in particular, social and development programs of small and medium business), will allow Novokuibishevsk to keep the reached level and even to raise it. As for the risk, there are good prerequisites for decreasing its level. In particular, it is necessary to work over social, managemental and environmental risks. Concerning social risk, there is rather significant gap between the average monthly gross payroll of employees of large and average organizations and employees of the local government office (the first exceeds the second one almost twice, that is 1,21 times higher than the average level). Novokuibishevsk is one of the four urban districts, which has negative migration balance. Though it is below average (0,86%), this can lead to deterioration in condition of labor potential.

Concerning environmental risk, there is the highest value of emissions in the atmosphere of the polluting substances per 1 thousand inhabitants. Whereas on the indicator "Current charges on environment protection" Novokuibyshevsk lies only in the third place (20,36% of expenses on all urban districts).

In accordance with managemental risk, the number of people on one hospital bed is above average value, demographic tension (number of dead on one born), number of people living in shabby and emergency houses (it is 3,3 times higher than the average level).

It is worthy of note that Novokuibishevsk possesses the biggest area of farmland – 41,43%., whereas there is no agricultural organizations. It is possible to take example by going concerns in Togliatti on production of vegetables of the open and protected grounds, and in Zhigulevsk on production of cattle and bird.

Chapaevsk, Otradny, Kinel firmly hold the position of lowered potential - moderate risk. In spite of the fact that Chapaevsk is called "the city of death", closing of life threatening enterprises provided the lowest value of the level of environmental risk. Taking into account the negative past, it is necessary to increase current charges on environmental protection. The advantage of the municipal formation is rather rich natural-resources potential (the 5th place).

Pokhvistnevo is in the zone of insignificant potential - moderate risk. But it can easily gain higher level of potential. Even now the municipal formation shows good indicators on agricultural industry within the production potential (8,73%). In our opinion, it is necessary to develop in this direction. However, there is a chance to increase the risk. It can be prevented by special measures, focused on decrease of ecological (the 10th place) and economic (the 9th place) risks. This municipal formation features the highest degree of wearing-out of fixed assets and very high tension in labor market (the components of economic risk). Functioning of worn-out equipment leads to ecological problems. It is essential to attract investments into the fixed capital, and also develop small and medium business (including farmery).

It is notable that the cumulative potential is not always a dominant factor in determination of entrepreneurial attractiveness of a municipality. For example, Novokuibishevsk, according to the cumulative potential, ranks 4th ; whereas on economic and financial risks it lies in the first place (the minimum values).

Despite rather large number of works dedicated to the assessment of social and economic potential of the territory, influence of economic risks on the entrepreneurial activity, there are no researches devoted to the analysis and the assessment of the "entrepreneurial territorial attractiveness". The estimation procedure of entrepreneurial attractiveness of separate municipalities within the region is necessary for formulation of scientifically based regional strategy for developing and supporting entrepreneurship. It is also important to update interests of businessmen through changes of the conditions of their activity for the purpose of transaction to the competitive socially-oriented territory.

Conclusion

Drawing up the rating of taxonomic units of the territory in accordance with entrepreneurial attractiveness, gives information on the reasons of underexploration of economic opportunities of the territory. For example, it can happen because of considerable financial risk (huge budget deficit of the territory, soaring yearly average inflation, high ratio of unprofitable entrepots and overdue credit debts) or due to lack of the extended infrastructure in agriculture.

The comparative analysis of the economic basis and of all possible types of risks on the concrete territory will allow local governments of the region to reveal peculiarities and bottlenecks of the territory development and to identify the problems arising in the process of new business creation. This will help to

provide support and assist development of entrepreneurship more effectively on this territory.

Disclosure statement

No potential conflict of interest was reported by the authors.

Notes on contributors

Marina A. Gavrilova is Senior Lecturer of Samara State Technical University, Samara, Russia.

Victor M. Shepelev is Professor of Samara State Technical University, Samara, Russia.

Inessa V. Kosyakova is Professor of Samara State Technical University, Samara, Russia.

Lyudmila F. Belikova is Associate professor of Russian State Vocational Pedagogical University, Ekaterinburg, Russia.

Olga F. Chistik is Professor of Samara State University of Economics, Samara, Russia.

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