Perspectives of Growth of Economic Security by Clustering of Small Innovation Enterprises

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Abstract:

The authors analyze the notion, sense, criteria, and indicators of evaluation of economic security and perform the evaluation of economic security of modern economic systems with the help of the offered methodology, which leads to the conclusion that one of the most successful countries are characterized by low level of economic security; therefore, there is a necessity for the search for perspectives of the increase of economic security. As a tool for increasing economic security, clustering is offered. The authors performed the structural analysis of formation of modern clusters and allowed allocating the problems of clustering which can be solved by clustering of small innovational enterprises. It is necessary that small innovational enterprises participate in the development of the program; their joint projects should at least concern, or, even better, solve their common problems (which will increase the competitiveness of cluster, as small innovational enterprises are connected by chains of value added with the same large companies); small innovational enterprises should participate – within the limits of their competencies – in the formation of the program of cluster development; there should be no artificial disunion between clusters of large enterprises and clusters of small innovational enterprises (which requires creation of common list of clusters). As a result of the research, the authors come to the conclusion that cluster is a form of increasing competitiveness within one country and in the global market, which stipulates the growth of national economic security. The highest efficiency of cluster is achieved by clustering small innovational enterprises, which stipulates the optimal level of competition in a cluster and leads to creation of innovations – which is a moving force of development of modern economy and the basis for economic security.

Key Words: Economic Security, Clustering, Small Innovational Enterprises

1.   Introduction

The interest in clustering, observed over the recent years, is primarily caused by guess that cluster structures allow achieving quick strengthening of innovational component of economy. Probably, the clusters' refusal from rigid control, peculiar for holdings and similar structures, will allow increasing the activity of agents-innovators (authors of innovational ideas), adaptability, and sensitivity of agents-imitators (which implement innovational ideas) and reactivity of agents-facilitators (which provide this process with finances and other resources).

Economic authorities and business have certain hopes for the increase of competitiveness of national economy with activization of structural and integration processes on the basis of cluster approach. This research offers a hypothesis that clustering stipulates the creation of innovations and facilitates the increase of economic security. The article is devoted to the verification of this hypothesis and development of recommendations as to increasing the efficiency of clustering.

2. Materials and Methods

Economic security is an essential part of national security. The notion of "national security" is peculiar for the second half of the XX century under the conditions of post-industrial development of society; it entered the life of modern society and state in many countries of the world and became an essential part of their internal and external policy. International aspects of provision of economic security have a special importance for development of relations between industrially developed and developing countries.

Economic security is a material base of national security. It is a guarantee of sustainable and stable development of country and of its independence. Let us view criteria, indicators, and threshold values for economic security. Criterion of economic security is the evaluation of the state of national economy from the position of the most important processes which reflect the sense of economic security. Criterial evaluation of economic security includes the evaluations of (Ainabek, 2013):

- resource potential and possibilities for its development;
- level of efficiency of resources use;
- competitiveness of economy and economic subjects;
- integrity of territories and economic space;
- state sovereignty and independence;
- criminalization of economy

Indicators of economic security are quantitative and qualitative characteristics of the state of national economy, determining the level of its protection from internal and external threats and allowing signaling about growing threats and imminent danger after exceeding their maximum allowable and threshold values (Antropova *et al.,* 2015).

The system of indicators of economic security includes: level and quality of life; inflation rate; unemployment rate; national debt; deficit of state budget; economic growth; level of direct and net foreign investments; criminalization of economy; volume of gold and currency reserves. An integral indicator of economic security is competitiveness of national economy. This research offers to use the following methodology of evaluation of economic security (Table 1).

Table 1. Use of the methodology of evaluating economic security by the examples of Japan, USA, England, Germany, and France in 2015.

Indicators	Japan	USA	England	Germany	France
I. Capability to contribute to international society					
1. Basic potential	51	100	14	31	14
1.1 Economic power	50	100	17	34	17
1.2 Financial power	57	100	11	37	11
2. Opportunities for realization of basic potential in global scale	77	98	95	94	100
2.1 Currency and financial resources	72	81	100	79	89
2.2 Consensus as to issues of international policy	54	52	66	96	100
2.3 Capability to effectively act at the international stage	63	100	67	67	67
Final score	61	100	43	54	45
II. Capability for survival					
1 Geographical conditions	24	100	23	7	16
2 Number of population	51	100	23	26	23
3 Natural conditions	8	100	64	34	36
4 Economic power	62	100	32	58	29
5 Defense power	7	100	10	10	11
6 National morals	100	98	88	89	83
7 Diplomacy and cooperation in the defense sphere	100	88	95	85	95
Final score	56	100	52	49	47
III. Possibilities for power politics					

1 Military power	0	100	33	10	57
2 Strategic materials and technologies	50	100	11	17	16
3 Economic power	43	100	39	36	32
4. Diplomatic capabilities	23	100	58	50	51
Final score	24	100	35	24	42
"Complex economic security" index	47	100	43	42	45

As is seen from Table 1, even some of the most successful developing countries are characterized by low level of economic security – on the average, 45 out of 100 points. That's why there is a necessity for the search for perspectives of increasing economic security.

3. Results

Scientific and technical progress determines the quality of economic growth at current stage of social development, leading to restructuring of economic system and bringing innovational forms of organization of social reproduction – i.e., regional & sectorial clusters – to top-priority positions.

Tendencies of grouping and consolidation of capital may lead and do lead to activization of the processes of enterprises integration. Clusters can become the main form of organization of industry, as these very economic systems are the ones than mainly stipulate the cooperation of cluster members on the basis of reliable cooperation and evolutionary agreements which ensure the balance between independence of cluster members and their coordination. It its turn, this means that the basis for effective functioning of cluster as an economic system is the process of strategic planning (Popkova and Tinyakova, 2013a).

It appears that the main feature of cluster is not its size and power, but diversity of its companies and sectors which combine with geographical connection and territorial proximity of cluster members. This creates chances for constant exchange of uncoded knowledge, i.e., for informational and technological overflows, for rotation of highly-qualified staff between enterprises, and, finally, for economic efficiency of agglomeration structure and population well-being.

That's why while analyzing the process of clustering, it is necessary to pay attention to several structural aspects. Firstly, a characteristic feature for modern cluster entities is striving to include into cluster the maximum number of members, especially, large companies, well-known universities, and popular scientific institutes, thus neglecting territorial and sectorial determination of cluster.

Such wish is understandable in view of competitive character of applications selection. At that, it is important that methodological materials would have such notion as territory of cluster stationing which is one or several neighboring municipal entities (regions). This is not a simple formality. Geographical localization, as we know, creates specific externalities which make cluster companies more competitive and allow speaking about cluster itself. Otherwise, if cluster is geographically distributed, there arises a question – is there a cluster, how is it reasoned, isn't this construction artificially created for competition, how viable is it, and whether it has a potential for development as a single whole (Popkova and Tinyakova, 2013b).

Surely, there are situations when cluster enterprises can be detached one from another within the limits of region (or even be in different regions). These cases require additional substantiation. In this case, it is important to elaborate thoroughly the functional and other ties between territorially detached parts of cluster.

However, the most popular difficulty is blurring of sectorial limits of cluster. As a rule, this is due to the wish to attract more representatives of large business into cluster. There is also a question as to how these "large players" are connected to each other. Very often, they are not connected, having their own suppliers and being involved into different holding structures, including the ones with state share and into state corporations.

This brings up another question: to what extend are these large corporations capable and ready to make deals and create joint projects? Excessive growth of cluster due to formal members reduces the manageability of this structure and makes it weak (Popkova *et al.,* 2013).

Besides, sectorial aggregating of cluster leads to blurring of key competencies of cluster. It is dangerous due to the fact that attraction of a large number of sectors and sub-sectors into cluster will automatically increase the number of rivals from other regions. This may lead to negative consequences if cluster includes a dozen of spheres, within the most of which it has stronger rivals from other regions. That's why it is necessary to determine key competencies of cluster, its strong sides, and its unique – at least, within Russia – market niche.

Secondly, a negative aspect is absence of clearly formulated and supported by cluster members common goals and tasks in cluster. Due to limited time, it is very difficult to build a normal process of strategies coordination. Especially, taking into account the fact that very often, members of clusters are also members of various holding structures of national scale which have their strategies. Correcting and

coordinating corrections are not a quick process. At that, very often the strategies of such structures and strategies (wishes) of regional authorities do not coincide (for example, region want to localize existing links in the chain of creation of value added on its territory – and company is fine with the fact that the chain is distributed by different regions). It appears that this basic question is to be discussed later – when applications are ready, i.e., formal aspects have a priority over substantive ones (Tang, 2015).

Thirdly, formation of cluster from "above" inevitably causes difficulties in formulating joint projects. The sense of the program for cluster support consists in the fact that support is provided not for individual projects but for joint ones. Joint (cluster) project is a project which unites some or all of the cluster members, aimed at the development of cluster. The main peculiarity of cluster project is the fact that it is either profitable or neutral for all cluster members. The share of cluster subjects which gain profit from cluster project is an important feature of the quality of such project (Bogomolova, 2012).

If the profit from implementation of the project belongs to one member of cluster or to unlimited number of members (let alone the case when other members can suffer losses from implementation of such project), then it is not a joint project and it is not a cluster project. At that, cluster format cannot give the project with only one enterprise – even if it is rather perspective – any additional efficiency (Moskovtseva, 2014).

If the members are not ready to suffer losses and invest into solving common problems and overcoming common barriers, then, for example, investments into purchase of equipment for emerging center of shared use have no use – as it will not be required.

At that, it is not easier to develop joint projects than to elaborate common goals and coordinate strategies. It is very difficult to do it on a tight schedule. As a rule, in view of financial limitations of the program (around RUB 500 million per year per cluster), enterprises start to strengthen the existing projects. This can be the development of common infrastructure (both of common – like highways – and specialized and innovational – like center of prototypes). Also, individual projects of cluster members can strengthen various managerial innovations (management of life cycle, management of quality, implementation of lean production, etc.), which are good for many cluster members and strengthen their competitiveness. A uniting beginning for a cluster can be a large university which connects many enterprises within educational and research centers. Development of perfection of educational programs for the needs of enterprises which are members of a cluster is one of the possible and logical joint projects in cluster.

Fourthly, it is necessary to point at small significance of the role of small business in a cluster. Foreign experience shows that small and medium enterprises are main beneficiaries for cluster programs which are realized by the state. For example, 80% of the companies-members of cluster "Competitive clusters" program in France are small and medium enterprises. These enterprises received 54% of financing for projects within this program, while the volumes of support within the program exceed by 5 times the budget of the Russian analogue (EUR 3 billion for 6 years vs. RUB 25 billion for 5 years) (Ioda, 2009).

Top-priority attention to small and medium business in view of cluster policy is caused by the fact that these enterprises, as experience shows, are very interested in such form of support - as, due to limited size, they cannot solve many problems, related to the increase of the level of innovational level and competitiveness.

Unfortunately, in Russia, the main beneficiaries are large companies, for which cluster form of cooperation (however you slice it) is not always actual. In most cases, it is more profitable for them to organize a project themselves or solve a problem. Moreover, their projects, as experience shows, very often exceed the volume of subsidies which are provided within this program, let alone the fact that very often the problems of large business cannot be solved at the level of cluster (and on the level of region, etc.) – for example, concerning the manner of state purchases (Moskovtsev and Zageeva, 2007).

Despite the fact that indicators of the presence of SME in cluster present in the system for evaluation of the programs of cluster development, this is not enough. It is unofficially supposed that within the program, large company clusters receive support, while clusters of small and medium enterprises are referred to by center for cluster development. In many regions, CCD have no authority while working with cluster development program, though it would seem that it is their job, for they are a center for competence in the sphere of cluster policy and are absorbed in regional specifics.

In our opinion, there is a serious threat which is being underestimated. It consists in the fact that there will be created particular clusters with large companies (where SME won't participate in important decisions). Clusters with small and medium enterprises will be developing separately (founding on CCD). Additional confusion will be introduced by so called educational clusters, implemented by the Ministry of education – while according to basic concepts of cluster development, all these subjects should be supported within common list of clusters. Cluster should become unique "gathering points", concentrating top-priority support for various "channels" of state support, from various federal and regional authorities. Otherwise, support

for SME in certain clusters, for large business in others, and for universities in others means just an imitation of implementation of cluster technologies into regional and sectorial development (Grinavtseva, 2013).

Ideally, it would be necessary for SME to participate in the development of program, and for joint projects to have some relation to them, and, what's even better – to solve their current problems (which will increase the competitiveness of cluster, as SME are connected by chains of value added with large companies), for SME to participate – within the limits of their competencies – in formation of the program of cluster development; at that, there should be not artificial disparity between clusters of large companies and cluster of SME (which requires creation of common list of clusters).

Fifthly, the main beneficiaries of the program are organizations in which the state is the owner and/or finances their functioning.As a matter of fact, the problem is in the fact that if cluster beneficiaries are companies with state share, companies which are part of holdings with state share, large universities or scientific institutes (which are financed by the state), financial assets do not receive effective management.

In our opinion, it is necessary that private business structures play an important, if not decisive, role in a cluster. Otherwise, the process of coordination of goals, strategies, and projects, process of transformation of identity, and formation of common vision are replaced by the process of bureaucratic coordination. This process is clearly rent-oriented, i.e., directed seizure and redistribution of budget assets. Not only is it compatible with production activities, innovations, and competition – it ousts them. For cluster policy is positioned as a part of innovational policy (Moiseeva, 2013).

Finally, there always are problems with organizational development in artificially created structures. Surely, organizational form can be different for each cluster. However, it is necessary for organizational development to be given in the logics by the Ministry of terminology (cluster council, managing company, coordinating organization). Many clusters neglect these parts and do not elaborate the block of organizational development, the block of team competencies description, and developing cluster.

4. Conclusion

Thus, it may be concluded that cluster is a form of increasing competitiveness within one country and in the international market, which stipulates the increase of national economic security. Analysis of structural peculiarities of clustering of modern economic systems showed that the highest efficiency is achieved by clustering of

small innovational enterprises, which stipulates the optimal level of competence in cluster and leads to creation of innovations, which is a moving force of development of modern economy and the basis for economic security.

Rational functioning of clusters requires not only wish and actions of members as to consumers and rivals, but, primarily, clear state policy for this issue, without which the risks can grow substantially, and positive aspects may remain unused.

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