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THE REGULARITIES OF THE REGIONAL ASYMMETRY OF SMALL AND MEDIUM ENTERPRISE DEVELOPMENT

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K e y w o r d s: small enterprise, medium enterprise, asymmetry of economic development.

A b s t r a c t

The aim of the conducted study was to identify the regularities of the regional asymmetry of development of small and medium enterprise. The subject of the study is the influence of the area factors on the activities of small and medium-sized businesses. The authors are proposing their own original method of assessment of the regional asymmetry of small and medium enterprise development.

The study enabled the authors to identify the following regularities. Firstly, the level of the regional asymmetry of small and medium enterprise development does not depend on the size of the area occupied by the region. Secondly, the level of the asymmetry is inversely proportional to the level of the economic development of the region.

Besides that, the case study of the North-West federal district of the Russian Federation revealed a number of features of the regional asymmetry of small and medium enterprise development in the countries having significant territorial expanse.

PRAWIDŁOWOŚĆ ASYMETRII REGIONALNEJ ROZWOJU MAŁEJ I ŚREDNIEJ PRZEDSIĘBIORCZOŚCI

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S ł o w a k l u c z o w e: mała przedsiębiorczość, średnia przedsiębiorczość, asymetria rozwoju ekonomicznego.

Abstrakt

Cel przeprowadzonego badania to ocena wpływu powierzchni regionu i poziomu jego rozwoju ekonomicznego na stopień asymetrii regionalnej rozwoju małej i średniej przedsiębiorczości. Przedmiotem badania jest wpływ czynników terytorialnych na aktywność małych i średnich przedsiębiorstw. Zaproponowano autorską metodę oceny asymetrii regionalnej rozwoju małej i średniej przedsiębiorczości.

Badanie pozwoliło ujawnić pewne prawidłowości. Po pierwsze, poziom asymetrii regionalnej rozwoju małych i średnich przedsiębiorstw nie zależy od rozmiaru powierzchni terytorium, którą zajmuje region. Po drugie, poziom asymetrii jest odwrotnie proporcjonalny do poziomu rozwoju ekonomicznego regionu.

Na przykładzie Północno-Zachodniego Okręgu Federalnego Federacji Rosyjskiej ujawniono wiele właściwości asymetrii regionalnej rozwoju małej i średniej przedsiębiorczości w krajach mających znaczną powierzchnię terytorialną.

Introduction

Comparative studies of the level of the socio-economic development of regions often reveal their considerable differentiation in major parameters. A region in the article stands for a large territory administration unit of a state (a region or a kray in the Russian Federation, a voivodship in Poland).

Needless to say, the socio-economic differentiation as such is inevitable, since any area objectively features the irregularity of economic potential determined by geographic, climatic, historical and many other factors. Moreover, many scholars believe that "spatial imbalance" can have a stimulating impact on the economic development of areas. However, this is true only to the extent of a certain level of the socio-economic asymmetry. When it increases, the differences of the level and the quality of living of the population deepen, accompanied by a decline of rural areas and small towns. Without activities aimed at lowering the asymmetry it leads to the lagging municipal entities hampering the development of the whole region. On the other hand, the activities aimed at promoting the development of the lagging municipal entities result in an increase in their investment attractiveness, lowering the social strain that contributes to the region's development on the whole.

Thus, of great scientific and applied significance is the analysis of the regional asymmetry of the socio-economic development, one of the constituents of which is the analysis of the asymmetry in the level of development of small and medium enterprise in the region.

By small and medium enterprise here we mean a whole complex of small and medium-sized enterprises – both legal entities, and individual enterprises, which are not legal entities, whose average annual number of staff is not higher than 100 employees for small enterprises and ranges from 101 to 250 employees for medium-sized businesses.

The aim of the study conducted was to assess the impact of the area size of the region and the level of its economic development on the extent of the regional asymmetry of small and medium enterprise development.

The level of the topic scientific development

The significance of the issue of objective assessment and elaboration of techniques of lowering the excessive polarization of regional development determined quite a steady interest in its solving on the part of the economic science.

Among foreign researchers, it is necessary to mention S. Kalemli-Ozcan, B.E. Srrensen, O. Yosha who studied the issues of asymmetry of the regional development in the countries of the Organization of Economic Cooperation and Development (KALEMLI-OZCAN et al. 2001, pp. 107–137); Y.-H. Kim who made a contribution to the research of asymmetry of the regional development of the North-East Asia countries (KIM 2005, pp. 673–687); C. Economidou and C. Kool who studied the asymmetry of the economic development in the European Union countries (ECONOMIDOU, KOOL 2009, pp. 778–787); K. Behrens that researched the impact of interregional markets on the asymmetry of the economic development of regions (BEHRENS 2005, pp. 471–492).

However, none of the scholars did research into the asymmetry of development of small and medium enterprise of regions, its connection with the general asymmetry of the economic development at the regional level.

In Russia, the issue of assessment of the regional asymmetry of the socio-economic development was studied even more actively, that is determined by its greater significance and relevance in the conditions of a huge territorial expanse of the country, a complex administrative and territorial structure and a considerable differentiation of regions by all the vital criteria – from landscape and climate to scientific and educational potential.

In the past decade, almost two dozens of Ph.D. and doctoral theses have been dedicated to the issues of regional asymmetry. For instance, the methodology of assessment of regional asymmetry was elaborated by M. V. Galdin, O. L. Taran and M. M. Churakova; the matters of regulating regional asymmetry were studied by M. Yu. Belikov, M. V. Boiko, S. S. Zheleznyakov, L. N. Ivanova, M. Yu. Neucheva and S. P. Subbotin; the issues of evening the asymmetry at the sub-regional level were looked into by D. N. Vorobiev, A. M. Pakhomov, O. L. Starodub, P. A. Popov and others.

It should be noted, that some of the aspects of the asymmetry of the socio-economic development were quite thoroughly researched, while some of them were not touched upon by the majority of researchers. Among the latter

is the issue of the assessment of the regional asymmetry of small and medium enterprise development, which has not been investigated until the present in terms of methodology.

Meanwhile, the modern model of market economy suggests a high level of activity of small and medium-sized enterprises since they possess a huge potential, whose implementation is one of the most important conditions of the socio-economic development of the country in modern conditions. They provide employment and self-employment for the citizens, promote an involvement of additional labour resources in the social reproduction, attract private investment and personal savings to the real economy sector, are quite active in penetrating to the innovation processes, playing the role of pioneers in the scientific-technical sphere, enhance competition and perform many other most useful functions. The significance of small and medium enterprise is confirmed by the fact that in the economically developed countries their share in GDP ranges from 60 to 70%, the share in export of goods and services is from 75 to 80%, small enterprises in the USA and Western Europe are grantors of licenses of approximately half of all the innovations in the world market.

The importance of conducting a study into small enterprise at the regional level is determined by the fact that a region, being an area within which local self-government is performed along with public administration for solving issues of local significance, is most proximate to small enterprises; it is here that activities aimed at development of small enterprise, initiated at a higher level of administration, are realized.

The combination of significance and relevance of solving the problem of optimization of the level of asymmetry of small and medium enterprise development at the regional level, on the one hand, and acute scarcity of research into the issue, on the other hand, determined the choice of the topic of the present study.

Its academic novelty lies in the fact that the methodology of assessment of the regional asymmetry is for the first time applied to the investigation of the level of small and medium enterprise development that allowed to identify a number of regularities of asymmetry of its development at the regional level.

Description of the methodology of studies

In order to reveal the regularities of the regional asymmetry of small and medium enterprise development, an original authors' method of its assessment was elaborated, including, first of all, the assessment of the level of small and medium enterprise development in the region and, secondly, the calculation of the asymmetry itself.

It is proposed to apply 11 indices for the assessment of the level of small and medium enterprise development at the regional level (Table 1).

Table 1

Indices for the assessment of the level of small and medium enterprise development

Indices	Measurement unit	Type of indices
Number of small and medium-sized enterprises	units	absolute measure
Number of employees of small and medium-sized enterprises	people	
Revenues from sales of goods (works, services) of small and medium-sized enterprises	thousand EUR	
Value of nonborrowed fixed-capital assets of small and medium-sized enterprises	thousand EUR	
Investment in fixed capital of small and medium-sized enterprises	thousand EUR	
Number of small and medium-sized enterprises per 1000 people of permanent population	units/1000 people	relative indices
Share of those employed at small and medium-sized enterprises in the total permanent population	%	
Average amount of investment in fixed capital of small and medium-sized enterprises	thousand EUR	average indices
Average annual labor efficiency at small and medium--sized enterprises	thousand EUR/people	
Average capital/labour ratio of employees at small and medium-sized enterprises	thousand EUR/people	
Average return on assets of small and medium--sized enterprises	EUR/EUR	

Source: own work based on studies.

The given indices are calculated for each municipal entity making up a region.

Then, the crest value is selected among the values of each index for a municipal entity of a region and is worked out to identity. The values of the given index for the rest of municipal entities are proportionally reduced. Eventually, the assessment of municipal entities by all the indices is reconciled, and by calculating the arithmetical average, the average value of eleven indices for each municipal entity is determined. This very average value characterizes the level of development of small and medium enterprise in the given municipal entity of the region.

Subsequently, the rates of the asymmetry are calculated; as such we propose to use the range of fluctuation and the asymmetry coefficient. In order to determine the range of fluctuation, crest and lowest values are chosen from the values of the level of small and medium enterprise development of

municipal entities of a particular region. The range of fluctuation is their difference. The asymmetry coefficient is calculated as a mean deviation – a mean modulus of value deviation of the rates of the level of small and medium enterprise development in a municipal entity from their arithmetical average.

For the assessment of the asymmetry degree, we proposed the following scale: with the value of the asymmetry coefficient from 0 to 0.04 – weak asymmetry; from 0.04 to 0.08 – average asymmetry; more than 0.08 – considerable asymmetry.

Interpretation of the results

The elaborated method of assessment of the regional asymmetry of small and medium enterprise development was put to an evaluation test in the case study of ten regions of the North-West federal district of the Russian Federation (NWFD). The rates were calculated for 211 municipal districts and urban districts being part of those regions.

Table 2

The results of assessment of the regional asymmetry of small and medium enterprise development in the NWFD

Regions	Polar points of the level of small and medium enterprise development				Fluctuation	Asymmetry coefficient
	R_{min}	municipal entity	R_{min}	municipal entity		
Republic of Karelia	0.200	Muezersky District	0.807	The city of Petrozavodsk	0.607	0.069
Republic of Komi	0.171	Knyazhpogostsky District	0.806	The city of Syktyvkar	0.635	0.111
Arkhangelsk Region	0.113	Krasnoborsky District	0.648	The city of Arkhangelsk	0.535	0.074
Vologda Region	0.175	Vozhegodsky District	0.822	The city of Vologda	0.647	0.081
Kaliningrad Region	0.147	Ozersky District	0.820	The city of Kaliningrad	0.673	0.084
Leningrad Region	0.286	Boksitogorsky District	0.715	Gatchina district	0.429	0.106
Murmansk Region	0.227	Kovdorsky District	0.898	The city of Murmansk	0.671	0.114
Novgorod Region	0.183	Demyansky District	0.870	The city of Veliky Novgorod	0.687	0.088
Pskov Region	0.155	Usvyatsky District	0.864	The city of Pskov	0.709	0.082
St. Petersburg	0.177	Kronstadt District	0.882	Central district	0.705	0.161

Source: calculated by the author based on the data of Rosstat.

In addition to that, one can see from the Table data that the degree of the asymmetry in the NWFD regions differs a lot. Two regions – the Republic of Karelia and Arkhangelsk Region – feature an average level of the asymmetry, while all the others show high level. The asymmetry coefficient ranges from 0.069 in the Republic of Karelia to 0.161 in St. Petersburg. Thus, the asymmetry level is more than twofold different.

In order to test the hypothesis about the presence in each region of a "growth pole", in which the level of development of small and medium enterprise is considerably higher than on average in the region, the relevant rates in the municipal entities were compared to the highest rates and on average for each of the regions of the NWFD. The results of comparison are presented in Figure 1.

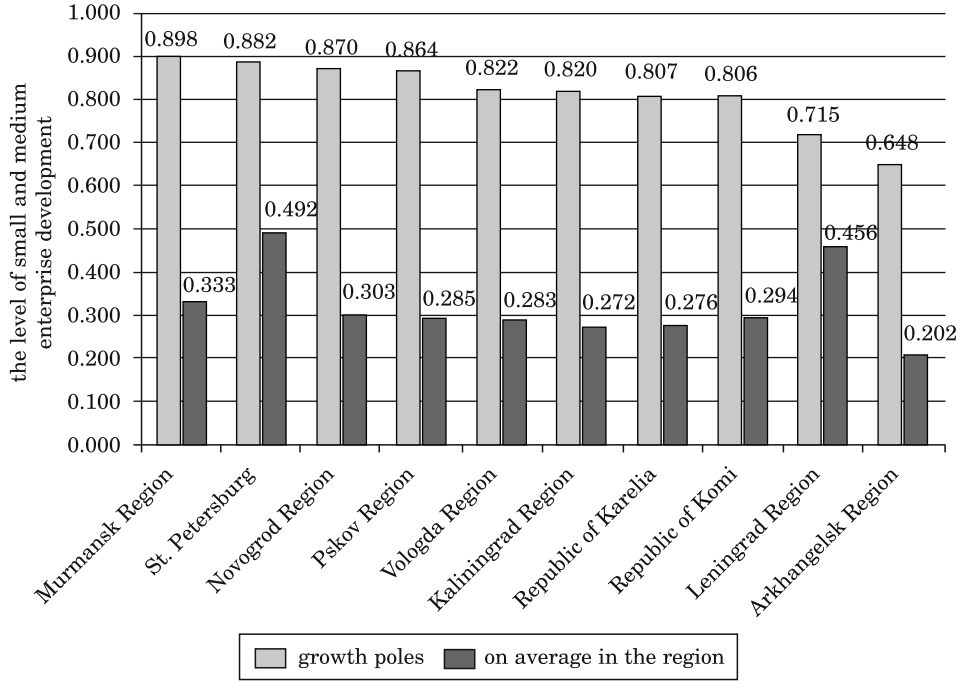

Fig. 1. The comparison of the level of small and medium enterprise development in the "growth poles" and on average in the NWFD regions without regard to the "growth poles"
Source: calculated by the author based on the data of Rosstat.

As is seen from the Figure, each region has its own "growth pole", in which the level of development of small and medium-sized enterprises is 1.6–3.2 times higher than the average in the corresponding region.

A relatively low range of fluctuation in the Leningrad Region and St. Petersburg can be explained, in our view, by the fact that their administrative-

territorial division does not match the "macroeconomic reality" which lies in the existence of a single economic region, including both St. Petersburg and the Leningrad Region. St. Petersburg, in this case, plays the role of the same pole of the region as Petrozavodsk in Karelia, Syktyvkar in Komi, Arkhangelsk in Arkhangelsk region etc. The rest of the region's territory (in this case – separated as a distinct administrative-territorial unit of Leningrad region) is characterized by a lower differentiation of the rates of the level of small and medium enterprise development (Figure 2).

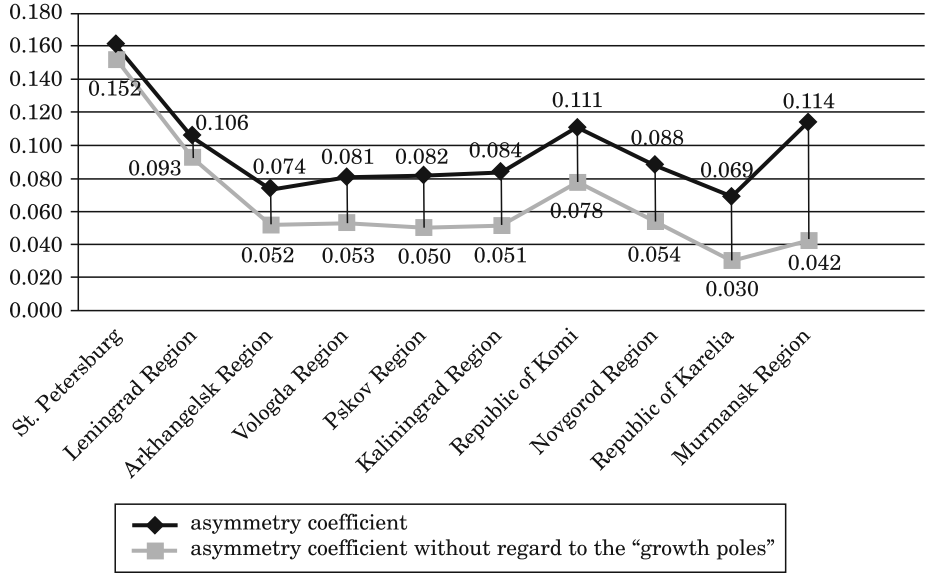

Fig. 2. The correlation of the asymmetry coefficient in the NWFD regions with and without regard to the "growth poles"
Source: calculated by the author based on the data of Rosstat.

A higher minimal value of the rate of the level of small enterprise development in the Leningrad region as compared to the other regions of the NWFD in this case can be explained, in our view, by a considerable positive impact of the proximity of the metropolitan city – St. Petersburg (DUPLENKO 2011, p. 95).

In order to determine the interconnection between the region's area and the level of the regional asymmetry of small and medium enterprise development, a linear correlation coefficient was calculated. With that, in order to attain the uniformity of the sample, St. Petersburg, whose area is 134 times smaller than the average area of the rest of the regions, was excluded from the calculation. Pearson correlation coefficient was -0.06, which testifies to the absence of a connection between the studied factors.

In order to determine the dependence between the level of the regional asymmetry of small and medium enterprise development and the level of the economic development of the region, Pearson correlation coefficient was also calculated. As a rate of the level of economic development of the region, gross regional product (GRP) per capita was used. The correlation coefficient totalled 0.67, which gives evidence of the presence of an average positive link between the given factors (Figure 3).

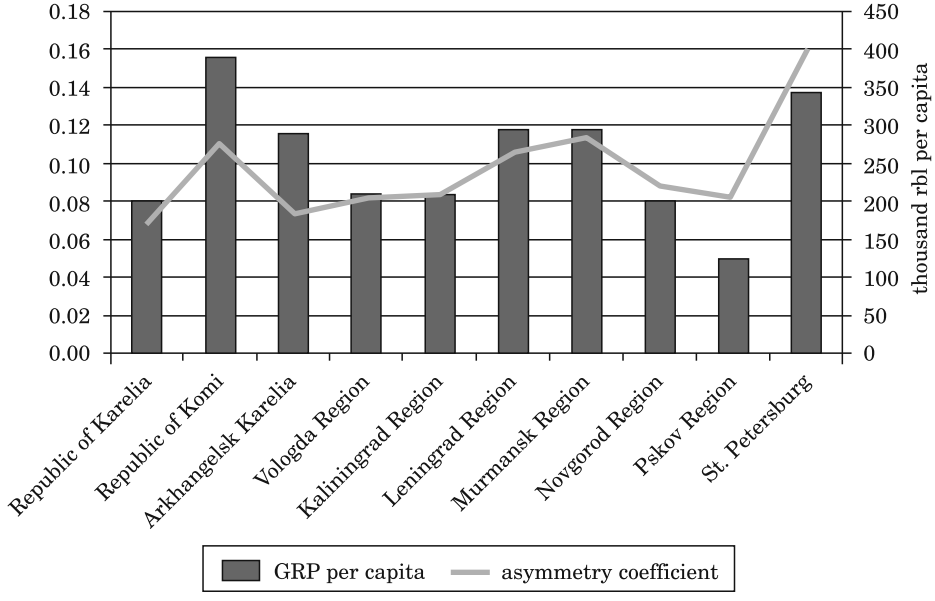

Fig. 3. The dependence between the level of the economic development and the level of subregional asymmetry of small and medium enterprise development in the NWFD regions
Source: calculated by the author based on the data of Rosstat.

Conclusion

The research conducted makes it possible to draw the following conclusions.

Firstly, the level of the regional a symmetry of small and medium enterprise development does not depend on the size of the territory occupied by the region.

Secondly, the regional asymmetry of small and medium enterprise is influenced by the level of the economic development in the region – the higher the level is, the lower the asymmetry is.

In our opinion, the asymmetry is at the same time both the reason and the effect of the irregularity of the socio-economic development of the region. It is

the reason since small and medium-sized enterprises are an important source of replenishing the local budget, they provide the population employment, saturate the local market with goods and services, perform a lot of other most important functions. On the other hand, it is the effect because the "successful" in economic terms municipal entities of the region can afford to render financial, property, information, staff and other kinds of support to the small and medium-sized enterprises acting in their territory, thus even more increasing their breakaway from the other municipal entities.

Drawing on the example of the North-West federal district of the Russian Federation, a number of features of the regional asymmetry of small and medium enterprise development were identified in the countries having a considerable territorial expanse.

They are characterized by a notable regional asymmetry, and the degree of the asymmetry differs depending on the region. In the North-West federal district of the Russian Federation with the average value of the asymmetry coefficient of 0.097, its values in individual regions range from 0.069 in the Republic of Karelia to 0.161 in St. Petersburg.

Besides that, in each region there is a "growth pole" (as a rule, it is an administrative centre), in which the activity of small and medium-sized enterprises is 1.6–3.2 times higher than that on average in the region.

A high degree of the asymmetry of small and medium enterprise development at the regional level can be considered, in our view, as negative and requires activities aimed at its evening out by means of promoting entrepreneurial activities in the "lagging" municipal entities of the region.

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