



Economic Clusters as a form of Self-organization of the Economic System

Dmitry V. Shiryaev¹, Inna L. Litvinenko^{2*}, Natalya V. Rubtsova³, Eugeny P. Kolpak⁴, Viktor A. Blagin⁵, Elena N. Zakharova⁶

¹Don State Technical University, Taganrog, Russian Federation, ²Moscow State University of Humanities and Economics, Moscow, Russian Federation, ³Baikal State University, Irkutsk, Russian Federation, ⁴Saint Petersburg State University, Saint Petersburg, Russian Federation, ⁵Ural State University of Economics, Yekaterinburg, Russian Federation, ⁶Adyge State University, Maykop, Russian Federation. *Email: innalitvinenko@yandex.ru

ABSTRACT

The creation of clusters of domestic innovative economy in the Russian Federation is one of the actual directions of intensification of economic and innovative development of the city, region, and country. The importance of this is proved by the fact that when analyzing the direction of development of the country the Government of the Russian Federation has invited Harvard professor Michael Porter, ancestor of the modern theory of competition (Markov, 2007) one of which main provisions is the need for economy clustering as the only independent expert. Nowadays there is the pressing problem and the need for self-organization of the domestic economic system including its regionalization (Larina and Makeev, 2006). Economic clusters are the most theoretically developed and passed experimental test way of self-organization. Economic clusters as structures of self-organization can occur spontaneously or due to induction. In the first case it is the usual process of the economic basis with corresponding criteria of increasing economic feasibility and, in particular, competitiveness. Participation of the Russian Federation in this case comes down to various ways of assistance. The second one is expressed through a system case of organizational innovation. It can be mostly realized with direct interests and spearheaded by the government.

Keywords: Cluster, System, Economy, Self-organization, Region

JEL Classifications: C38, A10, O10

1. INTRODUCTION

At the present stage not goods (which quality is often at the same level), but enterprises increasingly compete, and as a result the main competitive advantage is not the characteristics of goods, but the sphere of competences and capacities of the enterprise to reduce costs in realization of manufactured goods. But sometimes it is difficult for some enterprises to flourish in this direction.

That is why an organizational factor integrated with the territorial union of branch producers can become the main reserve of increasing business efficiency. In this case not a certain enterprise,

but a territorial industrial complex, or a cluster will be a participant in market competition.

2. MATERIALS AND METHODS

As the main keys of information this paper has used publications and reports, modern scientific approaches to research of features of the creation of clusters as forms of self-organization of the economic system of the Russian Federation, and also papers of foreign and domestic authors devoted to the organization and development of clusters and their role in economy of the city (Dmitriev et al., 2016), region, and RF (the Russian Federation). The paper has also used methods of comparative analysis, grouping,

statistical data of a system approach on the basis of comparison and comparison of the theoretical and practical material and the solution of practical tasks.

The most adequate to modern processes in the environment (notably, the global crisis) the theory of synergy. It justifies the stabilization and economic growth on the basis of the mechanism of self-organization and the development of economic systems (national/regional economy, industries, companies) in the crisis. Researchers synergies – Nobel laureates Prigogine, Chistilin, Haken, Pugachev, Solovenko argue that the self-organization of people is a mechanism that provides a social system out of the crisis, i.e., It is a necessary and sufficient condition for the transition from the crisis to a state of economic growth. This mechanism implements institutional restructuring. Overcoming the economic crisis occurs through the formation of a cluster of new, more efficient forms of use of the limited resources of the society, the growing trend of flowing through the group interaction of people in conditions of disequilibrium of the economy (Chistilin, 2004). In a state of transformation or economic crisis, the social system will seek to form a new structure based on the principle of minimum dissipation of system resources from the standpoint of synergetic self-organization of the economy it is a process of formation of new, more efficient forms of use of the limited resources at the macro and micro level in order to maintain social stability of society (Chistilin, 2004).

This new structure is a cluster of commodity producers. Cluster concept of economic development and competitiveness of economies is increasingly being developed in foreign countries and in the former Soviet Union countries. It took the country of the Organization for Economic Cooperation and Development, European Union, China, India, Malaysia, Singapore, South Korea and other countries of the former Soviet Union – Ukraine, Latvia. At the core of the cluster concept is the concept of cluster, in the form which is a network organization is geographically adjacent interconnected companies (suppliers, vendors and buyers) and their associated organizations (educational institutions, public administration, infrastructure companies) operating in a certain area and complementary each other. Clusters serve as “growth points” of the national economy and provide increasing its competitiveness, which is explained by the following circumstances.

1. Clusters provide positive effects (externalities). External effects are connected with the fact that the actions of one firm have an impact on other firms. They occur when one or more companies, achieving competitiveness on the world market, extends its positive impact on the immediate environment – suppliers, customers and competitors. And successes environment, in turn, have an impact on the further growth of the competitiveness of the company. As a result of the mutually beneficial cooperation formed cluster is a community of companies that are closely related industries, mutually contributing to the growth of competitiveness of each other.
2. Cluster form of organization leads to the creation of a particular form of innovation – “the total product innovation” (Fatkhutdinov, 2005). Clustering based on vertical integration forms not spontaneous concentration of a variety of scientific and technological inventions and certain distribution system of new knowledge and technologies. At the same time the most important condition for the effective transformation of inventions into innovations and innovations in competitive advantages is the formation of a network of stable relations between all members of the cluster. Clusters create the conditions for the formation of regional innovation systems.
3. For all the state’s economy clusters act as “growth points” of the domestic market and international development. The presence of a cluster of industries accelerates the creation of competitive advantage factors, the process through joint investment in the development of technology, information, infrastructure, and education.
4. Major manufacturers cluster creating demand for specialized materials and equipment and services. Interconnections within the cluster ensure the development of outsourcing, where small and medium-sized enterprises operate products, works and services for the key stakeholders of the cluster, thus contributing to the development of small and medium-sized businesses in the region, increasing its competitiveness.
5. The competition between producers in the cluster leads to greater specialization in the cluster, the search for new niches and expand the cluster, resulting in the formation of new businesses, thus increasing the profitability of regional production, solve the problem of employment and enhances the integration potential of the region.
6. Clusters are one of the forms of institutional provision of cross-border cooperation in trade, agriculture, tourism, transport, infrastructure, which contributes to the economic development of border areas.
7. The development of clusters increases the interaction between industries and thereby contributes to the growth of the animation. Domestic competitors become partners in the cluster when entering a foreign market, developing joint marketing programs and ensuring export growth. All this contributes to the overall socio-economic development and competitiveness of regions and the national economy.

In recent years, interest in this form of production organization and management among most governments of the world is immeasurably increased in connection with the transformation of the world economy. Organization of clusters (as network organizations) is a response to the negative effects of globalization (increased competition). Clustering has already reached more than 50% of the economies of the leading countries, it appears as a new vector of development. However, this adjustment process as for the development of new forms of networking needs a package of measures being implemented by governments, non-governmental organizations and businesses. The state is not only conducive to the formation of clusters, but also itself becomes a party to the network. The organization of real clusters based on network cooperation, in foreign countries takes place with the support of national and local governments, as well as international donors.

3. DISCUSSION

Now the Russian Federation is only at the start of its formation, and, most likely, for the next 10-15 years the resource and

innovative course will become the most important scenario of its development.

Domestic resource safety and implementation of international obligations of our country connected with energy security, but already in the Eurasian space can be its essence.

So Fatkhutdinov in his paper notes that “only when the economic system loses its functional stability, there are self-organizational processes of the creation of the latest effective structures. Possessing a steady position in new operating conditions, the economic system, thus, passes its equilibrium states as intermediate stages on trajectories of non-equilibrium self-organization” (Fatkhutdinov, 2005).

The dynamics of movement of the structure of investments into the fixed capital brings hope that, in particular, the share of investments to an extractive sector in recent years does not exceed 15% and remains less than investing into manufacturing industries.

To remove the thesis on unavailability of the domestic economic system to development of clusters the basic concepts of scientific literature and sources should be used.

The following concept is considered to be traditional: “A cluster is a group of geographically neighboring interconnected companies (suppliers, producers, and others) and organizations on cooperation with them (educational institutions, state bodies, infrastructure companies) operating in a certain sphere and mutually supportive” (Osadchy and Akhmetshin, 2015; Giuliani, 2014).

Scientific literature has 3 developed types of clusters, each of which is characterized by the main direction of their operation:

1. Regionally narrow forms of economic activity within companion sectors which are usually connected with these or those scientific institutions (scientific research institute, universities, and others);
2. Vertical production chains, quite narrow certain sectors in which adjacent stages of the production process forms a cluster kernel (for example, “supplier – producer – marketer – client”), the networks which are formed round the head firms refer to the same category;
3. Industries appointed at the high level of aggregation (for example, “a chemical cluster”) or sets of sectors at higher level of aggregation (for example, “an agro-industrial cluster”).

Now the second and third types are really characteristic for domestic economy. For example, the second type is already realized in non-ferrous metallurgy and made by a number of companies up to electric motor trade to other countries. The high level of cluster aggregation is characteristic for the aerospace industry.

The first direction is developed obviously insufficiently, though there are examples connected with creation of special economic zones of technology development type in Saint Petersburg, Tomsk and Dubna where university and scientific organization are one of the main participants of development of such zones. It is necessary

to tell that here we have curious experience of a combination natural and the development of clusters of national value motivated with the state, but formed in limited territories in rather narrow fields of activity, for example in the field of IT business.

And it is not less important that at the level of major projects and transnational industrial groups we already have precedents of a clustering of economy (Larina and Makeev, 2006). But nevertheless there is a necessary question which is connected with the level of territorial social stratification, considerable for economic and political stability of the Russian Federation, and economic dissociation of regions.

When analyzing the process of the basis of clusters very detailed obstacles which are shown in obvious omission of enterprise culture in many regions with negative economic and functional incompleteness structure which could enter into various self-organizing structures are looked through.

It is generally connected to such fundamental problem as imperfection of the Russian federalism. And here a dominant of domestic safety becomes not an obstacle as it follows from Porter’s statement given above, and the most important strategic incentive and motive of process of self-organization.

For this purpose, to be convinced of the accuracy of this at first sight paradoxical thesis, it is necessary to refuse a little habitual definition “competitiveness” as concerning to production and to consider it in a national context.

It gives the chance to involve the next level of a clustering lacking for domestic conditions, namely strategic level of supply of connectivity of the self-organizing economic Russian Federation system in consideration (Migrayan, 2002). This level is multidimensional, and its analysis is beyond far presented analysis, but he permits significantly to expand a field of application of the approved methods of formation of clusters.

The basic of factors of development of connectivity of domestic economic system are one of the directions of development of economic systems – transport corridors.

Their formation motivates vigor of small and medium business of transport services (Shkurkin et al., 2015). This practice should be carried on the sphere of industrial and agricultural production on the basis of cluster approach, to a logistic and in the infrastructure basis for this purpose.

In terms of a clustering when forming transport corridors with the integrated functions we deal not with a cluster any more, and it is rather with a meta-cluster which in development develops conditions and rules for other forms of self-organization of economy both in regions, and in the Russian Federation in general.

Let’s note also that for lack of initially stimulated clustering it is possible to predict surely emergence of usual transport systems, and in many respects with the unidirectional freight traffic owing to raw nature of export of the Russian Federation.

Thus, on condition of expansion of a clustering of economy it is possible to speak with confidence about readiness of the Russian Federation for qualitatively other structure of production. As for a ratio between “natural” and “innovative and organizational” economic clusters, here the speech is rather not about a ratio, and about the macroeconomic structure formed in the Russian Federation as difficult-arranged state with the big territory.

4. RESULTS

In industrially developed regions there is no need for “innovative and organizational” economic clusters formed spearheaded by the Russian Federation except for orientations of the innovative progress, such, for example, as the aerospace industry or nanotechnologies. Here there is the need for state support of joint initiatives of science and production. Depressive, enclave and mono-branch regions, and their number is more than 60%, should experience great state participation with public fund investments and property in the organization of strategic factors and with development of measures of state protectionism.

As for the principles which should be followed to develop territorial economic clusters in the Russian Federation, it should be noted that the matter should concerns the formation of a logic consistent set of views on acceleration of economy clustering economy in the best interests of national development achievement and reducing regional economic and public asymmetry.

The abundance by this political principle creates a basis for vector orientation of actions in quite different spheres including in realization of new understanding of the transport system of the country as one of the most powerful factors of regional self-organizing economy emergence.

Now it is the most important to carry out such the transition not only because it is necessary of itself, but also because regions form the strategy of development for 15-20 years. Therefore, it is necessary initially to fix including at the legislative level, an innovative character of formed regional economy (Mori and Smith, 2015; Gurieva, 2015), approximate ratios between large, medium and small business in main production and to define measures for performance of these ratios in the transition to an innovative scenario.

The main mechanism of modernization of civil sector of economy as creation of the innovative environment will give an impulse for reunion of money and ideas. At the structural level of hierarchy of the main provisions there is a requirement of introduction of the directed state protectionism when restructuring economy. From support of corporate and branch policy it is necessary to pass to the help of emergence of productive clusters.

Now these offers are not unrealistic as economic clusters not only became real, but also reflect in documents determining technological development of the country (Bennani, 2015).

Putin in his Message also gave a start to subject activity of the Fund of Future Generations: “I consider that means of this fund should

be engaged for the improvement of living standards and economy development. We must improve the welfare of both future and current generations. And, of course, in this regard it would be called the National Welfare Fund” (“Events - President of Russia,” 2016).

In general, it means that Russia refuses a resource way of development and uses the strategy of support of future generations. In order it will be an ordinary campaign, the culture of business and organization of life should be nationwide heritage in the near future.

If at the level of the Federation a strategic approach to the formation of the culture of business is the creation of national corporation, at the regional level the cluster strategy of development of industries refers to it and authorizes integration of small and medium-sized mobile companies which in activity of the economic system “will give an incentive” to self-organization of their activity.

Let’s note that considerable expansion of resource-achieved powers of regions, namely, the subjects of policy which are engaged small and medium business is a factor which should be actively used and developed by means of such effective economic tools as economic clusters.

Besides, for the Russian Federation, considering its considerable sizes and big unproductive costs for delivery of energy and initial raw materials, it is the most preferable to develop classical territorial and industrial economic clusters along transport corridors by using and expanding possibilities of such corridors as one of the strategic directions of development.

5. CONCLUSION

Thus, according to the presented material it can be claimed that from considerations of integrity of the Russian Federation it is important to develop territories of an enclave type as diversified economic agents with dependence on political, resource and intellectual self-reliance of the Russian Federation.

It supplements an idea of hi-tech development on the basis of the formation of new industries in enclaves. For example, the formation of a production link of nanotechnologies and biotechnologies, local fuel cycles of domestic fuel use including both mineral and brown coal.

In general large corporations and quite small economic clusters of the realization of positively dynamic tendencies should be consistently developed in the strategy of future generations for the formation of sectors of technical and economic movement.

Then the culture of business and life mentioned above will become nationwide heritage also because a good idea of cooperation and addition of opportunities is in corporations and clusters.

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