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SMALL BUSINESS IN RUSSIAN REGIONS: DEVELOPMENT UNDER CRISIS CONDITIONS

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Abstract: *The basic problems of small business functioning in the regions of Russia and the need to develop tools of the functioning effectiveness assessment were considered in the article. The authors propose an algorithm analysis of small and medium business in the region, which includes two enlarged stages and based on multivariate analysis. The method was tested on the basis of statistical data on the functioning of small businesses in the South Russian regions. The analysis of the operation of a small business, an assessment of its financial condition by region were implemented. Authors identified the main components of the functioning of small business in the regions, which are the basis for clustering regions on the functioning of small businesses.*

Keywords: *Small business, statistical analysis, cluster analysis, factor analysis, economic crisis.*

1. INTRODUCTION

Crisis (post-crisis economy) aggravates the differentiation of levels related to the development of Russian subjects' economy. While the 2008-2009 crisis was exquisite and relatively short-term on the background of the global financial crisis, the modern crisis is considerably intensified by the political situation. As a result, its consequences occur smoothly and have a potential for the long-term perspective. While large players of the economy have a considerable "reserve" of stability, both in the form of their own resources and efforts and support from the state, small-sized business, especially in regions, are fully affected by all impacts of the crisis (Beck, Demirguc-Kunt, Levine, R., 2005, Taiwo et al., 2015, Berezhnaia, O.V. et al., 2015).

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The regional specificity of small-sized business does not allow to develop uniform solutions on its support on the federal level. If we turn to the Strategy of Small and Medium-sized Entrepreneurship Development in Russia up to 2030 (Order of the Government of the Russian Federation "On Approving Strategy of Developing Small- and Medium-sized Entrepreneurship in the Russian Federation for the Period up to 2030", 2016) that has been developed relatively recently, it becomes obvious that the development of specific measures falls on the shoulders of regional powers. Thus, there is an issue whether these measures are adequate for the current state of the region's economy and opportunities to use principles of benchmarking (adopting the best practice of neighboring subjects or those that are similar according to the level and type of development) to optimize small-sized business on the level of the region (Love, Roper, 2015, Meskon et al., 1992).

Important aspects of managing, developing and supporting small-sized business in subjects of the Russian Federation include the estimation of their investment attractiveness and efficiency to attract financing for the development and implementation of strategic plans. As for the latter, the authors think that the traditional Russian approach to strategizing the economic development in case of small and medium-sized business plays more likely a negative role, and increases already high level of bureaucracy of the legal entities' activity (Berezhnoy, V.I. et al., 2015). Narrowing sales markets, growth of currency rates, decrease in effective revenues of population, i.e. objective economic problems come with constant changes of the statutory regulation. In spite of considerable and active development of the infrastructure related to supporting small and medium-sized business in a number of regions (for example, this is only in the Rostov Region where institutional structures include 13 funds of supporting small and medium-sized business, 14 municipal agencies supporting and developing small and medium-sized business, 14 informational and consulting centers on servicing enterprises of small-sized agricultural business, etc.) (Kozlov, 2015, Smallbone et al., 2001)), their activity results are still inconsiderable.

One of the basic problems on financing the activity of small enterprises is related to the crisis state of the banking system. The process of liquidating unreliable banks activated by the Central bank of the Russian Federation (the CB of the RF) over the recent years have had a hard impact on small business. According to the report of the CB of the RF, as on 01.01.2016 the average level of the repayment of funds to third-priority creditors (i.e. legal entities) of the liquidated bank was only 16.3% (Statistics on Small and Medium-sized Enterprises, 2015, Liquidation of Credit Organizations, 2016). Since many liquidated banks were regional, and the majority of their clients included small and medium-sized business, the result of the liquidation procedure was rather sad not so much for the economy as a whole (whose turnover in Russia is formed mainly by large enterprises) as for a specific sector of the regional small

business. It goes without saying that the dynamicity of the development and high "changeability" of small enterprises provide the statistics where the number of subjects of small entrepreneurship is maintained on the adequate level. However, the internal state of this sector of economy defines the growth of social risks. Besides, the decrease in the differentiation of the banking offer narrows the market of loans, and as a consequence - opportunities of the small and medium-sized business. Thus, it is necessary to improve tools related to estimating the efficiency of the regional small business functioning.

2. METHODOLOGY

We offer a comprehensive methodology of analyzing the functioning of the regional small business as a basis for developing and taking any measures related to managing small business in regions. It includes several stages.

The basic goal includes defining subjects of the Russian Federation (federal districts, regions) where it is the most perspective to develop small forms of the economic activity, as well as to define types of the economic activity in regions where small enterprises successfully function. It is important to take into account that positive economic factors put in small business cannot be total, and as a rule cover only specific areas of production on specific territories.

The offered algorithm of analyzing the state of small and medium-sized business of regions includes the following stages:

I. Analysis and estimation of the state of small and medium-sized business in the region(s) and basic factors that have a negative impact on it.

1. Estimation of the position of small business in economy of regions. Sectoral structure of regional small and medium-sized business.
2. Analysis of tendencies of small business development.
3. Comparative analysis of small and medium-sized business of neighboring regions.
4. Revealing negative factors that decrease investments and results of the activity of small and medium-sized business.

At this stage the basic resources of information is data of state statistics bodies, and tools include economic and statistical methods.

II. Estimation of the efficiency related to functioning of small and medium-sized business of regions.

1. Formation of a system of factors that define the efficiency of small and medium-sized business in regions.

2. Integrated estimation of factors of the efficiency related to functioning of small and medium-sized business in regions on the basis of the multidimensional statistical analysis.
3. Classification of regions according to the level of efficiency and character of small and medium-sized business functioning.
4. Comparative estimation of the level of efficiency of small business functioning within every cluster.

The level of the impact of factors on the efficiency of small business functioning in regions is estimated in terms of quantitative and qualitative indicators.

Quantitative estimation is made on the basis of statistical data that characterize the level of small business development (financial resources, support of small enterprises by the government, number of small enterprises per head, etc.), external and internal conditions of their functioning by using absolute and relative values.

Qualitative estimation is the experts' (entrepreneurs') opinion that reflects entrepreneurial expectations in the region, expenses for cooperation with officials, state of the competitive environment, level of safety, and general motivation of business. The degree of their impact on the efficiency of small business enterprises functioning is defined by the management goals, conditions of performing the enterprise activity, and position of the individual who makes the estimation.

As a result of calculating, the multidimensional system characterizing small business in regions is formed. The availability of a great number of factors decreases the adequacy of the estimation, and makes it difficult to interpret results. The objective estimation of the estimation as a whole for this variety of local factors is complicated. That is why it is reasonable to group the factors. In order to reveal hidden factors within the methodology, it is offered to use the method of principle components.

Singling out several principle components of the small business efficiency instead of one integrated estimation allows to estimate not only the level but also the character of small business functioning in every specific region.

Based on the singled out principle components, regions are classified. It is possible to solve this task by using methods of the cluster analysis (k-means method).

In order to estimate regions that are similar according to the character of small business functioning within a separate cluster, we offer to use the DEA (Data Envelopment Analysis) tool.

3. RESULTS

3.1. Analysis and estimation of the state of small and medium-sized business in the region(s) and basic factors that have a negative impact on it.

Subjects of the Federation from the south of Russia were selected as an object of the research. They included Southern and North-Caucasian Federal Districts.

In 2014 above 2.1 mln. of small enterprises (including micro-enterprises) and 13.7 thous. of medium-sized enterprises were registered in Russia. It exceeds the 2000 data more than twice.

The number of small enterprises outstrips in a number of federal districts. The greatest share falls on regions of the Central Federal District (that includes Moscow and the Moscow Region), Privolzhsky and Siberian Federal Districts (Table 1).

Table 1
Dynamics and Structure of the Number of Small and Medium-sized Enterprises in Russia Regions (Unified Interdepartmental Statistical Information System, Small and Medium-sized Entrepreneurship in Russia, 2015)

Subject of the Russian Federation	*Structural indicators, %*				*Growth tempo, %*			
	Share of small/ medium-sized enterprises in the total number of enterprises of the subject, %, 2014		*Share of small/ medium-sized enterprises of the subject in the total number of Russian small enterprises, %, 2014*		*Average, 2010-2014*		*2014 comparated to 2013*	
	Small	*Medium-sized*	*Small*	*Medium-sized*	*Small*	*Medium-sized*	*Small*	*Medium-sized*
Russian Federation	43.06	0.28	100.00	100.00	106.35	85.88	101.97	100.05
Central Federal District	30.48	0.19	27.29	26.73	104.34	81.42	100.38	102.04
Northwestern Federal District	53.98	0.23	15.81	10.16	110.73	83.55	100.63	101.83
Southern Federal District	50.53	0.41	7.65	9.65	104.43	88.58	103.35	99.10
Republic of Adygeya	52.66	0.61	0.19	0.34	103.92	100.00	106.18	102.22
Republic of Kalmykia	19.83	0.60	0.05	0.24	90.51	82.28	106.54	66.00
Krasnodar Territory	44.30	0.35	2.99	3.64	102.67	86.85	106.45	101.63
Astrakhan Region	53.35	0.35	0.48	0.47	100.88	87.48	108.89	100.00
Volgograd Region	51.69	0.39	1.36	1.58	101.78	85.35	102.32	99.54
Rostov Region	60.79	0.52	2.59	3.37	109.83	92.43	99.36	99.35
North-Caucasian Federal District	39.03	0.32	2.54	3.23	106.55	88.00	101.04	94.44
Republic of Dagestan	20.49	0.13	0.33	0.32	119.55	84.82	89.85	73.33
Republic of Ingushetia	65.87	–	0.17	–	159.04	–	134.96	–

Subject of the Russian Federation	*Structural indicators, %*				*Growth tempo, %*			
	Share of small/ medium-sized enterprises in the total number of enterprises of the subject, %, 2014		*Share of small/ medium-sized enterprises of the subject in the total number of Russian small enterprises, %, 2014*		*Average, 2010-2014*		*2014 comparated to 2013*	
	Small	*Medium-sized*	*Small*	*Medium-sized*	*Small*	*Medium-sized*	*Small*	*Medium-sized*
Kabardino-Balkarian Republic	34.82	0.51	0.21	0.46	104.58	91.22	99.38	95.45
Karachai-Cherkess Republic	52.64	0.42	0.17	0.21	107.40	92.28	98.97	82.86
Republic of North Ossetia-Alania	49.73	0.20	0.28	0.17	110.13	81.55	89.89	104.55
Chechen Republic	58.54	0.10	0.27	0.07	103.27	87.58	107.78	90.91
Stavropol Territory	41.28	0.48	1.11	1.99	101.32	88.25	103.11	99.64
Privolzhsky Federal District	47.25	0.38	17.53	21.44	105.20	87.30	98.55	94.16
Ural Federal District	50.40	0.30	9.51	8.62	107.74	91.02	104.34	100.08
Siberian Federal District	56.07	0.37	14.36	14.62	106.85	88.07	104.13	98.86
Far Eastern Federal District	47.96	0.34	4.45	4.89	103.83	90.30	97.42	109.67
Crimean Federal District	92.59	0.47	0.87	0.67	–	–	–	–

Note to the table: Federal districts: CFD – Central Federal District, NWFD – Northwestern Federal District, SFD – Southern Federal District, NCFD – North-Caucasian Federal District, PFD – Privolzhsky Federal District, UFD – Ural Federal District, SFD – Siberian Federal District, FEFD – Far Eastern Federal District, and CrFD – Crimean Federal District.

Almost 30% of the enterprises of small and medium-sized business are located in the Central Federal District. The Privolzhskiy Federal District (17.53% and 21.44%) occupies the second position. Other districts follow them.

While in 2009 the share of small business in the south of the Russian Federation in terms of the number of economic entities had been 10.66%, in 2014 it was above 40%. It positively characterizes the economic activity and initiativity of the population of federal districts. In terms of districts, in the Southern Federal District the Rostov and Astrakhan regions happened to most actively establish small enterprises (60.79% and 53.35 % of small enterprises in the total number of organizations of the regions), and in the North-Caucasian Federal District these were the Republic of Ingushetia and the Chechen Republic (65.87% and 58.54%, respectively). In the total number of small enterprises of Russia the Southern Federal District accounts for 7.65%, and the North-Caucasian Federal District – for 2.54%. Herewith, the tempos of the growth

of small enterprises as compared to their growth in the Russian Federation slightly differ. It is necessary to acknowledge North-Caucasian republics as leaders (over the recent 5 years), and the most developed regions of the Southern Federal District are characterized by stable growth even under the crisis (2014 compared to 2013).

The Central Federal District accounts for the greatest share of the turnover of small enterprises. The Southern Federal District has only 8.09% of the turnover of small enterprises, and the North-Caucasian Federal District – 2.91% (Table 2).

Table 2
Turnover of Russian Small Enterprises

Subject of the Russian Federation	*Structural indicators, %*		*Growth tempo, %*	
	Share of the turnover of small enterprises in the general volume of the turnover of enterprises of the subject, %, 2014	*Share of the turnover of small enterprises of the subject in the all-Russian turnover of small enterprises, %, 2014*	*Average, 2010-2014*	*2014 compared to 2013*
Russian Federation	20.20	100.00	108.66	106.50
Central Federal District	16.81	36.60	108.16	107.82
Northwestern Federal District	18.05	10.43	102.72	105.02
Southern Federal District	27.17	8.09	112.68	109.81
Republic of Adygeya	42.86	0.16	107.98	112.02
Republic of Kalmykia	48.63	0.04	100.18	114.58
Krasnodar Territory	25.63	3.78	118.03	106.70
Astrakhan Region	27.90	0.32	111.54	109.14
Volgograd Region	21.19	1.07	105.22	112.33
Rostov Region	32.44	2.73	110.32	113.26
North-Caucasian Federal District	43.44	2.91	119.59	113.87
Republic of Dagestan	73.69	0.71	174.15	114.99
Republic of Ingushetia	69.22	0.06	141.75	110.01
Kabardino-Balkarian Republic	39.58	0.14	110.66	116.90
Karachai-Cherkess Republic	28.51	0.09	107.38	87.00
Republic of North Ossetia-Alania	56.88	0.15	108.79	94.74
Chechen Republic	59.73	0.25	109.37	143.29
Stavropol Territory	35.15	1.50	114.22	113.91
Privolzhsky Federal District	25.73	18.32	112.02	104.40
Ural Federal District	16.06	8.60	107.38	97.62
Siberian Federal District	26.47	10.73	107.72	107.48
Far Eastern Federal District	24.03	4.17	107.60	110.87
Crimean Federal District	32.05	0.16	-	-

In the structure of the turnover of the Southern enterprises the greatest share belongs to the Krasnodarsk Region, and the Rostov Region is on the second place.

It is characteristic that under such structure of the turnover of small enterprises according to districts, the North-Caucasian Federal District is peculiar of a certain disproportional specificity of the turnover within the district, in terms of enterprises depending on their size. While as a whole in the country the share of turnover of small enterprises is relatively small (20.2%, with the share of small enterprises in the total number of organization being above 40%), in the North-Caucasian Federal District the turnover is 43.44%, with the number of small enterprises in the total number of organizations being 39.03%. Herewith, the Republics of Dagestan and Ingushetia display the greatest value.

On average in the Russian Federation the share of employees of small enterprises in the total number of employees was 54.21%. The fluctuations in terms of federal districts are inconsiderable. The North-Caucasian Federal District is characterized by the advanced tempo related to the growth of those who work in small business: on average for five years 105.51% in the district against 101.31% in the country.

Small business is characterized by a low level of investing in basic capital (Table 3).

Table 3
Share of Small Enterprises in the Volume of Investments in Basic Capital

Subject of the Russian Federation	*Structural indicators, %*		*Growth tempo, %*	
	Share of investments of small enterprises in the total volume of investments of the subject enterprises, %, 2014	*Share of investments of small enterprises of the subject in the all-Russian volume of investments of small enterprises, %, 2014*	*Average, 2011-2014*	*2014 compared to 2013*
Russian Federation	4.78	100.00	115.47	115.57
Central Federal District	5.32	28.59	118.23	118.04
Northwestern Federal District	2.35	4.98	112.95	123.69
Southern Federal District	5.84	11.91	105.76	115.53
Republic of Adygeya	19.55	0.50	115.30	122.71
Republic of Kalmykia	5.73	0.20	163.79	259.60
Krasnodar Territory	4.99	5.63	99.09	106.84
Astrakhan Region	2.42	0.43	105.69	123.09
Volgograd Region	5.77	1.59	106.52	101.53
Rostov Region	8.97	3.57	116.91	134.95
North-Caucasian Federal District	6.56	4.88	135.97	127.32
Republic of Dagestan	5.21	1.58	115.82	115.85

Subject of the Russian Federation	*Structural indicators, %*		*Growth tempo, %*	
	Share of investments of small enterprises in the total volume of investments of the subject enterprises, %, 2014	*Share of investments of small enterprises of the subject in the all-Russian volume of investments of small enterprises, %, 2014*	*Average, 2011-2014*	*2014 compared to 2013*
Republic of Ingushetia	7.11	0.17	83.28	18.92
Kabardino-Balkarian Republic	2.87	0.10	121.72	115.05
Karachai-Cherkess Republic	3.02	0.10	102.35	39.22
Republic of North Ossetia-Alania	1.73	0.08	140.07	209.56
Chechen Republic	17.81	1.54	–	808.73
Stavropol Territory	6.05	1.30	143.13	133.18
Privolzhsky Federal District	7.88	28.29	119.56	112.77
Ural Federal District	1.34	4.76	112.31	119.60
Siberian Federal District	6.21	13.87	109.07	104.79
Far Eastern Federal District	1.98	2.42	115.11	131.49
Crimean Federal District	6.70	0.30	#ДЕЛ/0!	#ДЕЛ/0!

The volume of investing by small enterprises is a bit less than 5% in the volume of investments in basic capital as a whole in the country.

It is necessary to note a considerable investment activity of enterprises located in the Privolzhsky Federal District, Crimean Federal District, North-Caucasian Federal District, and Siberian Federal District.

In the Southern Federal District and North-Caucasian Federal District the share of investments for small business is higher than on average in the country. Herewith, it is provided by the investment activity of subjects of small business from Adygea, the Rostov Region (the Southern Federal District), and the Chechen Republic (the North-Caucasian Federal District).

Over the recent years the growth of the volumes of investments of small business of the south of the Russian Federation has reflected the all-Russian tendencies, too. Thus, in 2011-2014 the tempo of growth of investments in the Russian Federation was 115.47%, in the Southern Federal District – 105.76%, and in the North-Caucasian District – 135.97%. In 2014 as compared to 2013 the growth of investments of small business in the Southern Federal District inconsiderably differed from the average Russian one, and in the North-Caucasian Federal District it exceeded the all-Russian indicator by 12 percent points.

The structure of investments in basic capital of small enterprises of the south of the Russian Federation in terms of regions shows that the basic volume was provided by the Krasnodar Territory and the Rostov Region.

Thus, the analysis of the turnover and investment activity shows that in spite of the small volume share of the North-Caucasian and the Southern Federal Districts in the total volume of results of the activity of small business, in subjects (especially in the North-Caucasian Federal District) there is considerable imbalance of the turnover and investments towards small enterprises. If we turn to the structure of small business of the North-Caucasian Federal District and the Southern Federal District, the lack of the need to make considerable investments in the basic capital of small business becomes obvious: above 50% of enterprises are trading.

As a whole, the activity of small business in the South of the Russian Federation is provided by functioning of enterprises of the largest and/or dynamically developing subjects. In the Southern Federal District these are the Krasnodar Territory, the Rostov Region, the Volgograd region, and the Astrakhan Region; and the Stavropol Territory in the North-Caucasian Federal District.

Financial state of small enterprise has a considerable impact on the efficiency of the small enterprises activity. On the one hand, it serves as a factor of increasing efficiency. On the other hand, it reflects the results and efficiency of enterprises activity. One of the most important characteristics of the financial state of subjects of small entrepreneurship in the region is the share of unprofitable enterprises (Table 4).

Table 4
Share of Unprofitable Organizations According to Accounting Data
(Percent, Total, Indicator per Year)

Subjects of the Russian Federation	*2014*		*2015*	
	Small-sized enterprises	*Organizations cycle*	*Small-sized enterprises*	*Organizations cycle*
Russian Federation	20.3	20.5	20.2	20.2
Central Federal District	20.6	21.2	20.7	21.1
Northwestern Federal District	22.6	22.6	21.7	21.6
Southern Federal District	21.6	21	22	21.2
Republic of Adygeya	18.6	18	18.7	17.9
Republic of Kalmykia	17.2	18.6	16.2	16.6
Krasnodar Territory	22.6	22.4	23.4	23.1
Astrakhan Region	23.1	22.5	22.8	22.2
Volgograd Region	21.5	20	21.4	19.6
Rostov Region	20.3	19.8	20.4	19.7
North-Caucasian Federal District	18.8	18.7	17.1	17.3
Republic of Dagestan	13.3	16.4	12.5	14.6
Republic of Ingushetia	5	4.1	2.4	4.8
Kabardino-Balkarian Republic	16.4	17.8	17	17.7
Karachai-Cherkess Republic	10.3	11.5	9.8	10.9

Subjects of the Russian Federation	*2014*		*2015*	
	Small-sized enterprises	*Organizations cycle*	*Small-sized enterprises*	*Organizations cycle*
Republic of North Ossetia-Alania	18.8	19.8	17.7	19
Chechen Republic	5.1	11.5	2.6	6.1
Stavropol Territory	22.3	21.3	21.6	20.6
Privolzhsky Federal District	19.2	19	18.9	18.5
Ural Federal District	19.5	19.8	19.3	19.3
Siberian Federal District	18.2	18.2	18.2	18.1
Far Eastern Federal District	21.5	21.7	21.5	21.3
Crimean Federal District	35.3	33.1	29.3	29

While as a whole in the Russian Federation the share of unprofitable small enterprises is the same as in relation to all enterprises, the situation in the Southern Federal District is opposite. The share of unprofitable small enterprises in the Southern Federal District is higher that the that as a whole in the Russian Federation (22% against 20.2%).

In the majority of subjects of the Southern Federal District of the Russian Federation the share of unprofitable small enterprises is higher than that in the their full circle. The Republic Kalmykia is the only exclusion. In the North-Caucasian Federal District the situation differs: small enterprises are less unprofitable than enterprises as a whole in all subjects except for the Stavropol Territory.

The smallest share of unprofitable enterprises is in the Chechen Republic (2.6%) and Ingushetia (2.4%).

One of the most important indicators of the subject functioning efficiency is its profitability.

Table 5 shows the level of profitability of sold goods, works, and services of small enterprises.

Table 5
Level of Profitability of Sold Goods (Works, Services) (GWS), Percent
(According to Accounting Reports)

Subjects of the Russian Federation	*2014*		*2015*	
	Small-sized enterprises	*Organizations cycle*	*Small-sized enterprises*	*Organizations cycle*
Russian Federation	5.4	6.8	5.2	7.2
Central Federal District	5.4	5.8	5.1	5.7
Northwestern Federal District	5.3	6.4	5.1	6.7
Southern Federal District	6.3	6.7	6.9	8.1
Republic of Adygeya	6	4.7	7.1	5.3

Subjects of the Russian Federation	*2014*		*2015*	
	Small-sized enterprises	*Organizations cycle*	*Small-sized enterprises*	*Organizations cycle*
Republic of Kalmykia	7.1	1.4	6.5	0.9
Krasnodar Territory	6.6	6.6	6.9	8.8
Astrakhan Region	8.7	11.7	9.2	10.4
Volgograd Region	5.3	7.7	6.6	8.2
Rostov Region	6.2	6	6.9	6.7
North-Caucasian Federal District	5.5	5.2	5.7	6.3
Republic of Dagestan	6.5	4.2	6.9	3.4
Republic of Ingushetia	5.8	0.6	7.1	1.9
Kabardino-Balkarian Republic	11.2	5.5	4.3	3.1
Karachai-Cherkess Republic	5.9	4.8	6.3	6.8
Republic of North Ossetia-Alania	5.2	3.7	6.7	5.9
Chechen Republic	5	–4.4	2.1	–4.9
Stavropol Territory	4.8	6.2	6	7.9
Privolzhsky Federal District	4.8	7.9	4.8	9
Ural Federal District	5	9.5	5.4	11.9
Siberian Federal District	5.5	9.6	5.4	11.1
Far Eastern Federal District	7.2	8.6	5.8	9.9
Crimean Federal District	6.8	10.8	9	6.2

As a whole, the profitability of goods and services of the full circle of enterprises is higher than that of small business. First of all, it is explained by the scale of production.

As on the end of 2015 in the Southern Federal District and North-Caucasian Federal District the profitability of goods (works, services) of small business was higher than its profitability in the country. The highest level of profitability (above 9%) was characteristic for small enterprises of the Astrakhan Region.

As a whole, it is necessary to note that small enterprises of the South of the Russian Federation functions with low efficiency. The district occupies one of the last positions both according to the profitability indicators and volume characteristics of the turnover and investments in small business.

In spite of the specified negative parameters, small business in the South of the Russian Federation is quickly developing. It requires the estimation of factors (sources) to increase its efficiency and forecast them in the future.

The factors that *have an impact on the efficiency of functioning of small business in regions* are classified in terms of a specific subject of management under specific

temporal and spatial conditions of its activity taking into account goals of the researchers. Then it is necessary to estimate the importance of factors of the efficiency of functioning of small business within a specific economic situation, objects and subjects of the analysis.

The importance of every factor is estimated by using methods of expert estimates. Within this method every expert ranges factors on the basis of three parameters:

1. informational transparency – opportunity to obtain adequate and true information about the volume (value) of the estimated indicator that characterizes the efficiency of small business,
2. degree of impact on the efficiency of functioning of small business in regions – to what degree the efficiency of small enterprises depends on the volume (value) of this indicator,
3. degree of impact on perspectives of small business development – whether this indicator has an impact on the efficiency of the enterprise only at the current moment or defines the future state of small business.

As a result of processing expert opinions taking into account general scientific concept of stability, a system of factors is formed. It comprehensively and most fully characterizes the phenomenon under study under specific conditions of place and time. The system of factors used in our research is given below:

1. External factors:
   - Level of interest rates for loans,
   - Level of prices (rates) for specific types of resources,
   - Level of inflation,
   - Level of taxation,
   - Level of legislation development,
   - Support of small business from the state government,
   - Level of corruption in economic departments,
   - Purchasing power of the population of the region,
   - Deductions for social needs, and
   - Competitiveness of goods produced by small business enterprises.
2. Internal factors:
   - Financial resources,
   - Informational resources,

- Capital resources,
- Level of own capital,
- Material expenditures,
- Financial results of enterprises of small business,
- Level of liquidity of economic partners running business (companies, firms),
- Level of financial indebtedness of small business enterprises,
- Unprofitable enterprises of small business in the region,
- Feasibility of organizational and legal forms of enterprises,
- Institutional and organizational environment,
- Management qualification,
- Level of management at enterprises of small business,
- Activity diversification,
- Strategic management in small business,
- Personnel qualification,
- Level of salary at enterprises,
- Expenses for labor payments,
- Innovations at enterprises of small business,
- Depreciation,
- Level of investments in basic funds at enterprises of small business, and
- Marketing at enterprises.

3.2. Estimation of the efficiency related to functioning of small and medium-sized business of regions

During the analysis it is necessary to reduce quantitative factors to relative values. It will provide the comparability of objects that differ according to the scale of absolute values. The nature of the objects economic efficiency itself is defined on the contrary to effect as a correlation of the results with expenses (resources) and assumes the use of relative indicators:

- Average tempo of growth,
- Ratio of the object in the structure of the researched aggregation according to a specific parameter, and
- Relative indicator of intensity.

When ranking the degree of the indicator impact on the efficiency of functioning of enterprises of small business of a specific region, it is necessary to take into account both absolute values that reflect the actual level of regions development, and relative ones that characterize the basic tendencies in their activity. In this case normalizing data and their further ranking can become the most appropriate decision. The obtained ranks of regions according to absolute and relative data are integrated into a single indicator for every object by calculating the average rank. The best region gets 1 point, the one that follows it – 2, etc.

Qualitative indicators are estimated by using expert methods. In the majority of cases expert estimations are close to one another and only slightly contradict one another. That is why in order to correlate opinions of several experts, it is convenient to use the method of agreeing clustered rankings (Orlov, 2006), when the adjustment of final clusters complies with all initial adjustments.

In order to make further analysis of the efficiency of functioning of small business in regions within the above methodology, we will use the multidimensional statistical methods. In our research we singled out 34 local factors that have an impact on the efficiency of functioning of enterprises of small business in regions.

As a result of the calculations, 3 main components were revealed (Table 6).

Table 6.
Proper Values of Main Components Defining Efficiency of Enterprises of Small Business of Regions in the South of Russia

Main components	*Proper values*	*% of the total dispersion*	*Accumulated proper values*	*Accumulated %*
First-F_1	17.814	52.395	17.814	52.395
Second-F_2	9.698	28.525	27.513	80.920
Third-F_3	2.939	8.644	30.452	89.564

Proper values of the singled out components make up 17.814, 9.698, and 2.939, respectively. The cumulative percent of dispersion for the first component is 52.395 %. It says that it justifies the changeability of initial characteristics by more than 50%. All three components in the aggregate explain by 89.564% the changeability of local factors that define the efficiency of the regional small business. However, it is necessary to note that the first singled out component is the most informative, because its dispersion is 52.395% from the total dispersion. The value of informativeness of the second and the third components is 28.525 and 8.644%, respectively.

The results obtained after the maximum rotation of normalized factorial loadings were interpreted as follows.

The initial factors that defined the first main component are characteristics of the resourceful basis of functioning of small business in regions, including labor, financial, material and other resources. That is why we will interpret the obtained main component as a level of resourceful provision of small business in regions. We will interpret the second component as a level of the social and economic development of the region (meso-environment of small business). The name of the third component is defined by the availability of important factors that characterize the management aspects in the activity of enterprises of small business and state government, and are found in the structure. We will interpret the third component as a level of management in small business of regions.

Thus, as a result of using the method of factorial analysis, we have obtained three main components that define the efficiency of functioning of enterprises of small business for 13 regions of the South of Russia, and comprehensively show the level of their efficiency (Table 7).

Table 7
Values of Main Components Defining Efficiency of Functioning of Small Business Enterprises in Regions of the South of Russia

Regions	*Values of main components of factors of efficiency of small business functioning*		
	F_1	F_2	F_3
Republic of Adygeya	–0.591	–0.206	1.073
Republic of Dagestan	–0.594	1.058	–0.115
Republic of Ingushetia	1.681	1.356	0.019
Kabardino-Balkarian Republic	0.200	0.635	0.578
Republic of Kalmykia	1.300	–0.991	1.247
Karachai-Cherkess Republic	0.224	–0.508	1.177
Republic of North Ossetia-Alania	1.580	0.450	–1.403
Chechen Republic	–1.269	1.266	1.305
Krasnodar Territory	–0.791	–0.134	–1.296
Stavropol Territory	–0.074	–1.295	–0.574
Astrakhan Region	0.251	–1.394	–0.368
Volgograd Region	–1.125	–1.088	–0.380
Rostov Region	–0.793	0.853	–1.265

Analyzing the data from Table 6, it is necessary to note that enterprises of small business in the southern regions of the Russian Federation are characterized by different indicators of main components of efficiency. It emphasized the difference of basic factors of their functioning. The first main component of efficiency reaches the greatest value for the Republic of Ingushetia $F_1 = 1.681$, and the smallest value is

related to the Chechen Republic (F_1 = –1.269). As for the second component, small business of the Republic of Ingushetia displays the highest level (F_2 = 1.356), and the Astrakhan Regions shows the smallest one (F_2 = –1.394). The highest peak for the third component is related to the Chechen Republic (F_3 = 1.305), and the lowest level is related to the Republic of North Ossetia-Alania (F_3 = –1.403).

Thus, using the method of main components, we have singled out three main components out of 34 initial (local) factors that have an impact on the level of efficiency of functioning of small business in 13 regions of the South of the Russian Federation. They define the efficiency of functioning of small business in regions:

- F_1 – level of resourceful provision of small business in regions,
- F_2 – level of social and economic development of the region (meso-environment of small business), and
- F_3 – level of management in small business of regions.

The analysis of efficiency of functioning of small business of one region requires comparative analysis with other regions. For this purpose, it is reasonable to classify enterprises of small business in regions according to the level of main components of efficiency of their functioning. The further researches are devoted to them.

Obviously, in order to make a comparative analysis, it is necessary to classify regions, i.e. to single out homogenous groups in which enterprises of small business were similar to a definite degree. The similarity means the closeness of objects in the multidimensional space of local factors that define their efficiency level. The task of the regional small business classification is to define natural accumulations of objects in this space. They are thought to be homogenous groups (classes). It is possible to solve this task by using the methods of cluster analysis.

As a result of the calculations with the aid of the STATSITICA software by using the k-means method, two large clusters were singled out. They were homogenous according to the composition of the objects that make up these clusters.

Figure 1 demonstrates the values of main components in every cluster.

The first cluster includes enterprises of small business of the regions that on average have the greatest values of the main components in the group: F_1 = 0.136, F_2 = 0.373, F_3 = 0.755.

The first cluster includes enterprises of small business from the following regions:

- Republic of Adygeya,
- Republic of Dagestan,

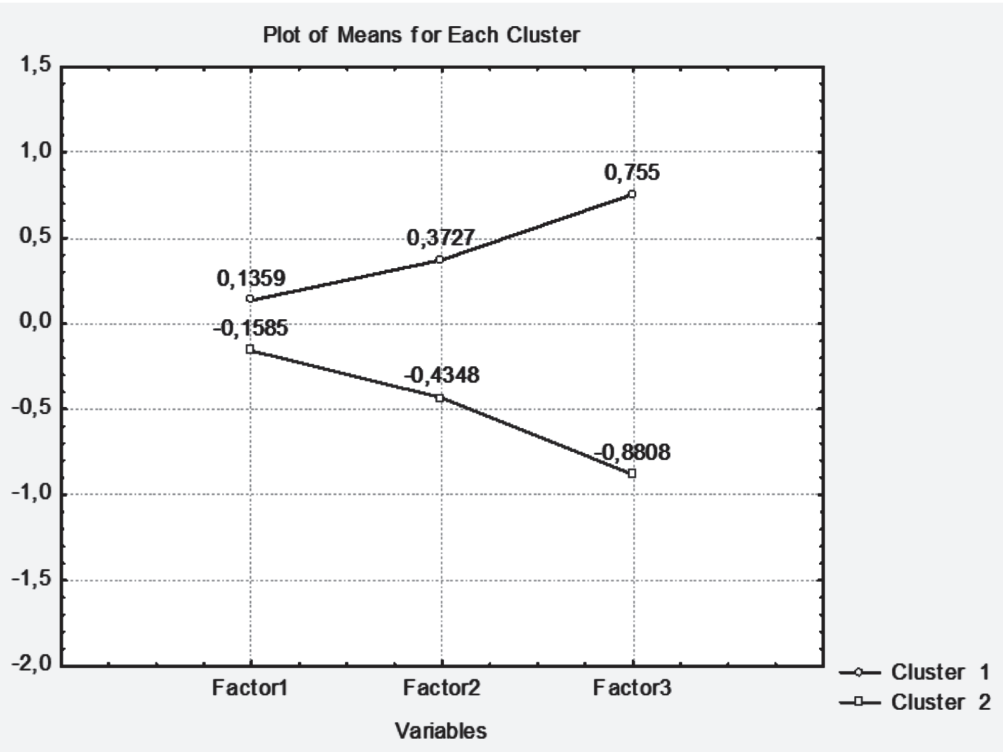

Figure 1: Average Values of Factors in Every Cluster

- Republic of Ingushetia,
- Kabardino-Balkarian Republic,
- Republic of Kalmykia,
- Karachai-Cherkess Republic, and
- Chechen Republic.

The Kabardino-Balkarian Republic (the distance is 0.186) is the closest to the cluster center. Small business of this region to the greatest degree reflects basic characteristics of this cluster objects. The Republic of Ingushetia is the farthest.

The second cluster includes regions that on average have the minimum values of the main components in the group: F_1=-0.159, F_2=-0.435, F_3=-0.881. This group includes such regions as

- Republic of North Ossetia-Alania,
- Krasnodar Territory,
- Stavropol Territory,

- Astrakhan Region,
- Volgograd Region, and
- Rostov Region.

The Krasnodar Territory (0.470) is the closest to the cluster. Its small business is characterized by the efficiency of its activity according to all areas.

Thus, the basic goal of dividing enterprises of the regional small business into homogenous groups (clusters) has been achieved. All researched regions are divided into two clusters. In order to carry out researches in relation to the singled out homogenous groups, it is necessary to analyze objects according to the initial local factors that define the level of efficiency of small business in them.

The regions in the second cluster have the highest average values of local factors that characterize all main components of the efficiency. The regions of the first cluster have low average values of the local factors that entered all three main components, i.e. objectively small business functions better in them.

Thus, several factors that have the greatest impact on the level of efficiency of functioning of enterprises of regional small business were singled out for every cluster.

In every cluster it is possible to single out a region that is most efficient in terms of small business. In order to do this, it is reasonable to use the method of analyzing the data shell.

According to the results of the research, based on the detailed information about functioning and efficiency of small business in regions and their final estimation, their place in clusters, optimal investment decisions can be taken to invest in various enterprises of small business in a specific subject.

4. DISCUSSION

The offered tools give an opportunity to comprehensively study small and medium-sized entrepreneurship in regions. The research carried out in terms of quantitative and qualitative factors allow to take into account both objective and subjective impact on the level of efficiency of small business functioning. The analysis in terms of the ratio of small business in specific subjects allows to approach objects of investing on a case-by-case basis depending on what type of enterprises in the region is more spread and efficient.

The statistical data base is a considerable problem of the research. In spite of the fact that the Federal Service of State Statistics (FSSS) publishes a lot of information in open access, comprehensive digests with the information about various areas of the economic life of the country and regions, the majority of this data is pulled

apart and do not have a sufficient time sequence. The methodology of collection, processing and representing data regularly changes (micro-enterprises are singled out in a separate group; territorial and administrative division – for example, the existence of the Unified Southern Federal District instead of Southern Federal District and North-Caucasian District, and a number of other aspects). Some data have been collected since 2004. A number of indicators were re-calculated due to the 2010 census of population. Full digests on separate areas (for example, transportation and communications) are published once per two years. Under such conditions the analysis of quantitative indicators must come with sample surveys of entrepreneurs, studying normative base and its changes, and other qualitative researches. When making the final analysis, it will decrease the objectivity of estimates.

To our mind, extreme strategizing of small entrepreneurship by federal and regional powers is a considerable problem. It causes administrative and legal difficulties for entrepreneurs and decreases the activity of population in this area.

5. CONCLUSION

The authors have developed and offered the methodology focused on researching regional structure of small and medium-sized business. This methodology is based on statistical tools that is easily automated and allows to obtain objective integral estimation of the development and efficiency of small business functioning in regions, as well as to reveal common features and differences of neighboring subjects and their specificity.

The developed methodology is meant for bodies of regional governance that monitor small business, and for investors who are interested in choosing territories for investments.

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