DOI: 10.15838/esc.2020.2.68.14
UDC 334.012.64:330.59, LBC 65.290.31-94

Small Business and Living Standards of the Population: Mutual Influence and Management Issues*

Aleksandr E.
KREMIN
Vologda Research Center of the Russian Academy of Sciences
Vologda, Russian Federation, 56A Gorky Street, 160014
Vologda Institute of Law and Economics of the Federal Penitentiary Service of Russia
Vologda, Russian Federation, 2 Shchetinina Street, 160002
E-mail: akremin@inbox.ru
ORCID: 0000-0001-9405-2255; ResearcherID: I-8188-2016

Aleksandr I.
ROSSOSHANSKII
Vologda Research Center of the Russian Academy of Sciences
Vologda, Russian Federation, 56A Gorky Street, 160014
E-mail: alexanderrossy@mail.ru
ORCID: 0000-0002-5975-7863; ResearcherID: I-8184-2016

Abstract. Small entrepreneurship is an important element of the socio-economic system of the region, because it contributes to the creation of competitive environment, the consumer's market saturation and stimulation of aggregate demand, as well as to structural changes, etc. As a systemically important element of the municipal units' economy, it has an impact on developing the infrastructure and filling the budget of local territories. It contributes to solving one of the main tasks of the social state – to increase the population's living standards in the country. The high significance of small business determines the demand and necessity of its development. However, at present the aspects of its interconnection with the population's living standards remain insufficiently elaborated, which makes it difficult to implement effective public policy on managing these categories. The researchers have presented two main approaches to defining this interaction. In the first variant, the functioning of small business contributes to improving

* The study was supported by the grant of the President of the Russian Federation (MK-2249.2020.6).
For citation: Kremin A.E., Rossoshanskii A.I. Small business and living standards of the population: mutual influence and management issues. *Economic and Social Changes: Facts, Trends, Forecast*, 2020, vol. 13, no. 2, pp. 214–229. DOI: 10.15838/esc.2020.2.68.14

the population's living standards. In the second variant, the availability of capital and consumer demand, provided with people's high revenues, are the main factors of small business development. Under the conditions of limited resources, the ambiguity of such dependence confirms the relevance and necessity of elaborating scientifically based directions of state influence and the system of measures for stimulating the development of these categories. Therefore, the aim of the study is to assess dependence of small business and the population's living standards, as well as to establish mainstreaming scientifically based directions of public management and the system of measures, contributing to the development of the small business sector and the improvement of the population's living standards as a whole. In order to achieve the goal, the empirical assessment of interconnection between the development of small business and the population's living standards has been carried out, which allows to determine the specific characteristics of their mutual influence. The recommendations on improving the existing system of public management regarding the development processes of small business and improving the population's living standards in the Russian Federation's entities have been scientifically justified. The empirical basis of the study includes the data from the Federal State Statistics Service and the results of monitorings, conducted by Vologda Research Center of the Russian Academy of Sciences. The materials of the article can be used by the federal and regional government bodies and administrative authorities for adjusting public policy in the field of developing the regional economy.

Key words: public management, small entrepreneurship / small business, business, living standards, the population's differentiation according to revenues, mutual influence.

Introduction

For Russia, entering upon the path of modernizing the economy, the development of small business (SB) takes on particular significance. Only this process is capable of quick and effective solving the problems of restructuring the economy, the consumer goods market's formation and saturation under the conditions of limited resources without requiring large start-up investments [1]. The SB entities are operating in all sectors of the national economy. They implement the human need for creation, and consequently, consolidate in their structures increasingly broader layers of population.

Small business plays an important role in providing employment for the working-age population due to its specific characteristics. Firstly, it can quickly create new jobs of low capital intensity, increasing the population's actual revenues and living standards (the PLS). Secondly, the lower technical composition of capital is characteristic for small enterprises. This means that they have more units of labor per unit of the used means of production than the large enterprises. Thirdly, small business is attractive for the active population's performance, because it gives significant opportunities for displaying initiative and implementing creative ideas [2].

Complicating the functional relations of small business entities includes the increasing impact of external and internal influencing factors on implementing the entire process of business activities [3–7]. According to some Russian researchers [8; 9], the population's living standards are one of the important influencing factors of the external environment. The low level of people's revenues and the insufficient credit availability, justified by the lack of the necessary volume of collateral capital, hinder the development of small business. The works of foreign economists,

in particular D. Keeble [10], show that in the 1980s the growth of entrepreneurial activity in developed countries was mainly caused by the increase in revenues of citizens, and effective demand for more differentiated goods and services.

Hence, there is a certain interdependence between the functioning of the SB and the PLS, which should be defined, and the effects on the economy have to be assessed in order to solve the research problem of providing the implementation of public management processes in developing these categories in a resource-constrained environment. In this regard, the aim of the study is to assess the dependence between the functioning of the SB and the PLS, as well as to establish mainstreaming scientifically based directions of public management and the system of measures, contributing to the development of small business sector and the improvement of the population's living standards as a whole.

In order to achieve the goal, it is necessary to solve the following tasks:

– to study the existing theoretical and methodological approaches to describing the interconnection between small business activities and the population's living standards;

– based on the empirical analysis of the indicators regarding small business activity and the population's living standards to identify the peculiarities of mutual influence for these categories;

– to justify the mainstreaming directions of the state impact on small business development in the context of improving the population's living standards.

The theoretical and methodological basis of the research comprised of the studies conducted by national and foreign scientists in the field of analyzing and measuring living standards (V.N. Bobkov, L.N. Ovcharova, A.Yu. Shevyakov, D. Acemoğlu, M.F. Förster, M. Orshansky, etc. [11-16]), including the absolute, relative and subjective approaches to the poverty assessment; trends of small business development (V.G. Basareva, K.A. Gulin, T.A. Dubrova, A.V. Kolchugina, etc. [1; 8; 9]). The study's information base is composed of the data from the Federal State Statistics Service and the sociological survey "Monitoring of the population's economic status and social well-being in the Vologda Oblast", carried out on the territory of the Vologda Oblast[1].

Theoretical aspects of the research problem

Problems regarding the interconnection and management of the population's living standards and small business development have been considered by both foreign and national scientists and researchers. The idea that the dynamics of small business development within a particular territory depend on the well-being of its population has been expressed by J. Schumpeter in the 1930s [17]. The scientist has noted that the development of the entrepreneurial sector is connected not only with the population's risk liability, but also with the availability of capital, which is necessary for opening its own business. Thus, the following hypothesis has been formed: the more savings the society has, the more is the number of small enterprises.

G. Loveman and W. Sengenberger have drawn this conclusion after analyzing trends in key indexes of the population's employment in small business sector and the property status of working population, using the six OECD member-states as an example [18]. Scientists have noted that the increase in the number of people employed in the economy sector under consideration is connected with two factors:

[1] The sample size comprises of 1500 people, 1 time in 2 months (consequently, the sample size per year is 9 thousand people). The sampling method involves zoning with proportional allocation of survey units. The sample type is the quota sample by gender and age. The sample error does not exceed 3%.

– the decentralization and fragmentation of large enterprises according to separate production directions;

– the increase in purchasing demand for more differentiated goods resulting from the growth in the population's living standards within a particular territory.

The researchers have also proved that in developed countries the growth in the number of small enterprises is related to the increase in the population's revenues, which therefore has provided the opportunity to satisfy the needs of people and to segment the existing market.

In his works D. Keeble considers the factors contributing to the creation of new enterprises in England and presents three theoretical models [10]. In the first work the author shows the model of economic recession, reflecting the dependence of the number of potential entrepreneurs on the growth of unemployment. The second work describes the model of the growth in population's revenues, which demonstrates the impact of demand on the development of this economy sector. The third model emphasizes digitization and implementation of new technologies contributing to the formation and development of new firms and enterprises that can quickly adapt to changing external and internal conditions within their own activities.

However, there is a reverse approach to reviewing this dependence. After analyzing the impact of small business sector on the growth of the US well-being, P.D. Reynolds has proved that the economic shift in the period of 1976-1984 that led to the economic growth and the improvement of the population's living standards has been achieved by the intensification of activities in small firms [19].

D. Berkowitz and D. N. DeJong have revealed the dependence of the population's revenues and the local territory's economic growth on the development level of small business entities using the statistical analysis of the data from 47 central cities in the Russian Federation's entities [20].

The representatives of the national science also do not share a common view on this issue. For example, the employees from the Institute of Economics of the Russian Academy of Sciences note that first of all, it is necessary to include the low level of the population's living standards and the insufficient availability of borrowed funds for the opening of a new business and providing its activity among the objective factors preventing small business sector's development [9].

The representatives from the Institute of Economics and Industrial Engineering within the Siberian Branch of the Russian Academy of Sciences hold the opinion that the economy's state, the population's health and its educational potential are the main factors in the formation of conditions for the appearance and development of the private initiative and small business within the local territory.

T.N. Kosheleva, Doctor of Sciences (Economics), Professor of the St. Petersburg University of Management Technologies and Economics, considers the resource potential of small business among the main factors determining its development. Economic, production, personnel, organizational and other opportunities of the sector under study have been included in it, as well as business risks, that, therefore, directly depend on the PLS [21].

T.A. Dubrova, Doctor of Sciences (Economics), Professor of the Department of Mathematical Statistics and Econometrics of the Moscow State University of Economics, Statistics and Informatics (MESI), has proved the impact of generalized factors (the degree of ICT development) and factors of the population's well-being, as well as the demographic situation in the region on the processes of functioning and developing small

business based on the building of a multiple regression model [22]. The main conclusion of the work shows that it is necessary to improve not only the economic, but also the social sphere of the economy, increasing the population's living standards in the country's regions in the process of forming the environment for small business.

However, there are scientific papers considering small business as a factor increasing the population's living standards. Thus, V.I. Petrishche, Candidate of Sciences (Economics), the employee of the Russian Presidential Academy of National Economy and Public Administration, in his works based on analyzing regional statistics of the Russian Federation has concluded that small business is the source of increasing employment and reducing unemployment [23]. Studying the existing practice of developing the economic sector under consideration, S.V. Terebova, Doctor of Sciences (Economics), proves that SB is the most important source of increasing employment and revenues of the population in the region [24].

Thus, the analysis of works devoted to this problem has shown the interconnection between the development of small business and the population's living standards, but the ambiguity in approaches to their dependence confirms the relevance of determining the primary nature of mutual influence. The answer to this question will allow to identify the favorable direction for spending public funds in the sphere of the categories under study in order to provide effective development and growth of the country's economy. In order to solve this problem, it is reasonable to carry out an empirical analysis of the interconnection between SB and the PLS. It will be presented in the next step of the research.

Analyzing the existing features of the mutual influence between small business and the population's living standards in Russia

During the period from 2008 to 2018, the development of small business in Russia has come against the background of the difficult economic situation that affected the level of the population's actual revenues, consumer demand and availability of borrowed funds. In order to analyze the existing trends, it is reasonable to consider the changes in the main indicators characterizing the development of SB and the population's living standards in all entities of the Russian Federation as a whole.

One of the main characteristics of the small business sector in the region is the indicators of its prevalence within the territory of the study object. In particular, the list of indicators includes the number of SB subjects and the average number of their employees, calculated per 1000 people of the total population size and the number of employed in the economy respectively (*Table 1*).

Table 1. Prevalence indicators of SB entities

Type	Year						Ratio, 2018 to 2009, %
	2009	2011	2013	2015	2017	2018	
Number of SB entities per 1000 people, units / thousand people							
Small enterprises	1.6	1.6	1.6	1.7	1.7	1.6	101.1
Micro-enterprises	9.7	11.1	12.7	15.2	17.4	17.0	175.6
IB	–	–	17.4	16.8	17.3	17.5	100.6*
Average number of SB employees per 1000 employed people, units / thousand people							
Small enterprises	91.9	92.8	102.0	92.0	92.7	87.3	95.0
Micro-enterprises	74.3	64.4	70.2	72.9	76.2	74.0	99.5
IB	–	–	80.0	78.2	79.9	80.9	101.1*

*Ratio, 2018 to 2013 , %
Compiled by: data from the websites www.gks.ru; www.fedstat.ru.

The planned development of the economic sector under study has been observed within the territory of the Russian Federation during the period of 2009–2017. The exception is 2018, because there has been a decrease in both population size and the number of employed in most categories of SB. However, the overall dynamics in the number of SB entities is negative over the entire period (*Fig. 1*). In 2015–2016 the sharp increase in the number of SB entities has been noted within the territory of the Russian Federation, the main reason of which were the changes in the Federal Law dated July 24, 2007, No. 209-FZ "On Development of Small and Medium Business in the Russian Federation", accepted December 29, 2015. As a result, the threshold values in the gross income of business entities, acting as a criterion for ranking among small business, have increased twofold. That has led to an artificial increase in the number of entities of the economic sector under study in 2015, but the trend towards the decline in the growth rate of the indicator remained unchanged.

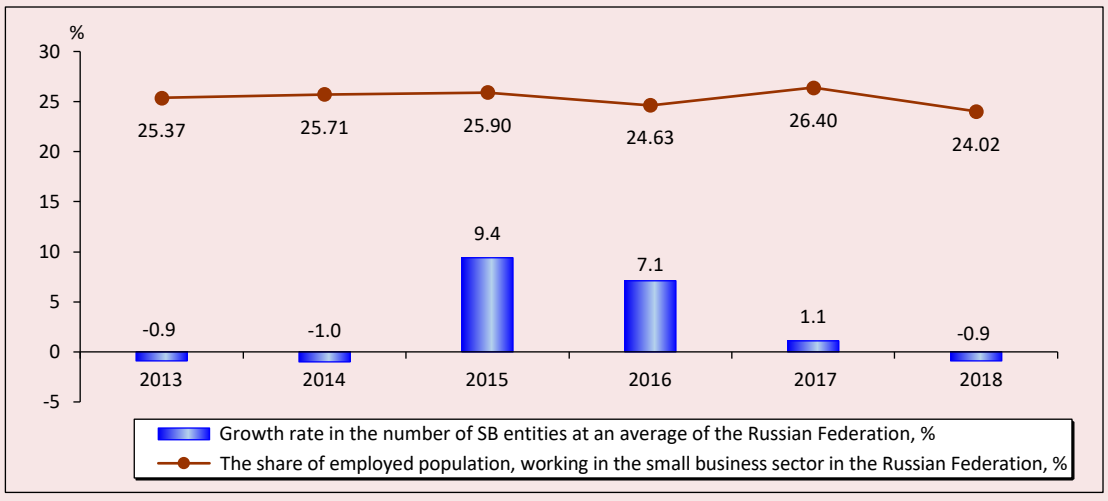
Nearly unchanged share of the employed population working in small organizations has evidenced regarding the absence of significant changes in the prevalence of SB during 2014–2015 within the territory of the Russian Federation's entities, but the population size employed in SB decreased by 1.72% in the period of 2012–2018.

The decrease in development indicators has revealed the fact of reducing SB performance activity (*Table 2*). On average of the Russian Federation during 2009–2018 the average turnover of the one SB entity increased by 5.5%, meanwhile, the same indicator in the category of micro-enterprises decreased almost by 18%.

For the country as a whole the value of that indicator has decreased by 6% for all the categories of SB entities (*Fig. 2*). It is worth mentioning that since 2015 its constant growth has been observed within the territory of the Russian Federation (by 25% in 3 years).

Meanwhile, the average volume of fixed investment per one SB entity has been decreasing almost by 13%. Therewith, in physical terms the volume of investments for the period of 2016–2018 has increased by 13%, as well as the turnover indicator.

Figure 1. Dynamics in changes of SB prevalence indicators at an average of the Russian Federation, %

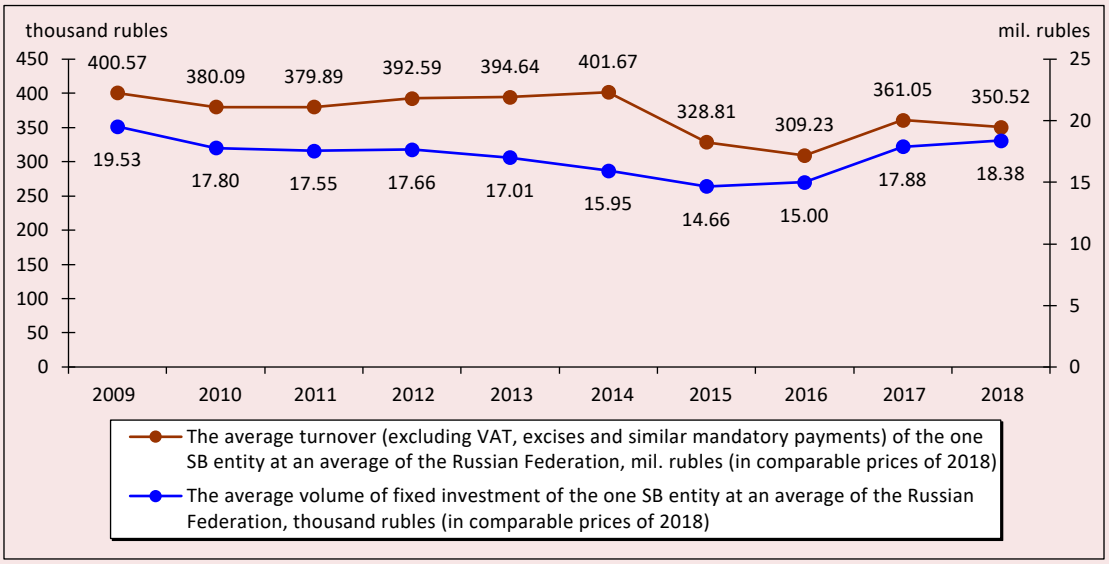


Source: data from the websites www.gks.ru; www.fedstat.ru

Table 2. SB development indicators in the Russian Federation

Type	Year						Ratio, 2018 to 2009, %
	2009	2011	2013	2015	2017	2018	
Average turnover (excluding VAT, excises and similar mandatory payments) of the one SB entity, mil. rubles (in comparable prices of 2018)							
Small enterprises	10.19	11.36	10.76	7.87	10.26	10.75	105.53
Micro-enterprises	9.34	6.19	6.25	6.79	7.62	7.63	81.71
Average volume of fixed investment of the one SB entity, mil. rubles (in comparable prices of 2018)							
Small enterprises	0.29	0.25	0.27	0.19	0.21	0.19	64.25
Micro-enterprises	0.11	0.13	0.13	0.14	0.16	0.16	145.50
Compiled by: data from the websites www.gks.ru; www.fedstat.ru.							

Figure 2. Dynamics of SB development indicators at an average of the Russian Federation (in comparable prices of 2018)



Source: data from the websites www.gks.ru; www.fedstat.ru

The specified fact shows the decrease in indicator values of SB development within the territory of the Russian Federation's entities. The problems mentioned above regarding the development of the small business sector are intimately connected with the low level of investment. For the period from 2008 to 2018 small business accounted for about 5% of all investable funds in Russia. Meanwhile, the share of investments in small business in a number of regions has reached more than 25% (the Pskov Oblast, the Republic of Ingushetia, the Penza Oblast, etc.). The minimum value has not exceeded 1% (the Chechen Republic, the Chukotka Autonomous Region, and the Tyumen Oblast). Therewith the ratio of the maximum and minimum values of the analyzed indicator across the Russian Federation's entities during the period under study has comprised more than 100 times. However, it should be taken into account that in Russia's regions with high value of extractive industry, having the export-oriented focus based on raw materials, the fixed investment, falling on small business, are often "lost" against the background of the general large-scale

investment flow. Nevertheless, in absolute terms the total number of investments in small entrepreneurship in these entities is quite large.

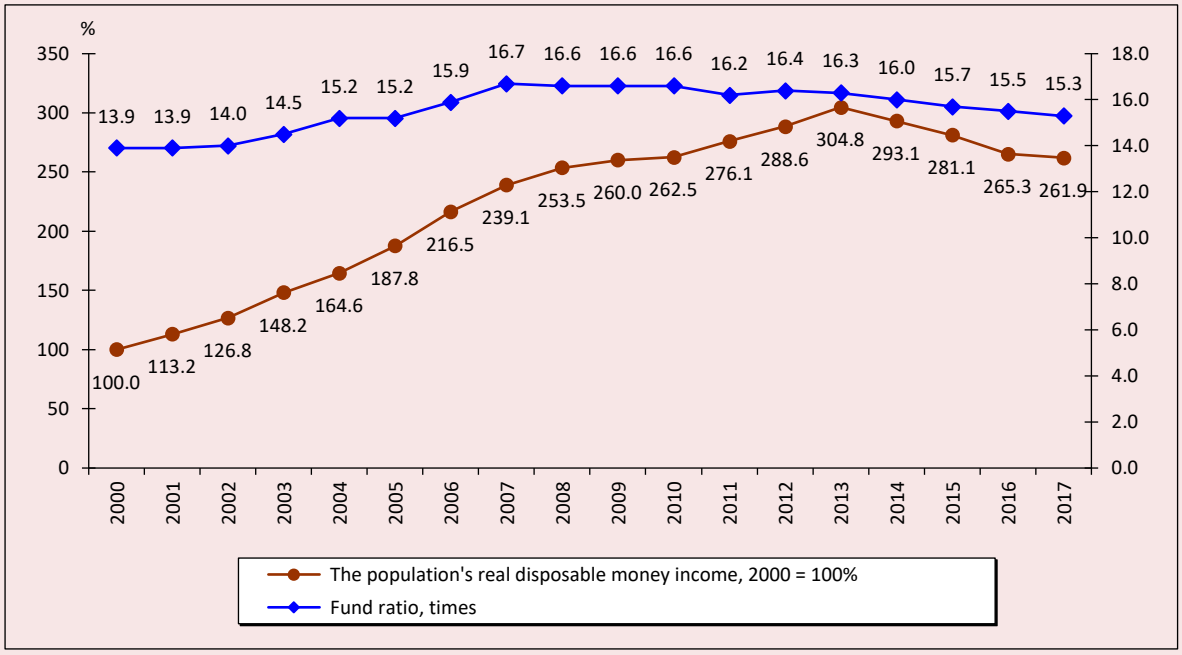
The Federal State Statistics Service regularly conducts sample inquiries regarding investment activity of industrial small enterprises. According to their results, among the main factors, limiting the investment activities in 2017 the following ones have been mentioned: lack of own funds (52%), uncertainty of the economic situation in the country (32%), high percentage of commercial credit (29%) and insufficient product demand (27%).

Low investment activity of small business representatives is quite logical due to the anxiety concerning the insufficient effective demand of the population in the regions. As noted above, during the period under study small business has faced many problems, one of which was the decline in the population's purchasing power. Overall, since 2006 the growth rates of actual revenues have gradually decreased towards 2000. Subsequently, after 2013 the decline has taken place and it is observing at the present moment (*Fig. 3*). Simultaneously, along with the growth in the population's average revenue, the increase in differentiation according to material character has been noted. Thus, for the period from 2000 to 2017 the fund ratio has increased from 14 to 15 times.

The rising population's inequality in revenues has been caused by the higher growth rates in money income among the most well-off social groups with almost constant revenue level of the least well-off ones, which does not exceed the minimum subsistence level [25].

The trends revealed above are also embodied in the subjective characteristics, which people give regarding their lives. It should be noted that subjective estimates of poverty are usually higher than its estimates according to the absolute and relative approaches. Steadily more than 40% of

Figure 3. Dynamics of the population's money income per capita and fund ratio in the Russian Federation in 2000–2017



Source: data from the websites www.gks.ru; www.fedstat.ru

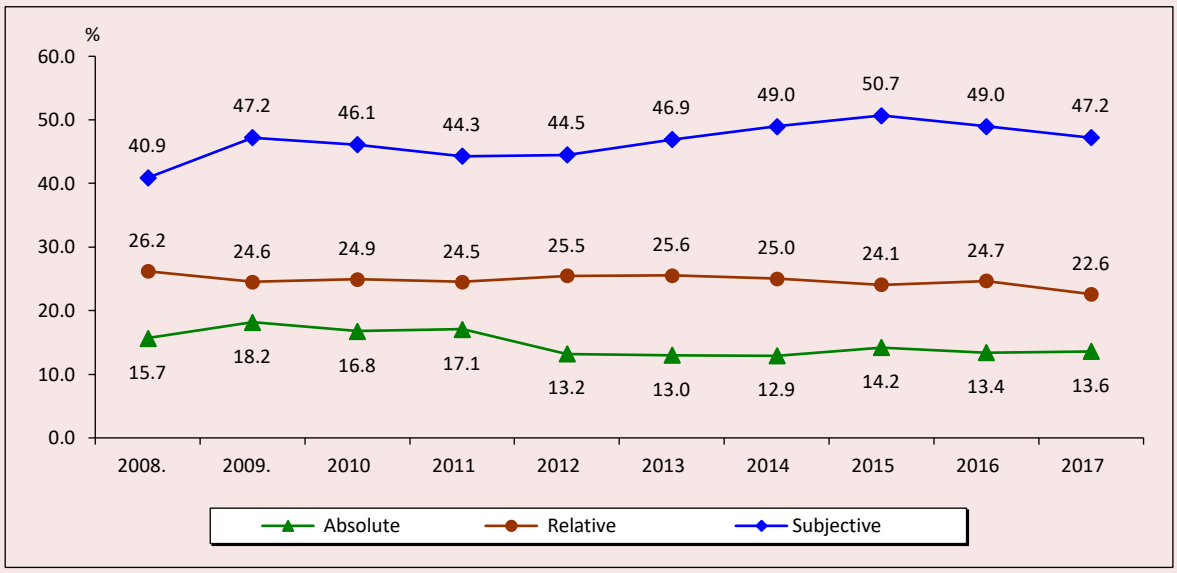
the region's population consider themselves as poor or deprived, whereby, an obvious trend of declining estimates has been observed (*Fig. 4*). In the meantime, according to the official data, only 14% of the region's population had revenues below the minimum subsistence level, while the revenues below the median revenue level in the region, according to our estimates equaled 23%. This point is fundamentally important. It is subjective assessments that have the greatest influence on the individual's psychological state and give rise to internal incentives that are largely shaping the consumer practices of citizens.

It should be noted that the real retail turnover per capita has slightly increased in 2008–2017 only by 7% in Russia as a whole (*Table 3*). Therewith since 2013 the retail turnover per capita has decreased by almost 10 p.p.

In the structure of the Russian retail the share of non-food products has shown a decrease by 2 p.p. for the period of 2008–2017, which is one of the signs characterizing the population's living standards in the regions not from the best positions.

The general trend in reducing the values of key indicators reflecting the development of small business and the population's living standards confirms the necessity for the state influence on them. Due to the fact that there exist dual mutual influence between these categories, revealed earlier, and it is necessary to take it into account in the process of choosing the directions and support measures for the economic sector under study, it seems appropriate to carry out the econometric assessment of this interaction. For this purpose, based on the existing experience in studying

Figure 4. Poverty level of the Vologda Oblast's population according to absolute, relative and subjective approaches, %



Absolute poverty level is the share of population with revenues below the minimum subsistence level;
Relative poverty level is the share of population with revenues below the median revenue level in the region;
Subjective poverty level is the share of population identifying itself as poor and deprived.

Sources: data from the website of the Territorial Body of the Federal State Statistics Service in the Vologda Oblast. Available at: http://vologdastat.gks.ru/; Monitoring of the population's economic status and social well-being in the Vologda Oblast, VolRC RAS, 2007–2018; compiled by the authors.

Table 3. Dynamics and structure of retail turnover in 2008–2017

Territory	Year										Variation, 2017 to 2008, p.p.
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	
*Retail turnover per capita, thousand rubles**											
The Russian Federation	189.9	182.8	189.0	205.9	216.0	224.2	220.0	203.1	197.8	203.0	106.9**
Food products in the structure of retail trade, %											
The Russian Federation	46.6	48.6	48.5	47.7	46.6	47.0	47.0	48.7	48.6	48.4	1.8
Non-food products in the structure of retail trade, %											
The Russian Federation	53.4	51.4	51.5	52.3	53.4	53.0	53.0	51.3	51.4	51.6	-1.8

*The indicators are presented in comparable prices of 2017.
**Ratio, 2017 to 2008 , %
Compiled by: data from the websites www.gks.ru; www.fedstat.ru.

Table 4. Main indicators characterizing the population's living standards and the development of small business in the region

Block	N p.p.	Indicators
Level of small business development	X_1	Number of small business entities per 10 000 people, units / thousand people
	X_2	The share of employed population, working in the small business sector, %
	X_3	Turnover of one SB entity, mil. rubles
	X_4	The share of SB's fixed investment in comparison with the total volume, %
Level of the population's living standards	Y_1	The population's real money income per capita, rubles
	Y_2	Average monthly nominal accrued wages of employees in organizations, rubles
	Y_3	Fund ratio, times
	Y_4	Number of people with revenues below the minimum subsistence level (poverty level), %

Source: compiled by the authors

small business and the population's living standards in the region [26; 27], the system of indicators characterizing the economic categories under study has been elaborated (*Table 4*).

Certainly, the issue of using the assessment indicators system is controversial due to the problems of comparing the official data, their qualitative presentation, characterized by the integrated approach to the conducted research, etc. For example, V.A. Barinova, Head of Laboratory for Innovative Economics of the Ye.T. Gaidar Institute for Economic Policy notes the following: "... Due to various methods of collecting data by different responsible agencies, and owing to some difficulties in the working process of the recently designed Unified register, the statistical data on SMEs slightly vary" [28].

In our opinion, the transition of the Federal Tax Service to the Ministry of Economic Development of the Russian Federation from the beginning of 2017 could also influence the objectivity of the published information. At present, the State Duma has introduced the draft law designed to change the jurisdiction of the Federal State Statistics Service (the bill prepared by deputies of the parliamentary fraction "Fair Russia", which appeared in the database of the lower chamber on February 7). Thus, the authors of the legislative initiative consider the following: ... "the subordination of the Federal Statistical Agency to the Ministry responsible for economic development threatens the conflict of interests, and therefore leads to the decrease in objectivity of the data presented by Rosstat".

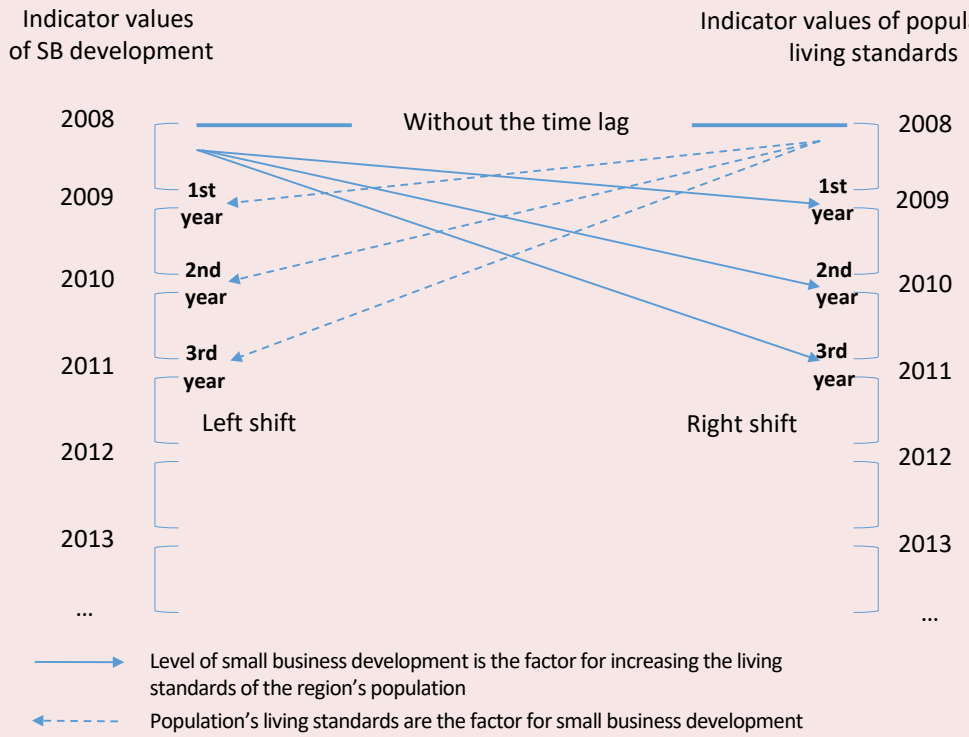
Therewith, it should be noted that the system of indicators has been composed taking into account the existing methodological approaches used by the scientific community for assessing the state of the small business sector and the population's living standards in the regions and by public administration bodies in the process of monitoring the effectiveness of developing these categories, and the availability of official statistical information [26; 27].

In order to evaluate the mutual influence between SB and the PLS the method of Almon has been used, which is based on pair correlation analysis of indicators taking into account the time lag (*Fig. 5*) [29].

The increase (decrease) of correlation index in the course of growing the time lag of one shift and its simultaneous decrease (increase) of another one indicates the presence of factor impact from the side having its greatest value in modulus. Thus, the performance of the specified conditions at the left shift of indicators will testify that the population's living standards are the factor of developing small business. At the right shift – the development of small business is the factor of improving the population's living standards in the region.

The study period is limited to the time interval 2008-2017 (the sample size comprises 800 observations). It is worth noting that according to the basic provisions of the central limit theorem, its distribution is considered normal, when the sample size is very large (for example, n > 100). Owing to the performance of the specified conditions, the pair correlation coefficient between the studied categories of indicators with the time lag up to three years has been calculated (*Table 5*).

Figure 5. The principle of comparing the indicators' values within the correlation analysis of the criteria of the population's living standards and the development of small business in the region with a time lag up to three years



Source: compiled by the authors based on [30].

Table 5. Correlation coefficient values between the indicators of the population's living standards and the development of small business in entities of the Russian Federation

Indicator	Y_1							Y_2						
	Without time lag	Left shift			Right shift			Without time lag	Left shift			Right shift		
		1 year	2 year	3 year	1 year	2 year	3 year		1 year	2 year	3 year	1 year	2 year	3 year
X_1	0.36	0.37	0.22	0.12	0.35	0.35	0.36	0.41	0.42	0.26	0.14	0.40	0.41	0.42
X_2	0.12	0.12	0.15	0.25	0.12	0.13	0.14	-0.08	-0.05	-0.02	0.09	-0.06	-0.05	-0.03
X_3	0.49	0.55	0.64	0.42	0.47	0.47	0.45	0.17	0.26	0.38	0.23	0.16	0.16	0.17
X_4	-0.46	-0.48	-0.46	-0.41	-0.47	-0.46	-0.46	-0.54	-0.55	-0.54	-0.46	-0.53	-0.54	-0.56
Indicator	Y_3							Y_4						
	Without time lag	Left shift			Right shift			Without time lag	Left shift			Right shift		
		1 year	2 year	3 year	1 year	2 year	3 year		1 year	2 year	3 year	1 year	2 year	3 year
X_1	0.23	0.17	0.07	0.16	0.23	0.25	0.26	-0.12	-0.05	0.06	-0.02	-0.06	-0.03	0.01
X_2	0.37	0.33	0.32	0.29	0.40	0.41	0.43	-0.35	-0.33	-0.24	-0.20	-0.36	-0.38	-0.40
X_3	0.67	0.67	0.71	0.45	0.65	0.64	0.64	-0.60	-0.52	-0.57	-0.36	-0.50	-0.44	-0.45
X_4	-0.38	-0.35	-0.29	-0.24	-0.36	-0.35	-0.40	0.10	0.16	0.15	0.17	0.16	0.27	0.31

Source: compiled by the authors using the software package "STATISTICA 10".

The results of the practical approval of the data from the Russian Federation's entities have confirmed the above-mentioned opinion of the scientific community that the population's revenues and the wage rate as a part of the population's living standards are the factor indicators influencing the distribution density of small business entities within the region and their development, in particular, the average turnover volume of one entity per share of SB fixed investment in the total volume. With further increase in the time lag, the conditions presented above stop executing, which indicates the medium-term showing of exerted influence.

However, along with it, the increase in the share of employed in the small business sector has a beneficial impact on the decrease in the number of people with revenues below the minimum subsistence level, but contributes to the increase in social differentiation. This fact testifies that the development of small business does not only help to solve one of the significant problems of the Russian economy (the growing poverty level of the population), but also leads to the increase in the average revenues of the well-off population category.

For interpretation of such interaction, the correlation-regression analysis of these indicators has been carried out, as a result of which the mathematical models of revealed dependencies based on the algorithm described in early works of one of the article's authors have been built [30]:

$$\begin{cases} X_1 = 0.002Y_2 + 253.54 + \varepsilon \\ Y_3 = 0.219X_2 + 9.59 + \varepsilon \\ Y_4 = -0.31X_2 + 20.9 + \varepsilon \end{cases}, \quad (1)$$

where X_1 – number of small business entities per 10 000 thousand people;

X_2 – the share of employed population, working in the small business sector;

Y_2 – average monthly nominal accrued wages of employees in organizations, rubles;

Y_3 – fund ratio, times;

Y_4 – number of people with revenues below the minimum subsistence level;

ε – unaccounted factors.

These models have been built taking into account their significance – those that did not comply with the conditions for conducting statistical analysis were excluded. Also, it should be noted that the first model included only one indicator due to multicollinearity between the indicators of real money income

per capita and the average monthly nominal accrued wages of employees in organizations. The value of F-criterion and its significance level *p* indicate that the built regressions are significant at significance level $\alpha = 0.05$ (*Table 6*). The Student's t-test of an intercept term and the equation's parameters confirm that.

Analyzing the graph of residuals and predicted values of the regression models has shown the relatively qualitative building of elaborated models, which also indicates their significance (*Fig. 6*).

These models cannot be used for building predicted values because the dependency between variables does not exceed 20%. Consequently, there are other factors that influence the change in the studied categories. However, in order to implement the integrated approach of public administration of the region's socio-economic system, the revealed interaction of the studied factors cannot help but be taken into account.

Summing up, the results of the conducted analysis have shown that the increase in the number of people employed in small business will lead to the reduction in the number of people with revenues below the minimum subsistence level, however, but this will have additional impact on the increase in social differentiation. The changes will contribute to the growth in the population's revenues, and consequently, to the increase in the number of small business entities owing to the growth of consumer demand. Based on the obtained data let us set some tasks for public administration in the field of SB and the PLS:

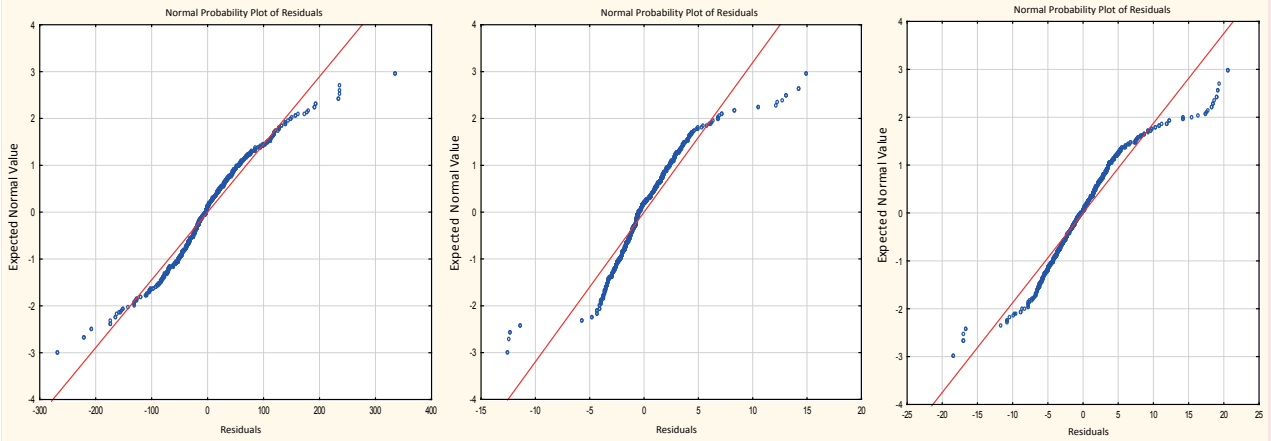
1. Implementation of measures for attracting the regions' population into business activities, which, as a result, will provide the reduction of unemployment and the increase in revenues of the population's certain categories. According to the results of previous studies, in order to do this it is necessary to modernize the existing support system for small and medium business at the regional and municipal levels. In particular, it seems appropriate to create financial instruments for managing the implementation of municipal development programmes through the formation of the "Regional fund for small business development". Its activity will be aimed at solving the issues related to insufficient funding of SB at the municipal level [31].

2. Stimulating consumer demand by creating conditions for the growth in revenues and the reduction of the population's expen-

Table 6. Describing the components of the regression models

N=800	b^0	Std.Err. of b^0	b	Std.Err. of b	t (798)	p-value
Regression Summary for Dependent Variable: X_1 R= 0,34035697 R?= 0,115842 Adjusted R?= 0,10268 F(1,798)= 55,784 p<0,00000 Std.Error of estimate: 67,374						
Intercept			253.5366	5.752739	4.07233	0.000000
Y_2	0.255612	0.034224	0.0020	0.000265	7.46887	0.000000
Regression Summary for Dependent Variable: Y_3 R= 0,42603521 R?= 0,181506 Adjusted R?= 0,176517 F(1,798)= 86,355 p<0,00000 Std.Error of estimate: 2,9383						
Intercept			9.591378	0.450899	7.27169	0.000000
X_2	0.312487	0.033627	0.218521	0.023515	9.29276	0.000000
Regression Summary for Dependent Variable: Y_4 R= 0,39251331 R?= 0,1540667 Adjusted R?= 0,14337766 F(1,798)= 86,355 p<0,00000 Std.Error of estimate: 2,9383						
Intercept			20.91343	0.788008	6.53961	0.000000
X_2	-0.254067	0.034238	-0.30496	0.041096	-7.42060	0.000000
Source: compiled by the authors using the software package "STATISTICA 10."						

Figure 6. The graph of residuals and predicted values of the regression models of studied indicators



Source: compiled by the authors using the software package "STATISTICA 10".

ditures in the region. In order to do this the federal authorities should resume the funding of regional expenditure subsidy systems in SB entities (refund of credit interest, lease payments, acquiring equipment, etc.) in priority activity areas of each region of the Russian Federation aiming to reduce the cost value and total price of manufactured products. These measures will allow to reduce and differentiate the population's expenditures, providing the increase in consumer demand in general.

The specified measures of public administration and the implementation of certain actions on the territory the Russian Federation's entities will provide the development of the small business sector, activating of which will contribute to the increase of the population's living standards in the regions in total.

Conclusions and suggestions

Based on the results of the conducted research, the following conclusion has been made: in the process of managing the small business sector's development and in order to improve the population's living standards the regional authorities need to focus their attention and resources on increasing the number of workers engaged in the activities of the sector under study. The change in this parameter in the socio-economic system of the region will allow reducing the poverty level and providing the increase in revenues of the population's certain categories, which therefore will contribute to the consumption growth and the formation of new business entities.

It should be noted that according to the passport of the national project "Small and medium business and support for individual entrepreneurial initiative" the federal authorities have set a goal by 2024 to increase the number of employed in the economic sector under study almost by 25%. However, the experience of previous studies has shown that such growth can be achieved only with concerted efforts between all levels of the government and joint cooperation of various public organizations operating within the local territory. Therewith, the major load regarding the development of small business falls on the local government authorities.

Unfortunately, the recent reforms in the Russian Federation have led to centralization of the existing measures for SB support at the level of federal authorities and subordinate institutions. From our point of view, this

situation has a negative impact on achieving the stated goals that is why the problem of developing a system of measures for stimulating the development processes in the studied economic sector in the regions remains relevant at the moment. The further work of the authors' team will be aimed at its solving. The materials of the article can be used by the federal and regional government bodies and administrative authorities to determine further measures for implementing the strategy for the development of the region's economy.

References

1. Gulin K.A. et al. *Maloe predprinimatel'stvo v ekonomike territorii* [Small Entrepreneurship in Territories' Economy: Monograph]. Vologda: VolNTs RAN, 2017. 128 p.
2. Lapusta M.G. *Maloe predprinimatel'stvo* [Small Entrepreneurship]. Moscow: INFA-M, 2011. 683 p.
3. Ansoff I. *Strategicheskii menedzhment* [Strategic Management]. Classic edition. Saint Petersburg: Piter, 2009. 344 p.
4. Karloff B. *Delovaya strategiya: Kontseptsiya. Soderzhanie. Simvoly.* [Business Strategy: Concept. Content. Characters]. Moscow: Ekonomika, 1991. 239 p.
5. Nelson R.R., Winter S.G. *Evolyutsionnaya teoriya ekonomicheskikh izmenenii* [An Evolutionary Theory of Economic Change]. Translated from English. Moscow: Delo, 2002. 536 p.
6. Drucker P. *Effektivnyi rukovoditel'* [The Effective Executive]. Translated from English. Forth edition. Moscow: Eksmo, 2014. 240 p.
7. Uskova T.V. et al. *Problemy ekonomicheskogo rosta territorii* [Problems of Economic Growth of the Territory: Monograph]. Vologda: ISERT RAN, 2013. 170 p.
8. Basareva V.G. Linkage between level of living and development of small enterprises. *Region: ekonomika i sotsiologiya=Region: Economics and Sociology*, 2008, no. 3, pp. 168–182. (In Russian).
9. Kol'chugina A.V. Small enterprises activity in the Russian Federation in the beginning of the 21st century. *Voprosy statistiki=Voprosy Statistiki,* 2004, no. 4, pp. 45–58. (In Russian).
10. Keeble D. New firm and regional economic development: Experience and impacts in the 1980s. *Cambridge Regional Review,* 1990, vol. XX-XXI, pp. 38–54.
11. Förster M.F. Measurement of low incomes and poverty in a perspective of international comparisons. *OECD Labour Market and Social Policy Occasional Papers.* OECD Publishing, 1994, no. 14, pp. 74-96.
12. Bobkov V.N., Matveeva T.A. The influence of monetary and non-monetary poverty of economically active people's households on job satisfaction. *Ekonomika regiona=Economy of Region*, 2014, no. 4, pp. 93–104. (in Russian)
13. Orshansky M. Counting the poor: Another look at the poverty profile. *Social Security Bulletin,* 1965, vol. 28, pp. 3–29.
14. Ovcharova L.N. *Teoreticheskii i prakticheskii podkhody k otsenke urovnya, profilya i faktorov bednosti: rossiiskii i mezhdunarodnyi opyt* [Theoretical and Practical Approaches to the Assessment of the Level, Profile and Determinants of Poverty: Russian and International Experience]. ISEPN RAN. Moscow: M-Studio, 2009. 268 p.
15. Shevyakov A.Yu., Zharomskii V.S., Soptsov V.V. *Sovremennaya sotsial'naya politika: analiz effektivnosti i napravleniya reformirovaniya* [Modern Social Policy: Efficiency Analysis and Directions of Reforming: Monograph]. Under editorship of A.Yu. Shevyakova. Moscow: ISEPN RAN, 2008. 122 p.
16. Acemoglu D., Robinson J.A. *Pochemu odni strany bogatye, a drugie bednye* [Why Nations Fail: The Origins of Power, Prosperity, and Poverty]. Translated from English by D. Litvinov, P. Mironov, S. Sanovich. Moscow: AST, 2016. 693 p.
17. Croitoru A., Schumpeter J.A. Business Cycles: A theoretical, historical, and statistical analysis of the capitalist process. New York and London, McGraw–Hill Book Company Inc. *Journal of Comparative Research in Anthropology and Sociology,* 2017, vol. 8, no. 1, pp. 67–80.
18. Loveman G., Sengenberger W. The re-emergence of small-scale production: An international comparison. *Small Business Economics,* 1991, vol. 3, no. 1, pp. 1–38.

19. Reynolds P.D. Strategies for cross-national comparisons: Matching research issues and analysis objectives. *Small Business Economics,* 1991, vol. 3, no. 4, pp. 245–260.
20. Berkowitz D., DeJong D.N. Accounting for growth in post-Soviet Russia. *Regional Science and Urban Economics*, 2002, vol. 32. no. 2, pp. 221–239.
21. Kosheleva T.N. Factors and patterns determining small entrepreneurship development in economic relations system. *Problemy teorii i praktiki predprinimatel'stva=Issues of Theory and Practice of Entrepreneurship*, 2010, no. 4, pp. 198–201. (In Russian).
22. Dubrova T.A., Agekyan E.A., Klochko Yu.S. Econometric study for factors in small entrepreneurship development in the regions of Russia. *Statistika i ekonomika=Statistics and Economics,* 2014, no. 5, pp. 130–136. (In Russian).
23. Petrishe V.I. Ensuring effective employment through small business development. *Srednerusskii vestnik obshchestvennykh nauk=Central Russian Journal of Social Sciences,* 2015, vol. 10, no. 3, pp. 201–209. (In Russian).
24. Terebova S.V. Small business as the factor increasing the employment rate and incomes of the population. *Ekonomicheskie i sotsial'nye peremeny: fakty, tendentsii, prognoz=Economic and Social Changes: Facts, Trends, Forecast,* 2013, no. 5, pp. 112–122. (In Russian).
25. *Rossiiskoe obshchestvo: transformatsii v regional'nom diskurse (itogi 20-letnikh izmerenii)* [Russian Society: Transformations in Regional Discourse (the Results of 20 Years of Measurements: Monograph]. Team of authors under the scientific supervision of RAS Academician Doctor of Philosophy M.K. Gorshkov, Doctor of Economics Professor V.A. Ilyin. Vologda: ISERT RAN, 2015. 446 p.
26. Rossoshanskii A.I. Regional characteristics of the quality of life of the Russian Population. *Sotsial'noe prostranstvo=Social Area,* 2018, no. 5 (17). Available at: http://socialarea-journal.ru/article/28005. DOI: 10.15838/sa.2018.5.17.5 (In Russian).
27. Kremin A.E. Methodology for assessing the work of small business at the municipal level. *Ekonomicheskie i sotsial'nye peremeny: fakty, tendentsii, prognoz=Economic and Social Changes: Facts, Trends, Forecast*, 2016, no. 3 (45), pp. 231–247. DOI: 10.15838/esc.2016.3.45.14. (In Russian).
28. Barinova V.A. The problems related to statistical accounting of the dynamics of the sector of small and mid-sized enterprises in Russia. *Ekonomicheskoe razvitie Rossii=Russian Economic Developments*, 2018, vol. 25, no. 1, pp. 40–48. (In Russian).
29. Berndt E.R. *Praktika ekonometriki* [The Practice of Econometrics]. Moscow: Yuniti-Dana, 2005. 388 p.
30. Kremin A.E. Evaluation of the influence of external factors on small entrepreneurships activities in a municipality. *Konkurentosposobnost' v global'nom mire: ekonomika, nauka, tekhnologii=Competitiveness in the Global World: Economics, Science, Technology,* 2017, no. 9, pp. 58–64. (In Russian)
31. Kremin A.E., Gulin K.A. Managing the functioning of small business at the municipal level as a driver of regional economic development. *Ekonomicheskie i sotsial'nye peremeny: fakty, tendentsii, prognoz=Economic and Social Changes: Facts, Trends, Forecast,* 2017, vol. 10, no. 4, pp. 94–110. DOI: 10.15838/esc.2017.4.52.5 (In Russian).

Information about the Authors

Aleksandr E. Kremin – Candidate of Sciences (Economics), Researcher, Vologda Research Center of the Russian Academy of Sciences (56A Gorky Street, Vologda, 160014, Russian Federation; e-mail: akremin@inbox.ru); Head of the Division for Organization and Coordination of Research Activity and International Cooperation of the Organizational and Research Department, Vologda Institute of Law and Economics of the Federal Penitentiary Service of Russia (2 Shchetinina Street, Vologda, 160002, Russian Federation)

Aleksandr I. Rossoshanskii – Candidate of Sciences (Economics), Researcher, Vologda Research Center of the Russian Academy of Sciences (56A Gorky Street, Vologda, 160014, Russian Federation; e-mail: alexanderrossy@mail.ru)

Received October 08, 2019