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Dynamics, Peculiarities and Financial Factors for the Industrial Development of the South of Russia

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Abstract:

The article presents the problems of the regional peculiarities and financial aspects of the industrial development of Russia its southern European territories – the Southern Federal District and the North Caucasian Federal District.

A plan of research of the financial factors of sustainable industrial development in Russia was offered. According to this plan, the authors performed the analysis of industry paying attention to the regions of the South of Russia.

The plan is based upon the consequent interrelation of the estimation of state and financial aspects of industrial development at the macro- and mesolevels including the analysis of the financial state and rates of the sustainable development of the regional industrial companies-leaders.

The structural and dynamic peculiarities of the industrial sector development of the South's economy are shown in the context of two federal districts; the regional companies-leaders of the South are also distinguished and studied from the point of view of the sustainable growth.

Keywords*: Industry, manufacturing activity, region, regional economy, industry characteristics.*

JEL Classification: *O10, O14.*

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1. Introduction

Despite the thrust in the beginning of the 21st century, the industry of Russia still suffers from some problems. The specialists name the following problems: depreciation, low level of logistic processes organization, unequal distribution of innovations among the subindustries, lack of resources for development and modernization, structural and industrial maladjustments, staff shortage and low labour productivity, tight schedule of implementation and disagreement of the development strategies for the industries, etc. (Ovchinnikova, 2012; Main Problems of Industrial Development in the Regions of the Russian Federation, 2017; Ramazanova, 2015; Ablaev, 2017; Faizova *et al.*, 2015).

These and other problems are reflected accumulatively in the final financial and operating results of the industry and its specific parts. The analysis of these indicators allows revealing the problematic zones of industrial development at the meso- and macrolevels, determining the efficiency of the taken measures at the level of strategic management of the industry and the regions and also showing the most efficient industries and distinguishing among them the industries that are important from the point of view of the development of the country and regions and have a strategic priority but do not correspond to the requirements of investors (Chen and Chen, 2002).

The industrial development of Russia and in the South is non-uniform in the context of the periods as well as in the context of industries and regions. The estimation of stability and sustainable development can be performed at the macro- and mesolevels. Amid the financial crisis and economic sanctions, the financial factors of development of the industrial sector of the economy are of great interest. Besides, the current economic situation and foreign policy express the necessity to "break" the prevailing of the resource industry that was traditional for the Russian economy from the beginning of the 2000s, and search for solutions, financial resources and reserves for the development of the manufacturing industry.

The factors of the production development in the modern economy reduce more and more to the capability of financing and investment into the capital stock. Since the beginning of the 1990s until now, the Russian industry has been distinguished by the consequent and interrelated combination of the two specific characters: the high efficiency of the extractive industry and, as a result, by its high investment attractiveness. The flow of financing contributes to the renewal of funds, attraction of highly-qualified personnel and as a result to the growth of efficiency of the extractive industry. In such situation, the flow of capital, i.e. financial, labour capital into the other types of industry becomes difficult or not possible without tough decisions at the federal level (Blien and Maier, 2008; Kaukin and Miller, 2017; Ryadnov *et al.*, 2017; Titova *et al.*, 2017; Zedgenizova and Ignatyeva, 2017).

The distinguished problematic aspects of industry functioning are revealed during the research at the national level. The resource character is determined due to the huge volume of eastern territories; however, in the context of the territories of the European part of the country, due to the absence of the large deposits, the industry gets different and often rather optimistic characteristics. In this article, we offer a scheme of analysis of industry that focuses attention on the integral characteristics of the branch and financial indicators.

2. Methods

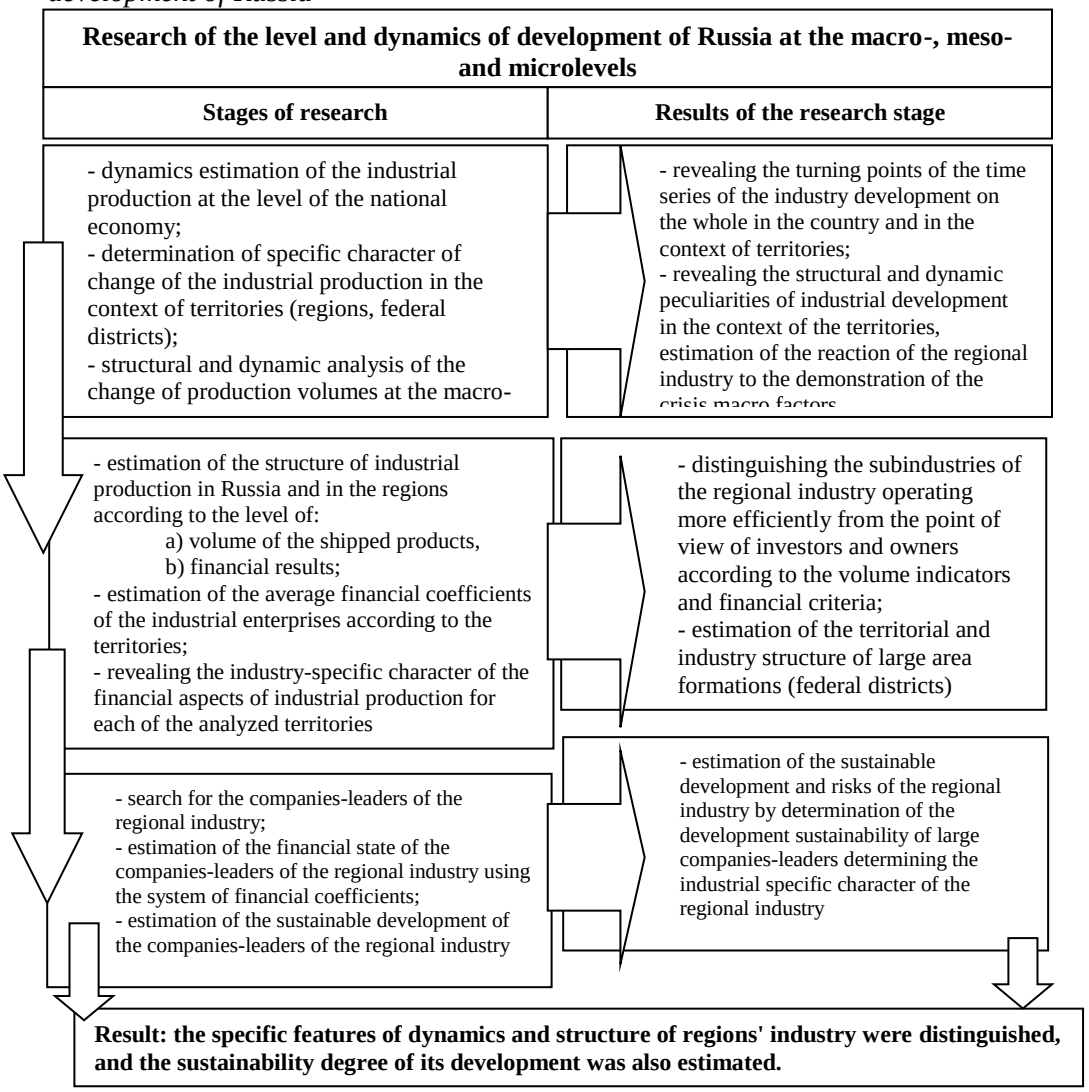
For our analysis, we shall use the following plan of research of the financial factors of the sustainable industrial development of Russia (Figure 1).

The key idea of the offered plan is a consequent interrelation of the estimation of state and financial aspects of the industrial development at the macro- and mesolevels including the analysis of the financial state and rates of the sustainable development of the regional companies-leaders of the industrial production. As a rule, modern Russian industrial production is not based upon the industrial complexes overall but on the large corporate structures.

For some industries (extraction of energy resources, agriculture, energy power, etc.), it is typical to allocate the head offices in Moscow and the Central Federal District (CFD), which results in the concentration of the reported statistic financial data in these regions. At the same time, independent industrial companies and large subsidiaries of the national corporations (PAO Rosneft, PAO Lukoil, etc.) continue to operate in the regions providing the operation of a significant part of the regional economy and life of single-industry cities. Rosstat observes the financial state of the city-forming companies. From our point of view, such attention should be also paid to other regional industrial companies, the activity of which forms the level and dynamics of the social and economic state of the region.

The methodological tools of the offered plan are based upon the statistical methods of research of the macroenvironment (the analysis of structure and dynamics of the industry of Russia and regions in different contexts) and also the financial tools that are used for the estimation of the financial environment of industrial companies in the regions (average regional and industrial data of Rosstat) and financial state of the companies-leaders (calculation of the financial factors and indicators of sustainable development). The analogous methods were successfully approved by the authors on the other objects of research (Berezhnaia *et al.*, 2014; Berezhnaia *et al.*, 2015; Berezhnaia *et al.*, 2016).

Figure 1. *Plan of research of the financial factors of sustainable industrial development of Russia*



3. Results

The South of Russia is a territory covering the area between the Caspian and Black Seas and including the regions that are contrast according to their level and specific character of the development: from the Chechen Republic to the Krasnodar Territory. For the further analysis, we shall determine the terminology in the context of the territorial objects: the work analyzes the state of industry of the South of Russia that is understood as the territory of the two federal districts – the SFD and NCFD in their modern borders. The correction in the analysis will be given to those periods when the configuration and the structure of the districts were

different from the current ones. The revealing of the indexes of industrial production in the context of the regions of the SFD and the NCFD shows the following:

- ✓ the sharpest (positive and negative) reaction of the production dynamics to the external factors is observed in the Rostov Region, the Republic of Adygea and Kalmykia;
- ✓ by the end of 2016, the main growth of production is concentrated in the Rostov Region, Adygea and the Astrakhan Region;
- ✓ in 2015, the advanced indexes of industrial production were shown by the Republic of Crimea, the Sevastopol, Astrakhan and Rostov Regions; in the other regions, the index of production decreased, in particular, up to 99% in the Republic of Kalmykia;
- ✓ in the NCFD, during the period of analysis the Republic of Dagestan and the Stavropol Territory show high growth rates; non-uniform dynamics with the sharp decreases and growth are typical for the Karachay-Cherkess and Kabardino-Balkar Republics.

The structural and dynamic analysis of changes of production volumes at the macro- and mesolevels is as follows. The industry of Russia consists of the three types of activity specified by the classifier and used in the statistic materials: extraction of mineral resources (Section C, OKVED and Section B, OKVED 2 since 2016), manufacturing (Section D, OKVED and Section C, OKVED 2) and production and distribution of power, gas and water (Section E, OKVED and Sections D and E, OKVED 2).

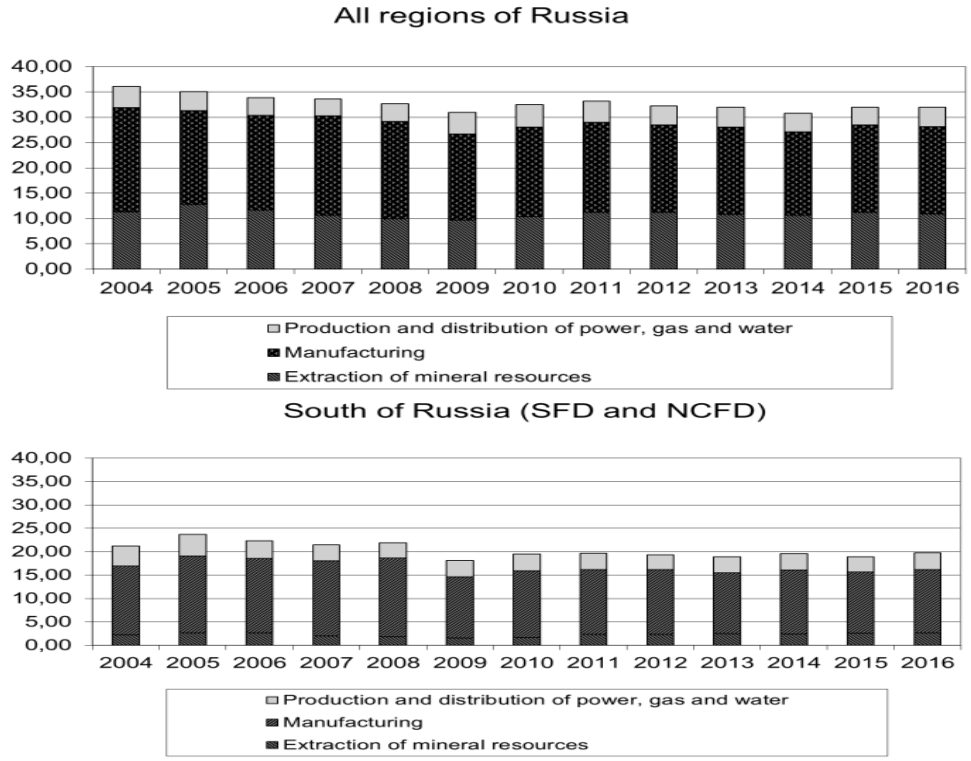
The sectoral structure of industry calculated according to the gross regional product is shown in Figure 2. In Russia, a share of industry in the economy for the regions decreases from 2004. If initially the level of all industries was 36.05%, including more than 20% for the manufacturing, in 2016 this share decreased to 31.95%, and the share of manufacturing decreased to 17.21%. Significant failure was observed in 2009 (30.97%) and in 2004 (30.80%). Above we have mentioned the high industrial growth rates in 2009; however, the decrease in their share means that the determination of the structure of economy was more influenced by the inflation and the advanced growth of other types of activity than by the absolute change of production volumes.

In the regions of the South of Russia, the industry takes max. 25% of the economy. Like the whole national economy, the decrease in the specific weight of industry in the GRP was in 2009; however, in 2014 the growth was observed due to the already mentioned increase in the economic indicators of the SFD due to the annexion of Crimea. If we open the presented diagram in the context of the SFD and the NCFD, it becomes evident that the SFD prevails over the NCFD: a share of industry in 2016 was 22.10% and in the NCFD it was only 13.49%. The

interpretation of the subindustries of manufacturing and extractive industries is not given according to the volume of the manufactured GRP. For specification of this information, we will use the indicators of the close economic sense:

- ✓ the volume of the shipped products of own production, performed works, services rendered using own resources;
- ✓ the financial result of the profit-making organizations;
- ✓ the revenue (net) from the sale of goods, products, works, services.

Figure 2. *Structure of industry of all regions of Russia and the South of Russia calculated according to GRP, %*



The structure of the industrial production in Russia and in the regions according to the volume of the shipped products and financial results is as follows. The structure of volume of the shipped products of own production, performed works, services rendered using own resource was analyzed in the types of industrial activity around Russia, the SFD and the NCFD. The prevailing of the extraction of fuel and energy resources, coke and oil products industry, the natural high value of a share of food production, the significant share of metallurgical production and the presence of transport and chemical production in the economy are typical for the industry of Russia.

If the structure of industry in the SFD is rather close to the average structure in the country (excluding the low share of extraction of fuel and energy resources), the following peculiarities shall be distinguished in the NCFD:

- ✓ a significant (more than twice than in the Russian Federation) specific weight of production and distribution of power, gas and water;
- ✓ a low share of extractive industry provided the availability of oil and gas fields in some entities;
- ✓ a high share of chemical production, power equipment production and other non-metal mineral products.

Due to the above said, the analysis of the production structure is of interest. The largest part of production of the NCFD is in the Stavropol Territory. In the extractive industry, the leader is followed by the Chechen Republic and Dagestan; however, the volumes of extraction are not large and do not impact greatly the general structure of the industry of the federal district. Manufacturing of the Stavropol Territory takes more than 60% of the total. This determines its sectoral structure: the leaders of the industrial production are chemical and engineering enterprises. The distribution of production volumes and distribution of power, gas and water are determined by the volumes of the entities' economies. The research of the structure of the financial results of the industrial enterprises' activity of the regions of the SFD and the NCFD are of interest: revenues and financial results of profit-making organizations.

On the average in Russia, almost one fifth of revenue of all companies is made by the resource extraction industry. The second place belongs to the subindustry of manufacturing related to it, i.e. production of coke and oil products. 17% of revenue is gained by the production and distribution of power, gas and water. 10% are for food industry and metallurgical production and 7% are for manufacture of transport means. Thus, the total revenue as well as some other indicators confirm the resource character of production in Russia. However, such structure is determined by the big shares of Siberia and the Far East (extractive regions) in the total volume of production.

A little different (but similar) structure of revenue is typical for the regions of the SFD. Due to the geographical specific character, the extractive industry takes less than 10%, and the extraction of energy resources takes 9% of them. Production and distribution of power, gas and water (24%) and the food industry (19%) take the most significant specific weight of the revenue. They are followed by the production of coke and oil products (15%) that corresponds completely to the average Russian structure of production. This is also confirmed by the share of metallurgy (10%) and transport means (6%). About 4% are taken by chemical production.

A completely different structure is typical for the NCFD. Production and distribution of power, gas and water take more than 50% of the industrial production and the second place is taken by chemical production with a share of 15.32%. Despite the presence of entities with oil and gas fields in the region (the Chechen Republic, the Republic of Dagestan, the Stavropol Territory), a share of the extractive industry is small. However, some large manufacturers of chemical products are in the territory of the federal district.

We use the financial result of the profit-making organizations for 2016 as the second indicator characterizing the structure of the industrial production. In Russia, the extractive industries of the fuel and power resources and other resources, as well as metallurgy, gain the positive financial result. They are followed by the chemical production and production of coke and oil products. The food production that takes the significant place in the sales volumes is not distinguished in the positive financial results.

For the SFD the extraction of the fuel resources (19.08%) and the almost complete absence of the sector of non-energy resources (0.53%) are distinguished in the positive financial result. In comparison with the average around Russia the food industry takes the second place (16.57%) that is related to the agrarian character of some territories. Besides, the significant share is taken by the transport means, coke, metallurgy and chemical industry. Almost 50% of the positive financial result in the NCFD is taken by the chemical production and the electric equipment production is also distinguished (6%). Thus, in comparison with the average Russian structure of production for the South, and, in particular, for the NCFD, the prevailing of the chemical industry and certain sectors of engineering is typical. The empiric analysis shows that it is provided by the availability of the industrial companies of these subindustries in the Stavropol Territory (JSC Arnest, JSC Concern Energomera, etc.).

Then we shall refer to the financial indicators of the industrial activity of the SFD and the NCFD and estimate the average financial coefficients of the industrial companies according to the territories. The analysis of autonomy coefficients has been performed according to the Russian practice, according to which 0.5 is the normal value. The companies of the following sectors differ by their sustainable financial state: food industry, chemical production, non-metal mineral products, metallurgy and vehicles. The companies of the SFD and the NCFD are positively different in the industries of wood working and pulp-and-paper production, coke and oil products, engineering; the industries of resource extraction, non-metal mineral products, metallurgy, vehicles are characterized negatively. This means the non-resource character of production in the South of the Russian Federation.

A relatively high coefficient of autonomy of the extraction enterprises of non-energy mineral resources, chemical production and machines and equipment in the NCFD should be mentioned especially.

The autonomy analysis shall be complemented with the research of the availability of own current assets and liquidity of the industrial companies. For most domestic industrial companies, the negative coefficient value of backing of working capital that reaches sometimes up to (-250%) is typical. By exception for the South of the Russian Federation, the extractive industries of non-energy extractive companies, food industry, manufacture of textile and rubber products (for the NCFD) and production of leather products, cellulose production, production of electric equipment, coke and machines and equipment should be mentioned.

The liquidity indexes of the industrial companies of the SFD and the NCFD differ positively according to the types of activity of extraction of other mineral resources, production of textile, cellulose, rubber products and electric equipment. It should be mentioned that this is typical mostly for the SFD. The analysis of profit margin and assets demonstrates the high efficiency of the chemical industry and production of machines and equipment in the NCFD; vehicles and electric equipment and the non-extractive industries in the SFD. Thus, the industry of the regions of the South of Russia differs by its high share of manufacturing, its significant financial sustainability, liquidity and efficiency. This distinguishes the SFD and the NCFD from the average characteristics of the industry around the country.

Then we shall concentrate on the industry of the NCFD that, to a great extent, differs from the average values in comparison with the SFD. To distinguish the leading companies, we used the following criteria: their belonging to manufacturing, the organizational form – joint stock companies, the positive value of retained and net profit on the date of analysis (end of 2016). Basing upon the open data and ratings of the First Independent Rating Agency, 10 industrial companies of the NCFD were selected (Table 1). The value of sustainable growth and its components were used for estimation: Profit margin, P, Retention rate, R, Asset turnover, A, Financial leverage, T. The formula for estimation was the following:

$$g *= PRAT \tag{1}$$

The results are shown in Table 1.

Table 1. *Estimation of sustainable growth of the companies-leaders of industry in the NCFD*

Company	Region	Type of activity	Coef-ficient of sus-tainable growth ($g*$)	Profit mar-gin, P	Reten-tion rate, R	Asset turn-over, A	Finan-cial leverage, T
JSC Nevinnomysskiy Azot	Stavropol Territory	Production of fertilizers and nitrogen compounds	0.2092	0.2705	0.1548	1.1870	4.2081
JSC Concern Energomera		**Production of equipment and measuring devices for electrical values and ionizing radiations**	**-0.0213**	**0.9688**	**-0.3911**	**0.0555**	**1.0156**
JSC Arnest		Production of perfume and cosmetic products	0.1641	0.0675	1.0031	0.9312	2.6026
JSC Eleckroavtomatika		Production of electrical switchgear and regulating equipment	0.4615	0.1941	0.7326	0.7344	4.4199
JSC Monocrystal		**Production of synthetic corundum**	**0.1034**	**0.0917**	**1.0000**	**0.3238**	**3.4840**
JSC KAMAZ PTC		Production of bodies for vehicles; production of trailers and semitrailers	0.0648	0.3269	4.7784	0.0397	1.0445
PAO Atlant		Production of electrical switchgear and regulating equipment	0.1472	0.0836	1.0014	1.0550	1.6670
JSC Group of industrial enterprises Kirovsky		Production of concrete items for construction	-0.0087	0.0000	-251.5385	0.7388	1.6368
PAO Pobedit	the Republic of North Ossetia-Alania	Tungsten production	-0.0782	0.1020	-0.6278	0.9924	1.2307
JSC Electrozinc		Zinc production	0.3684	0.0602	1.0000	1.0825	5.6525

For big manufacturers of the NCFD, the following is typical:

- ✓ concentration of the large industrial production in the Stavropol Territory;
- ✓ the companies represented in the table have been selected among 20 largest joint stock companies of the NCFD; the rest half of companies are food industrial companies involved in the production of alcoholic products and drug production;
- ✓ most companies belong to the industries of chemical production and engineering;
- ✓ negative value of coefficient of sustainable growth due to the decrease in the retained profit of the net profit available for the analyzed period;
- ✓ high values (more than 1) of the coefficient of profit retention that is related to the Russian specific accounting and regular expense of the results of revaluation of non-current assets and other operations by the companies to the retained profit;
- ✓ the two companies out of the ten analyzed companies (JSC Concern Energomera and JSC Monocrystal) are referred to one group of companies.

4. Discussion

The offered plan is based upon the standard statistic and financial and analytical tools. The further elaboration and extension of the methodology of research of the regional industry of Russia requires using the multidimensional methods, which is determined by a large number of data in the context of the regions, sectors of industry and industrial companies of the regions. In particular, the authors offer the development of the benchmark system at the mesolevel using the tools of the comparative analysis and algorithms of classification, especially, the tools of analysis of data shim and cluster analysis that will allow revealing the most successful ones from the homogeneous entities and using their experience for implementation of the optimal, strategic scenarios of low-performing entities (regions, industrial complexes, single-industry cities, companies, etc.).

5. Conclusion

Thus, we offered a plan of research of the financial factors of the sustainable industrial development of Russia including the analysis of the general dynamics of the industrial production, distinguishing of the specific character of industry in the context of the regions and types of activity, and the analysis and estimation of the sustainable development of the companies-leaders of the industrial production.

The results of the research showed the specific character of industry in the southern regions of Russia (sectoral structure, peculiarities of dynamics), their difference from the average Russian character of the structure and dynamics of the industrial production. The industries-leaders and the regions-leaders were revealed in the

contexts of the SFD and the NCFD (industries of chemical production, food industry, etc.), as well as the largest industrial companies of the NCFD, for which the coefficients of the sustainable growth were calculated and their concentration in the engineering industries and chemical production was shown.

References:

Ablaev, I.M. 2017. The Main Approaches to the Cluster Development in the Russian Economy. European Research Studies Journal, 20(2A), 431-442.

Berezhnaia, O.V., Berezhnoy, V.I., Kosenko, S.G., Matevosian, M.G., Berezhnaya, E.V. 2015. Tendencies and Regularities of Russian Regional Transport Systems' Development. International Journal of Economics and Financial Issues, 5(3S), 187-193.

Berezhnaia, O.V., Savtsova, A.V., Berezhnaya, E.V., Polivina, M.A., Moiseev, A.V. 2016. Evaluation Methods of Regional Transport Systems Performance Efficiency. Journal of Internet Banking and Commerce, 21(S6), 15-21.

Berezhnoy, V.I., Berezhnaya, E.V., Berezhnaya, O.V., Telnova, N.N., Ostapenko, E.A., Shatalova, O.I. 2014. Methodology of Application of the Systematic and Derivative Analysis of the Conditions of the Local Raw Materials Market Development. Life Science Journal, 11(8).

Blien, U., Maier, G. (Eds.). 2008. The Economics of Regional Clusters: Networks, Technology and Policy. Edward Elgar Publishing.

Chen, H.E., Chen, G. 2002. An Evaluating Model and Case Study on the competence of Regional Industry [J]. China Soft Science, 1, 99-104.

Faizova, G., Kozhevnikova, N., Kashipova, G., Zinurova, G. and Egorova, E. 2015. The Role of Clustering in Provision of Economic Growth. European Research Studies Journal, 18(3), 91-102.

Kaukin, A., Miller, E. 2017. Regional Strategies and Comparative Case Studies of Industrial Production Dynamics. Monitoring of Russia's Economic Outlook, 8(46), 15-20.

Main Problems of Industrial Development in the Regions of the Russian Federation. 2017. http://pbs72.ru/articles/novosti/osnovnye-problemy-razvitiya-promyshlennosti-v-regionakh-rossiyskoy-federatsii

Ovchinnikova, A.V. 2012. Problems and Perspective of Industrial Development in Russia. https://cyberleninka.ru/article/n/problemy-i-perspektivy-razvitiya-promyshlennosti-rossii

Ramazanova, E.A. 2015. Problems and Perspectives of Industrial Development of Depressed Region. Basic research, 12-6, 1263-1267.

Ryadnov, A.I., Davydova, S.A., Tsymbal, O.N., Pavlenko, A.P. 2017. The Use of Plant Resources of the Astrakhan Region as the Basis for the Development of the Feed Base of the Livestock Industry in the Region. News of the Nizhnevolzhsky agrouniversity complex: science and higher professional education, 1(45).

Titova, N.Y., Pervuhin, M.A., Baturin, G.G. 2017. Identification of Regional Clusters in the Russian Far East. European Research Studies, 20(4A), 339-359.

Zedgenizova, I. and Ignatyeva, I. 2017. The Problems of Creation and the Prospects for Development of Regional Clusters. European Research Studies Journal, 20(4A), 578-595.