ТЕОРЕТИЧЕСКИЕ И ЭМПИРИЧЕСКИЕ ИССЛЕДОВАНИЯ

ASSESSMENT OF THE BUSINESS CLIMATE FOR SMES: THE CASE OF MOSCOW REGION MUNICIPALITIES

N.P.DROZDOVA, A.E.KAPLINA
Graduate School of Management, St Petersburg State University, Russia

The purpose of this paper is to identify the factors affecting the business climate in the Moscow Region municipalities, to determine the nature of this influence, and on this basis to formulate recommendations for improving the business climate. The concept of "business climate" is treated as a combination of objective and subjective factors that affect entrepreneurial activity in a particular area. Based on the analysis of methods for assessing the business climate and the availability of data, factors such as financial support for small and medium-sized businesses, the level of development of urban infrastructure, the functioning of co-working centers, the difficulty of registering a business, obtaining licenses and permits for activities, the difficulty of paying taxes and finding personnel were selected, as well as a subjective assessment of the level of infrastructure development, the attitude of society towards entrepreneurs. In accordance with the results obtained, the level of development of urban infrastructure and the ease of registering a business make the entrepreneurial climate of the municipality more favorable and have a significant positive impact on entrepreneurial activity. According to the results of the survey, it can be concluded that the greatest difficulty for entrepreneurs is the search for personnel with the necessary qualifications. The number of coworking centers does not have a statistically significant impact on the level of entrepreneurial activity. The results obtained largely consistent with the findings of other studies. Thus, in order to improve the business climate, it is important to develop the urban environment, as well as to simplify the procedure for registering a business. It is recommended to hold more events (for example, job fairs in educational institutions) that will help entrepreneurs find qualified specialists, organize special programs for advanced training and retraining of personnel. In addition, it is recommended to expand the list of factors taken into account to assess the business climate in the Moscow Region and include the attitude of society towards entrepreneurs, as well as the level of development of urban infrastructure and the ease of business registration.

Keywords: business climate, business environment, business climate assessment, SMEs, municipalities, the Moscow Region.

JEL: M21, R11.

Postal address: 3, Volkhovskiy per., Graduate School of Management, St Petersburg State University, St Petersburg, 199004, Russia.

https://doi.org/10.21638/spbu18.2021.401

INTRODUCTION

Entrepreneurship including small and medium-sized enterprises (SMEs) contributes significantly to the economic development on the regional and country levels through the creation of new jobs, production, provision of services and the innovation activity. There is empirical evidence of a positive impact of the level of early-stage entrepreneurial activity on the Global Competitiveness Index [Ferreira et al., 2017]. In the EU SMEs represent 99 % of all business and contribute more than 60 % of the value added [Boata, Stamer, 2019]. Russia lags behind other countries: in 2018, the share of SMEs in GDP was 20.2 %, while the same indicator in the United States was 44 %, and in Canada — 54.9 % [Financing of Small and Medium-Sized Businesses..., 2020, p. 12]. The Index of Entrepreneurial Activity in Russia is 9.3 %, while in the USA it is 17 % and in Canada — 18 % and the number of early entrepreneurs in Russia exceeds the number of established ones by 1.8 times [Verkhovskaya et al., 2020, p. 38, 39]. This indicates that Russian realities do not affect entrepreneurship in the best way.

As economist Nicholas Stern (Chief Economist of the World Bank in July 2000–2003) emphasized in his writings, "creating a climate in which entrepreneurs and firms can do good business is crucial to encouraging the types of investment and economic activity that lead to long-term, sustainable economic growth. This is especially true for small and medium-size enterprises" [Stern, 2002, p. 14]. Therefore, one of the key tasks of both federal, regional and municipal authorities is to create favorable environment for the development of entrepreneurship. To create such conditions, it is necessary to realize which factors and in which direction affect the level of entrepreneurial activity of the population.

The purpose of this paper is to identify the factors influencing the business climate in the Moscow Region municipalities, to determine the nature of this influence and to formulate recommendations for improving the business climate. There are sixty urban districts in Moscow Region and five of them are closed administrative-territorial entities. The Moscow Region was chosen as the object of research because, firstly, it is one of the largest regions of Russia, which is ranked second in Russia in terms of such indicators as the population — 7.769 million people in 2022 [Bank of Russia..., 2022], and in 2019 the gross regional product was 5.1 trillion rubles. [Results of the socio-economic development..., 2020]. Secondly, according to [Obraztsova, Chepurenko, 2020], the Moscow Region belongs to the prosperous regions. In 2020, the main sectors of its economy were wholesale and retail trade, manufacturing and real estate operations (Figure).

As we see, in 2020, the largest contribution to the gross regional product was made by trade (20.3 %), processing (20.3 %) and real estate operations (16.7 %).

Thirdly, starting from 2015 the Ministry of Investment and Innovation of the Moscow Region assesses the conditions for doing business and publishes quarterly reports on the official website "Small Business of the Moscow Region" [Entrepreneurial Climate...] after which a single report is compiled. Fourthly, the share of SMEs in the GRP in Moscow Region is 31 %, while in Russia this indicator is 20.2 % [Osipova, 2019].

The paper consists of three sections. The first one deals with approaches to assessing the investment climate at different levels. The second section presents the methodology of the study and the results obtained. The third section summarizes and makes recommendations, based on theoretical analysis and empirical research, to improve the assessment of the investment climate at the municipal level.

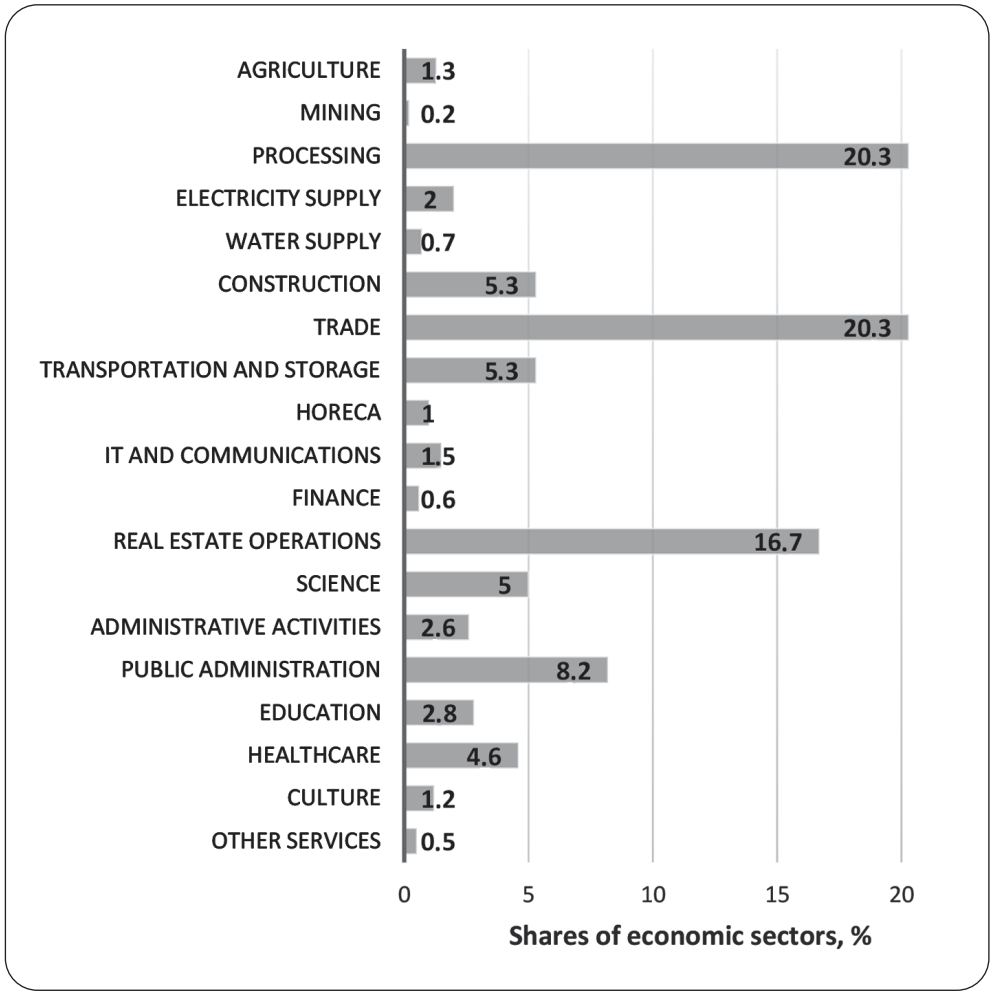

Figure. Gross regional product structure of the Moscow Region, 2020
Source: [Bank of Russia..., 2022].

1. THEORETICAL BACKGROUND: LITERATURE REVIEW

There are many interpretations of the concept of "business climate" and a variety of approaches to its assessment. For example, S. Rao proposes such well-known and widespread indicators as: Ease of Doing Business, Employers Workers Indicator, Enterprise Survey, Investing Across Borders, Business Environment Snapshots, Global Competitiveness Index, OECD Indicators of Product Market Regulation, Worldwide Governance Indicators, etc. [Rao, 2012]. According to the methodology of the World Bank, the "Doing Business" project has been implemented since 2002. It aims at evaluating regulatory legal acts steering the activities of both large and small businesses. This methodology implies the evaluation of indicators in 11 thematic groups [Doing Business. Methodology..., 2020]. Based on the Doing Business indicators in [Fabuš, Dudáš, Cihelková, 2021] the development of the business environment in the Slovak Republic is analyzed for the period 2009 to 2020. In China from the 1980s, the Business Climate Index is constructed by the State Information Center of China [Liu, 2019]. In [Kogut, da Fonseca, da Silva, 2021], the authors attempt to complete the

understanding of the elements of the investment climate and compare the attractiveness of the business environment across countries.

Often enough business climate is evaluated according to local entrepreneurs' assessments of the ease of doing business in a given territory. Thus, A. Boata and M. Stamer evaluate the business environment for SMEs in 13 selected economies using SME Business Climate, which is based on the obstacles to business declared by SMEs and includes six components: red tape, tax policy, labor market flexibility, financing, export opportunities and competition [Boata, Stamer, 2019]. In [Jang, Lee, Hadley, 2020] the authors concluded that people's decision to engage in entrepreneurship is based on the perceived quality of the business and regulatory environment. Even those who are optimistic about entrepreneurship look for assurances of a positive regulatory environment, looking for a favorable regulatory climate and supportive government programs before acting. In Germany the state of Germany's business environment is measured with the help of Ifo Business Climate Survey compiled by the Munich-based Ifo Institute for Economic Research. The responses of the firms are weighted according to the economic importance of each industry, and a net balance is calculated for each assessment: good/poor for the current situation and more favorable/more unfavorable for the outlook [Liberto, 2021].

In a number of works, both objective and subjective grades are taken into account to assess the conditions for doing business. For instance, the World Bank in its Investment Climate Surveys collects both objective data on the impact of constraints on doing business and subjective (based on perceptions) assessments of these constraints. "Objective measures have advantages of allowing more precise and consistent benchmarking of conditions. But for some factors, subjective indicators may be the only effective way to reflect differences across locations or types of firms. As investment decisions ultimately depend on subjective judgments, measures that reflect firm perceptions add additional insights" [World Bank, 2004, p. 245]. Moreover, the results of the studies covered ten Indian states and 1,000 firms showed that subjective opinions of entrepreneurs were strongly correlated with the objective information on productivity [Stern, 2002, p. 24]. And this is not occasionally because "investment decisions ultimately depend on subjective judgments, measures that reflect firm perceptions add additional insights" [World Bank, 2004, p. 245].

Within the framework of the Global Entrepreneurship Monitor, which was developed in 1997 to fill the lack of empirical data necessary to study the links between economic growth and entrepreneurship, the following factors affecting the business climate are identified: (1) availability of financial resources; (2) government support of new enterprises through granting licenses and permits to conduct activities; (3) carrying out special events aimed at the development of entrepreneurship; (4) entrepreneurship education in schools; (5) accessibility of innovations and scientific developments for new enterprises; (6) access to commercial and professional infrastructure (banking, legal and accounting services, searching for suppliers and other commercial services); (7) entry barriers to the market; (8) access to physical infrastructure; (9) approval of entrepreneurial activity in the company. Assessment of the conditions for the development of entrepreneurship at the national level is carried out with the help of national expert interviews. The factors are evaluated by experts on a five-point scale [Verkhovskaya, Aleksandrova, 2017]. The Global Entrepreneurship Monitor and the World Bank approaches to assessing the business climate are focused on assessing the business climate in various countries.

For the purposes of this paper, methods that take into account Russian specific have been analyzed. The cluster model of O. I. Obraztsova and A. Yu. Chepurenko is aimed at assessing the entrepreneurial climate for small and medium-sized businesses

[Obraztsova, Chepurenko, 2020]. Within the framework of this study, the regions of the Russian Federation were divided into three clusters: (1) prosperous regions; (2) disadvantaged regions with a predominance of investment problems; and (3) disadvantaged regions with a predominance of social problems.

The following factors were identified: (1) the financial situation of the family; (2) the size of the city of residence; (3) secondary employment; (4) the level of education; (5) the presence of property and/or securities in the family; (6) experience in financial transactions; (7) access to borrowed funds; (8) age; (9) liquidation of its own enterprise during the last year; (10) the level of economic burden. In the course of the study, the authors found that the same factor can both contribute to the formation of a favorable business climate and limit its formation depending on the cluster to which the region belongs.

The Russian Union of Industrialists and Entrepreneurs (RSPP) conducts annual surveys of entrepreneurs to assess the business climate, calculate and analyze macroeconomic indicators, identify the main problems faced by entrepreneurs over the past year and identify the most popular measures of state support for SMEs [Report of the Russian Union of Industrialists and Entrepreneurs..., 2020]. Since 2015, the Ministry of Investment and Innovation of the Moscow Region has been conducting a study to assess the conditions for doing business in 58 municipalities. The results of the study in the form of a rating are published on the official website "Small Business of the Moscow Region" [Entrepreneurial Climate, 2021]. Information for assessing is provided by Rosstat regional office of Moscow and Moscow Region, Federal Tax Service regional office of the Moscow Region, and the Ministry of Investment, Industry and Science of the Moscow Region.

When forming the final assessment of the business climate in the municipalities of the Moscow Region, the following criteria are used: (1) business concentration (the number of registered SMEs per 10000 residents of the municipality); (2) the number of newly created SMEs per 10000 residents of a particular municipality and (3) municipal support (the amount of funds allocated to support SMEs from the municipal budget) to SMEs registered in this municipality. Weights are not provided for the criteria. A separate rating is compiled for each criterion, where places are distributed from more to less. The final rating is compiled from the minimum value to the maximum according to the sum of points of these three criteria.

Comparison of the methodology used in the Moscow Region with other approaches shows its limitations. In particular, such components as the quality of infrastructure and the urban environment, non-financial support for SMEs, which are often taken into account to assess the business climate in other approaches, are not included. In addition, the methodology does not consider subjective assessments of entrepreneurs.

Thus, one should agree with the conclusions made in [Rao, 2012, p. 1] that "it would not be feasible to develop an all-embracing methodology that can generate all the information needed for all types of investment climate policy analyses. Instead, the appropriate tool should depend on the purpose of the investment climate study".

In this paper, the concept of "business climate" is interpreted as a set of objective and subjective factors affecting entrepreneurial activity in a certain territory. The research is based on the following approaches: Global Entrepreneurship Monitor; the World Bank's "Doing Business" methodology; the cluster model proposed by Obraztsova and Chepurenko; the methodology of the Russian Union of Industrialists and Entrepreneurs. Based on the analysis of methods for assessing the business climate and the availability of data, the following factors were selected: financial support for SMEs, the level of urban infrastructure development, the functioning of coworking centers,

the complexity of business registration, the complexity of obtaining licenses and permits to operate, the complexity of paying taxes, the complexity of finding staff, subjective assessment of the level of infrastructure development, the attitude of society to entrepreneurs. As a result, nine hypotheses have been formulated.

Hypothesis H1. Financial support for small and medium-sized businesses has a positive effect on the business climate.

Hypothesis H2. The high level of infrastructure development and urban environment quality in the municipality has a positive effect on the business climate.

Hypothesis H3. The opening of coworking centers has a positive effect on the business climate.

Hypothesis H4. The high level of complexity of the business registration procedure (H4a); of the procedure for obtaining permits and licenses to conduct business (H4b); and of the tax payment procedure (H4c) negatively affects the business climate.

Hypothesis H5. The high level of difficulty in finding personnel with the necessary qualifications negatively affects the business climate.

Hypothesis H6. The entrepreneur's opinion about the high level of infrastructure development and the urban environment of the municipality has a positive effect on the state of the business climate.

Hypothesis H7. The positive attitude of society towards entrepreneurs and entrepreneurship has a positive effect on the business climate.

2. METHODOLOGY AND RESULTS

The level of entrepreneurial activity was chosen as an indicator of the municipality business climate. There are different approaches to measuring entrepreneurial activity. Some researchers calculate the level of entrepreneurial activity as the ratio of the number of enterprises to the number of economically active population [Zemtsov, Tsareva, 2018]. The Global Entrepreneurship Monitor uses such indicators as: 1) the index of entrepreneurial activity (the proportion of the population aged 18 to 64 who are nascent entrepreneurs and owners of a newly created ventures) and 2) the overall level of entrepreneurial activity, which is measured as the levels of total early-stage entrepreneurial activity and established business ownership [Verkhovskaya et al., 2020]. In this study, the level of entrepreneurial activity — the dependent variable — is measured as the number of registered SMEs per 10 000 resident population.

Electronic resources of the Moscow Region were used as information resources. The data, according to objective estimates of business conditions for 2019, are cross-sectional. To obtain subjective assessments of business conditions, in April–May 2021 a survey was conducted among entrepreneurs operating in the Moscow Region. Entrepreneurs were asked to evaluate business conditions on a five-point Likert scale. 23 entrepreneurs from various municipalities took part in the survey. Cronbach's alpha for this survey was 56.68%, which is rather low, but acceptable value. Descriptive statistics of variables are presented in Table 1.

To identify the factors that stimulate or limit the entrepreneurial activity of the population, three models based on the objective measures of business climate were built. They are described by the following equation:

$$logEntPer10000 = \beta_0 + \beta_1 logAidPerEnt + \beta_2 Coworking + \beta_3 logCity\_index + u,$$

where *EntPer10000* is the number of registered SMEs per 10000 resident population; *AidPerEnt* is the amount of funds allocated to support entrepreneurship, per enterprise, thousand rubles; *Coworking* is the number of coworking centers in the municipality; *logCity_index* is the index of the quality of the urban environment.

The first model was constructed for all 55 studied municipalities of the Moscow Region (Table 2).

Table 1

Business environment: descriptive statistics

Factor	Minimum	Mean	Maximum	Standard deviation
Objective measure				
Aid per enterprise, thousand rubles	0	607.65	5099.60	906.65
Number of coworking centers	0	0.62	3	0.76
Index of urban infrastructure quality, points	177	205.22	261	17.24
Subjective measure				
Ease of registration	1	3.26	5	0.92
Ease of getting licenses	1	2.83	5	0.89
Ease of paying taxes	1	2.96	5	0.88
Ease of searching personnel	1	2.52	5	1.16
Quality of infrastructure	2	3.43	5	0.73
Perception of entrepreneurship in the society	2	3.70	5	0.93

Table 2

Model 1: Results of regression analysis of the first model, 55 municipalities

Independent variable	Coefficient	Standard error	*t*-value	*p*-value, %
logAidPerEnt	0.005	0.015	0.314	75.46
Coworking	0.043	0.043	0.989	32.72
logCity_index	1.180	0.380	3.099	0.32**

R^2	0.2051
Jarque–Bera test	0.3345
Breusch–Pagan test	0.5911
RESET test	0.3059

Note: ** — $p<0.05$.

In this model the urban environment quality index is the only statistically significant variable. The coefficient of this variable is 1.18, which indicates a positive correlation between the quality of urban infrastructure and the concentration of enterprises in the municipality. The coefficient of determination for this model is 20.51%, which indicates the need to include other variables in the model. At the same time, the residuals for this model were normally distributed, the problem of heteroskedasticity was not identified, and the RESET test testified to an adequate specification of the model. Multicollinearity of variables was also not revealed.

Table 3

Clusters of municipalities of the Moscow Region, 2019

Criterion*	Cluster			
	1 $N=3$	2 $N=17$	3 $N=6$	4 $N=29$
Resident population	287384	154951	228412	85131
Number of newly opened enterprises per 10000 resident population	18	12	19	12
Urban environment quality index	193	210	211	203
Funds allocated per enterprise to support entrepreneurship, rubles	3245000	625000	1223000	197000
Number of registered SMEs per 10000 resident population	461	455	509	407

Notes: 1) N — number of municipalities in the cluster; 2) Cluster 1: Solnechnogorsk, Sergievo-Posadskiy, Balashiha; Cluster 2: Klin, Bogorodskiy, Chehov, Mytischi, Taldomskiy, Dubna, Korolev, Odintsovskiy, Friazino, Podolsk, Kolomenskiy, Reutov, Pushkinskiy, Mozhaiskiy, Lobnya, Voskresenskiy, Kashira; Cluster 3: Himki, Dmitrovskiy, Lubertsy, Ramenskiy, Krasnogorsk, Ruzskiy; Cluster 4: Domodedovo, Shelkovo, Protvino, Elektrostal, Istra, Egorievsk, Stupino, Leninskiy, Orehovo-Zuevo, Dolgoprudniy, Ivanteevka, Zhukovskiy, Serpuhov, Dzerzhinskiy, Shatura, Naro-Fominskiy, Kotelniki, Elektrogorsk, Volokolamskiy, Ozery, Pavlovskiy Posad, Krasnoarmeysk, Zaraysk, Puschino, Bronnitsy, Chernogolovka, Losino-Petrovskiy, Luhovitsy, Lytkarino; 3) * — mean value.

Compiled from: [Urban Environment Quality Index...; Results of the socio-economic development..., 2020; Economics. Investment Portal of the Moscow Region. URL: https://invest.mosreg.ru/about_mo/regional_economics; Entrepreneurial Climate...].

To understand the differences between the business environment in the municipalities, a cluster analysis was carried out according to such criteria as the resident population, the number of SMEs per 10 000 resident population, the number of newly opened enterprises per 10000 resident population in 2019, the urban environment quality index and the amount of financial support allocated by municipal authorities per enterprise. As a result, four clusters were identified (Table 3).

Cluster 1. Active SME development. This cluster includes municipalities whose priority goal is the development of small and medium-sized businesses. They are characterized by a high concentration of SMEs and the high number of newly opened enterprises. Also, this cluster is characterized by the largest amount of funds allocated to support SMEs. The municipalities included in this cluster are the most densely populated, but at the same time have the lowest values of the urban environment quality index.

Cluster 2. Balance between infrastructure development and number of SME. The municipalities of this cluster are characterized by a high concentration of SMEs, but the number of newly opened enterprises here is significantly lower than in the municipalities of cluster 1. In addition, municipal administrations allocate significantly less funds to support SMEs, compared with cluster 1. At the same time, the municipalities of this cluster are characterized by high values of the urban environment quality index.

Cluster 3. Balance between infrastructure development, entrepreneurship support and number of SME. The municipalities of this cluster are characterized by the highest concentration of SMEs, and at the same time, in 2019, the largest number of enterprises per 10000 resident population were created here. There are quite large amounts for sup-

Table 4

Models 2 and 3: Results of regression analysis of models for clusters

Independent variable	Coefficient	Standard error	*t*-value	*p*-value, %
Model 2: Clusters 1 and 4				
logAidPerEnt	0.013	0.018	0.715	48.04
Coworking	−0.056	0.068	−0.824	41.71
logCity_index	1.51	0.564	2.684	1.21**
Model 3: Clusters 2 and 3				
logAidPerEnt	−0.098	0.058	−1.696	10.6
Coworking	0.076	0.052	1.444	16.5
logCity_index	0.636	0.494	1.287	21.3

Note: ** — $p<0.05$.

porting entrepreneurship and at the same time the highest values of the urban environment quality index. Thus, it can be said that cluster 3 includes municipalities with a high level of income, since these municipalities can afford to send quite large amounts of money to support SMEs and at the same time maintain a high level of urban infrastructure development.

Cluster 4. Low level of infrastructure development and entrepreneurship support. This cluster is the most numerous. It includes 29 municipalities out of 55, which are the most sparsely populated. They are characterized by the lowest concentration of SMEs and the smallest number of newly opened enterprises per 10 000 resident population. The smallest amounts of money are allocated to support SMEs, but the value of the urban environment quality index is average: higher than in the municipalities of cluster 1, but lower than in clusters 2 and 3.

Then models for clusters 1 and 4 (low and average values of the urban environment quality index) as well as for clusters 2 and 3 (high values of the urban environment quality index) were constructed (Table 4).

Comparing the models for clusters 1 and 4, which have low and average values of the urban environment quality index, and for clusters 2 and 3, it can be concluded that the variables number of coworking centers and the amount of financial support per enterprise are not significant in both models. The variable urban environment quality index turned out to be statistically significant only in the model for clusters 1 and 4 having low and average values of this index, while its coefficient value was 1.51, which confirms the hypothesis of a favorable impact of high quality urban infrastructure on entrepreneurial activity. However, this statement is true only for municipalities with a low level of infrastructure development.

The results of models 1, 2 and 3 evaluation show that the urban infrastructure is an important factor for municipalities with low level of its development. Thus, for municipalities with high level of urban infrastructure development other factors should be taken into consideration. Also, it means that there could be non-linear dependency between entrepreneurial activity and urban infrastructure development.

Two final models are constructed for a sample of 23 observations. Variables subjective assessment of the level of urban infrastructure development and urban environment quality index should be considered separately. It is important to note that a positive correlation was expected between them, since the subjective assessment of the

quality of urban infrastructure depends on the actual state of the infrastructure of the municipality. However, it was found that the correlation coefficient between these variables is positive, but its value is only 0.16 and statistically insignificant. Thus, for the studied municipalities, the subjective assessment of the level of development of the urban environment is not related to its objective assessment. Therefore, both variables can be included in the model without the threat of a multicollinearity problem.

Also, when conducting correlation tests, it was noticed that there is a positive correlation between the variables the amount of financial support and the number of enterprises per 10 000 resident population, while the correlation coefficient was 58.74 %, i.e. it is statistically significant. The mediation test showed that the variable urban environment quality index is a mediator for the variable amount of financial support. In view of this fact, it was decided to include the variable *amount of financial support* in the model which is represented by the following equation:

$$\begin{aligned} logEntPer10000 = {} & \beta_0 + \beta_1 Registration + \\ & + \beta_2 Society + \beta_3 logCity\_index + \\ & + \beta_4 Recruiting + \beta_5 Infrastructure + \\ & + \beta_6 logAidPerEnt + u, \end{aligned}$$

where *EntPer*10000 is the number of registered SMEs *per 10 000* resident *population*; *AidPerEnt* is the amount of funds allocated to support entrepreneurship, per enterprise, thousand rubles; *Registration* is the ease of registering a business; *Society* is the attitude of society to entrepreneurs and entrepreneurship; *City_index* is the urban environment quality index; *Recruiting* is the ease of finding personnel with the necessary qualifications; *Infrastructure* is a subjective assessment of the level of development of urban infrastructure.

The results are presented in the Table 5.

As expected, the variables ease of registering a business and finding staff with the necessary qualifications, subjective assessment of the level of urban infrastructure development and urban environment quality index have positive coefficient, which indicates that these factors stimulate entrepreneurial activity of the population.

The coefficient for the variable entrepreneur's opinion about the attitude of society towards him is negative, but at the same time statistically significant, i.e. in those municipalities where the level of entrepreneurial activity is lower, the opinion of entrepreneurs about the attitude of society towards them is more positive. Perhaps this is due to the fact that in municipalities with a lower level of entrepreneurial activity, society feels a shortage of small and medium-sized businesses and therefore values them more.

The coefficient of determination of the model 4 is 88.31 %. This value significantly exceeds the value of the coefficient of determination in the model, which includes only objective assessments of business conditions. The multicollinearity test indicated its absence, the remnants of the model are distributed normally, and the hypothesis of homoscedasticity of the remnants was also confirmed. The conducted RESET test showed that the specification of the model is relevant, while the value of the test indicates that when the variable volume of financial support is included in the model, the specification of the model becomes more relevant.

Additionally, there were built 20 regressions on different combinations of three variables from six ones. Then there was chosen the best model based on the following criteria: coefficients' significance, coefficient of determination, presence of heteroskedasticity, adequacy of the model's specification and presence of multicollinearity. The results are presented in the Table 6.

It is needed to note that the results of the model's estimation show that its adequate specification is the non-linear one. It highlights that after achieving the particular value, these factors are turned to bring the

Table 5

Model 4: Results of regression analysis

Independent variable	Coefficient	Standard error	*t*-value	*p*-value, %
Registration	0.120	0.053	2.158	4.75**
Society	−0.088	0.0394	−2.241	4.05**
logCity_index	1.980	0.410	4.768	0.02**
Recruiting	0.059	0.0282	2.099	5.44*
Infrastructure	0.150	0.0584	2.628	3.59**
logAidPerEnt	0.026	0.014	1.737	10.28
R^2	0.8831			
Jarque–Bera test	0.6575			
Breusch–Pagan test	0.1036			
RESET test	0.376			

Note: ** — p<0.05; * — p<0.1.

Table 6

Model 5: Results of regression analysis

Independent variable	Coefficient	Standard error	*t*-value	*p*-value, %
$(logCity\_index)^2$	0.220	0.040	5.375	3.46e-05***
$(Recruiting)^2$	0.012	0.006	2.101	4.92**
$(logAidPerEnt)^2$	0.004	0.002	1.903	7.23*
R^2	0.8038			
Shapiro-Wilk test	0.9455			
Breusch–Pagan test	0.0902			
RESET test	0.3004			
Multicollinearity	Not detected			

Note: *** — p<0.001; ** — p<0.05; * — p<0.1.

different effect to the entrepreneurial activity or may not have any effect at all. All coefficients of this model are statistically significant and, as expected, are positive. It means that urban infrastructure quality, ease of hiring personnel with necessary qualifications and financial aid for entrepreneurs are factors that stimulate entrepreneurial activity. It is interesting to highlight that the highest contribution to the entrepreneurial activity can be noticed from urban infrastructure quality, the lowest one — from financial aid for entrepreneurs.

As it comes to the model's quality, its coefficient of determination is relatively high, Shapiro-Wilk test indicates that residuals are normally distributed, nominally, there is no heteroskedasticity problem. RESET test shows that current specification of the model is adequate, also there is no

multicollinearity problem, which means that model's factors are not related to each other.

Comparing the models 4 and 5, we can see that they have similarities and differences. In both of them ease of searching for personnel of required qualification and urban infrastructure quality are statistically significant. However, such variables as ease of business registration, entrepreneurs' estimate of society's attitude towards entrepreneurship and entrepreneurs' estimate of urban infrastructure quality are not statistically significant in all 20 regressions formed by different combinations of 3 factors from 6 ones. Moreover, in the model 5 financial aid to enterprises is statistically significant under 10 % p-value, while in the model 4 it is statistically insignificant. Also, in the model 5 ease of recruiting personnel of required qualification is statistically significant under 5 % p-value, while in the model 4 it is statistically significant under 10 % p-value. Finally, compared with the model 5, the contribution of urban infrastructure quality in the model 4 is overestimated — 1.98 compared with 0.22.

All in all, hypotheses *H1, H2, H4a, H5, H6*, and *H7* are confirmed. Urban infrastructure quality is statistically significant in four models out of five, therefore, this factor can be considered as the most important one. The importance of urban infrastructure quality is explained by the fact that entrepreneurs' interactions with suppliers and consumers are facilitated by the high level of infrastructure development which includes roads quality, comfortable and efficient transportation system and overall visual attractiveness of place. Moreover, if in a municipality there is a modern place with high-quality infrastructure, it is turned out to become a popular place with considerable number of visitants who can be potential customers for local business. Ease of searching for the personnel of the required qualification is also statistically significant factor in two models. Thus, difficulties with finding qualified employees can be considered as a great obstacle for SME development. Financial support for enterprises has shown its statistically significance in one model out of five, therefore, it cannot be considered among the most important entrepreneurial activity factors. This fact can be explained by the suggestion that direct financial aid makes a minor contribution to the entrepreneurial activity in comparison with establishing favorable conditions for business.

In contrast, hypotheses *H3, H4b* and *H4c* are not confirmed. Level of entrepreneurial activity is not correlated with opening of coworking centers, it can be explained by the fact that many businesses require their own space, for instance, cafes, restaurants, barbershops and others. Therefore, this supporting measure can be inadequate for these types of businesses. Ease of obtaining permits and licenses and ease of paying taxes also are not related with the level of entrepreneurial activity. It can be explained by the fact that, according to descriptive statistics, these variables have less values of standard deviation and at the same time their mean values are not very high. It means that ease of obtaining permits and licenses and ease of paying taxes in the examined municipalities have a bit less than average level and considered municipalities are not extremely differentiated from each other by estimates of these conditions. Thus, differences between examined municipalities by these factors are not considerable to explain differences in entrepreneurial activity in examined municipalities.

The results of the survey allow to conclude that, on average, the most acute problem for entrepreneurs is the search for personnel with the necessary qualifications. Business owners also have difficulties paying taxes and obtaining licenses and permits to conduct business. Entrepreneurs describe the degree of ease of business registration as slightly above average; therefore, the registration procedure causes entrepreneurs slightly less difficulties than other procedures. On aver-

age, entrepreneurs estimate the quality of infrastructure and urban environment between medium and high. In addition, the attitude towards entrepreneurs and entrepreneurship in society was characterized as tending to the positive. The difference between the minimum and maximum estimates of conditions seems to be significant, which indicates the differences between municipalities in the business environment.

The results obtained generally consistent with the findings of other studies. For example, a study of differences in the investment climate across states in India found that labor market rigidity, excessive burdens of industrial regulation, and deficiencies in the provision of physical infrastructure have the greatest negative impact on business growth and productivity. "Excessive regulation and poor infrastructure are particularly severe handicaps to businesses" [World Bank Group, 2002, p. 62]. The surveys 2019 Global Business Monitor conducted by Euler Hermes and Bibby Financial Services reveal that "the main challenges for SMEs include administrative and regulatory burdens, access to finance, the availability of skilled staff, (rising) costs (foe labor, regulation, taxes) and competition that SMEs face disadvantages in accessing finance, failures in competition and excessive regulatory burdens relative to big companies" [Boata, Stamer, 2019].

According to the Russian Union of Industrialists and Entrepreneurs report in 2019–2020 the most acute problems were tariff growth, high tax burden and shortage of qualified personnel. Entrepreneurs are also concerned about excessive pressure from control and supervisory authorities, high administrative barriers, low efficiency of the judicial system, underdeveloped infrastructure. As for the measures of state support for business, the most popular measures are subsidies, reduced tax rates, information and consulting support for business and preferential loans [Report of the Russian Union of Industrialists and Entrepreneurs..., 2020, p. 10].

According to a study by PwC and the National Financial Research Agency conducted in the fall of 2021, most entrepreneurs believe that Russians have a positive attitude towards entrepreneurial activity, but business representatives are less trusted. Among the key problems that impede doing business, Russian entrepreneurs, as they did three years ago, named high taxes, a shortage of personnel and administrative barriers. The majority of business owners and managers rely on government support to overcome economic difficulties during the pandemic [1001 opinions of Russian business leaders..., 2021].

3. CONCLUSION AND RECOMMENDATIONS

Thus, the level of urban infrastructure development and the ease of business registration have a significant positive impact on entrepreneurial activity, making the entrepreneurial climate of the municipality more favorable. According to the results of the survey, it can be concluded that the greatest difficulty for entrepreneurs is the search for personnel with the necessary qualifications. As for coworking centers, their number does not have a statistically significant impact on the level of entrepreneurial activity. In addition, according to the survey results, the work of coworking centers is not important for entrepreneurs.

To improve the business climate, it is important for the authorities to develop the urban environment, as well as simplify the business registration procedure, opening access to all necessary information and developing electronic resources for remote registration. It is recommended to hold more events (e.g., career fairs in educational institutions) that will help SMEs to find qualified specialists. In addition, it is possible to organize special professional development and retraining programs for personnel. Another solution to the problem may be the creation of a platform specifically for SMEs, where they will post vacancies and qualifica-

tion tests, which will allow assessing the competence of applicants before concluding an employment contract. The platform may also help to avoid competition between SMEs and large companies. The authorities are recommended to abandon the construction of new coworking centers and direct funds to improve urban environment or to invest in human capital to increase the level of qualifications and competencies of the population. To increase the level of awareness of the population about measures of entrepreneurship support and development, marketing campaigns could be carried out in social networks with the help of popular bloggers.

The solution to the problem of finding personnel with the necessary qualifications for entrepreneurs can be the improvement of recruiting mechanisms and the creation of internship programs, during which they will be able to assess the level of knowledge and skills of the applicant. Perhaps, for this, entrepreneurs themselves will have to increase the level of their competencies in the field of human resource management. Entrepreneurs can improve their skills by taking various courses at a Business school in the Moscow Region.

In addition, it is possible to give recommendations for assessing the business climate in the Moscow Region. This methodology seems to be limited, since financial support for small and medium-sized businesses is considered as one of the main factors which influences the business climate. It is advisable to expand the list of factors taken into account and include the level of development of urban infrastructure, the attitude of society towards entrepreneurs, and the ease of registering a business, measured not only objectively but also by the subjective assessment of entrepreneurs.

It should be noted that this is a pilot study. The constructed models have limitations. In particular, in models 1, 2 and 3, the data are limited to the period 2017–2019. As for the models 4 and 5 they are based on small sample size. In addition, subjective assessments of business conditions were used, which in some cases may be distorted due to the individual psychological characteristics of the respondents. Accordingly, in future studies, it is possible to expand the sample and the period of consideration.

REFERENCES

Bank of Russia Main Branch for the Central Federal District. Region profile (Moscow Region). 2022. [Electronic resource]. https://cbr.ru/cfo/ekonom_profil_mo/ (accessed: 07.06.2022). (In Russian)

Boata A., Stamer M. 2019. Business climate: Which country is the best in class for SMEs? *Euler Hermes*. Allianz Research. URL: https://www.eulerhermes.com/en_global/news-insights/economic-insights/Business-Climate-Which-country-is-the-best-in-class-for-SMEs.html (accessed: 09.09.2021).

Doing Business. Methodology. World Bank Group. [Electronic resource]. https://archive.doingbusiness.org/en/methodology (accessed: 05.04.2021).

Economics. Investment Portal of the Moscow Region. [Electronic resource]. https://invest.mosreg.ru/about_mo/regional_economics (accessed: 30.04.2021). (In Russian)

Entrepreneurial Climate. Website "Small Business of the Moscow Region". [Electronic resource]. https://goo.su/zjrt (accessed: 16.04.2021). (In Russian)

Fabuš M., Dudáš T., Cihelková E. 2021. Business environment analysis based on the Doing Business: Case study Slovakia. *Insights into Regional Development, Entrepreneurship and Sustainability Center* **3** (3): 56–65.

Ferreira J. J., Fayolle A., Fernandes C., Raposo M. 2017. Effects of Schumpeterian and Kirznerian entrepreneurship on economic

growth: Panel data evidence. *Entrepreneurship & Regional Development* **29** (1–2): 27–50.

Financing of Small and Medium-Sized Businesses in 2019 and in the First Half of 2020. RAEX Analytics, 2020. [Electronic resource]. https://raex-a.ru/files/attachment/FRB-2020_Analytica_Block_Web.pdf (accessed: 29.05.2021). (In Russian)

Jang Y., Lee W.J., Hadley B. 2020. Interactive effects of business environment assessment and institutional programs on opportunity entrepreneurship. *Sustainability* **12** (13): 5280.

Kogut C.S., da Fonseca L.N.M., da Silva J.F. 2022. Entrepreneurial environment attractiveness: A cross-country longitudinal cluster analysis. *Competitiveness Review* **32** (4): 546–564.

Liberto D. 2021. Ifo Business Climate Survey. *Investopedia*. [Electronic resource]. https://www.investopedia.com/terms/i/ifo-business-climate-survey.asp (accessed: 09.09.2021).

Liu Y. 2019. Business climate indices in China. In: S. Smirnov, A. Ozyildirim, P. Picchetti (eds). *Business Cycles in BRICS*. Cham: Springer; 393–403.

Obraztsova O.I., Chepurenko A.Yu. 2020. Entrepreneurial activity in Russia and its cross-regional differences. *Journal of the New Economic Association* **2** (46): 199–211. (In Russian)

Osipova A. 2019. *Almost 1.1 Million People are Employed in the Field of Small and Medium-sized Businesses in the Moscow Region*. Official website of the Government and the Governor of the Moscow Region. [Electronic resource]. https://mosreg.ru/sobytiya/novosti/news-submoscow/okolo-11-mln-chelovek-zanyaty-v-sfere-malogo-i-srednego-predprinimatelstva-v-podmoskove (accessed: 29.05.2021). (In Russian)

Rao S. 2012. *Indicators for Investment and Business Climate (GSDRC Helpdesk Research Report)*. Birmingham, UK: Governance and Social Development Resource Centre, University of Birmingham.

Report of the Russian Union of Industrialists and Entrepreneurs on the state of the business climate in 2019–2020. 2020. Website of the Russian Union of Industrialists and Entrepreneurs. [Electronic resource]. https://media.rspp.ru/docu-ment/1/6/b/6b6d743e7a310df19cdeb950c30f9c98.pdf (accessed: 05.04.2021). (In Russian)

Results of the socio-economic development of the Moscow Region for 2020. 2020. Website of the Ministry of Economy and Finance of the Moscow Region. [Electronic resource]. https://mef.mosreg.ru/dokumenty/socialno-ekonomicheskoe-razvitie/monitoring-socialno-ekonomicheskogo-razvitiya-moskovskoi-oblasti/ezhemesyachnaya-godovaya-informaciya/02-03-2021-13-08-47-itogi-sotsialno-ekonomicheskogo-razvitiya-moskovsk?ysclid=l7td0okaqn67483163; https://mef.mosreg.ru/download/document/9162879 (accessed: 25.04.2021).

Stern N. Keynote address: A strategy for development. In: B. Pleskovic, N. Stern (eds). *Annual World Bank Conference on Development Economics 2001/2002*. New York, NY: Oxford University Press; 11–35.

Urban Environment Quality Index. [Electronic resource]. https://xn----dtbcccdtsypabxk.xn--p1ai/#/; https://xn----dtbcccdtsypabxk.xn--p1ai/#/results (accessed: 30.04.2021).

Verkhovskaya O.R., Aleksandrova E.A. 2017. Entrepreneurial activity in Russia: Global Entrepreneurship Monitoring Project 2006–2016 results. *Russian Management Journal* **15** (1): 3–26. (In Russian)

Verkhovskaya O.R., Bogatyreva K.A., Dorokhina M.V., Knatko D.M., Shmeleva E.V. 2020. *Global Entrepreneurship Monitor. Russia 2019/2020. National Report*. Graduate School of Management, St. Petersburg University. [Electronic resource]. https://gsom.spbu.ru/images/cms/menu/otchet_2020-red-2n-04-06.pdf (accessed: 15.04.2021). (In Russian)

Zemtsov S.P., Tsareva Y.V. 2018. Entrepreneurial activity in the Russian regions: How spatial and temporal effects determine the development of small business. *Journal of the New Economic Association* **1** (37): 145–165. (In Russian)

1001 opinions of Russian business leaders: The second wave of the study by PwC and NAFI. 2021. *PwC* and the *NAFI Analytical* Center. [Electronic resource]. https://nafi.ru/en/analytics/1001-mnenie-rossiyskikh-biznes-liderov-2-ya-volna-issledovaniya-pwc-i-nafi/ (accessed: 10.11.2021).

Initial Submission:
April 10, 2022
Final Version Accepted:
July 27, 2022

Оценка предпринимательского климата для малого и среднего бизнеса: на примере муниципалитетов Московской области

Н.П.Дроздова, А.Е.Каплина

Институт «Высшая школа менеджмента", Санкт-Петербургский государственный университет, Россия

Цель данной работы — выявить факторы, влияющие на предпринимательский климат в муниципальных образованиях Московской области, определить характер данного влияния и на этой основе сформулировать рекомендации по его улучшению. Понятие «предпринимательский климат» трактуется как совокупность объективных и субъективных факторов, отражающихся на предпринимательской деятельности определенной территории. На основе анализа методов оценки предпринимательского климата и наличия данных были выбраны такие факторы, как финансовая поддержка малого и среднего бизнеса, уровень развития городской инфраструктуры, функционирование коворкинг-центров, сложность регистрации бизнеса, получения лицензий и разрешений на деятельность, уплаты налогов и поиска персонала, а также субъективная оценка уровня развития инфраструктуры и отношение общества к предпринимателям. В соответствии с полученными результатами уровень развития городской инфраструктуры и простота регистрации бизнеса делают предпринимательский климат муниципального образования более благоприятным и оказывают существенное положительное влияние на предпринимательскую активность. По результатам опроса можно сделать вывод о том, что наибольшую трудность для предпринимателей представляет поиск персонала с необходимой квалификацией. Количество коворкинг-центров не оказывает статистически значимого влияния на уровень предпринимательской активности. Полученные результаты во многом совпадают с выводами других исследований. Таким образом, для улучшения бизнес-климата важно развивать городскую среду и упрощать процедуру регистрации бизнеса. Рекомендуется проводить больше мероприятий (например, ярмарок вакансий в учебных заведениях), которые помогут предпринимателям найти квалифицированных специалистов, организовать специальные программы повышения квалификации и переподготовки кадров. Кроме того, для оценки делового климата Московской области рекомендуется расширить перечень учитываемых факторов и включить в него отношение общества к предпринимателям, а также повысить уровень развития городской инфраструктуры и облегчить процесс регистрации бизнеса.

Ключевые слова: предпринимательский климат, деловая среда, малый и средний бизнес, муниципальные образования, Московская область.

For citation: Drozdova N. P., Kaplina A. E. 2021. Assessment of the business climate for SMEs: The case of Moscow Region municipalities. *Russian Management Journal* **19** (4): 387–402.

Статья поступила в редакцию 10 апреля 2022 г.
Принята к публикации 27 июля 2022 г.