

MYKHAYLO VOYNARENKO

**CLUSTERS  
IN THE INSTITUTIONAL  
ECONOMICS**

MONOGRAPH

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The theory of clusters is investigated from the viewpoint of institutional development of socio-economic systems. The role of institutional transformations in the social national economy and their influence on the formation of favorable institutional environment are revealed. The application of institutional tools enabled to consider the cluster-forming potential of regions in a new way as well as to elaborate the cluster mechanism for providing the increased competitiveness of economic structures. The mechanisms of cluster adaptation to the conditions of the formation of the national economy are proposed. The improvement of the institutional environment of interaction between enterprises in the cluster associations and the investigation of prospects for implementing the national policy of the regional cluster development made it possible to work out the algorithms of further clusterisation of Ukraine's economy.

Intended for scholars, government employees, University teachers, postgraduates.

## FOREWORD

The growing role of institutional structures in potential formation of production relations' spatial organization contributes to the emergence of new management tools for territories innovative development. A proper institutional support system is basic for social and economic systems network transformations. Such a system's construction is determined by power institutions territorial development strategies and is implemented by legislative support for economy priority areas at the state level.

Establishment of the national innovation development model in Ukraine takes place in the absence of a network transformation institutional support system. Under these conditions, the cluster approach implementation allows the formation of new methodological tools for social and economic systems management combining the principles of territories innovative development programming and the network interaction nature of its participants. Using the economic development institutional framework helps to identify additional sources of the territory's competitive advantages.

In the monograph, the author studied the institutional changes nature in a socially oriented national economy, and investigated the theory of clusters from the standpoint of social and economic systems institutional development. In the scholar's opinion, classifying the cluster as a social and economic institution is due to the dual nature of voluntary territorial and industrial associations' formation. On the one hand, emergence of clusters in a certain area should be preceded by a number of social and economic preconditions facilitating the enterprises' integration into a business network and building the relationships with the region's government institutions. On the other hand, it leads to changes in the market participants' economic behavior, determines the need to create new infrastructure elements, helps to identify "the territory's points of growth" and, ultimately, brings the region's economy to a qualitatively new level.

In general, the author came to the conclusion that the use of institutional tools in cluster forms of production organization study makes it possible to identify the most appropriate institutional models and mechanisms for the regional economy development. Theories of institutionalism considered in the monograph provide a rethinking of each network interactions participants' role in the formation of the cluster's overall institutional environment. The study has repeatedly pointed out that the national innovation system formation is impossible without the use of regional development instruments approved in world practice and the tools of institutional economics are aimed primarily at identifying these instruments' adaptive possibilities.

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## FOREWORD

The emergence of production organization integration forms, including clusterization processes in the economy, proved interrelation of these forms not only with regional specialization, but also with proper institutional components of the territory's social and economic development. Due to the equal interaction of intracenter networks' participants, an essentially unique institutional structure is formed. Depending on the country's economic development level and the methods of using cluster tools, this structure can acquire various innovative forms that together produce a competitive product. The ability to take into account the specific conditions of the social and economic system development, the lack of universal schemes of network organization forms has transformed clusters into a universal tool that has been widely used both at national and at regional and local levels.

The analysis of global experience shows that an innovative component is an integral feature of social and economic systems' clusterization. Indeed, the formation of cluster-type network structures on the defined territory will eventually lead to the emergence not only of new ways to use existing resources, but above all, new technologies and new products. As a result, it will promote the generation of innovations in the social and economic system and increase the level of the territory's competitive potential.

Ukraine's economy is actively involved in the global clustering processes, as evidenced by long experience of cluster technologies implementation in various regions of Ukraine. The differences, primarily, in the regions' resource, intellectual and network potential have led to various forms of clusters' formation, the study of which allowed building a cluster platform for further institutional transformations in the country.

There is no doubt that the study of the network interactions nature and cluster formation models in social and economic systems should become the basis for further institutional reforms in Ukraine. Therefore the need for the clusters' identification and analysis at the regional and national levels becomes a mandatory element of state cluster policy and institutional transformations in the country as a whole.

Theories of institutionalism considered in the monograph provide a rethinking of each of the network interactions participants' role in the overall institutional environment formation of cluster associations, the establishment of national innovation systems using the instruments of regional development approved in the world practice. This can be interesting and useful both for scholars of such highly developed countries as Germany and of the countries where economies are at early stages of finding economic growth instruments.

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## INTRODUCTION

The fundamental political and social-economic changes in Ukraine call for the necessity of theoretical understanding of transformation processes which are taking place in its economic space. The formal creation of markets and major market agents is not sufficient for the formation of the efficient market economy. It is the creation of new institutional social economic system which is actually necessary. Such economic system must be based on trust and responsibility, legislative provision, and clearly defined, transparent and just “rules of the game”.

The modern history of the Ukrainian postsocialist reforms reveals that the corresponding institutional structures, especially informal structures, do not appear automatically as a result of complete transformation of the state economic development. On the contrary, such structures are formed by joint efforts of the domestic and international political, economic, legal and public organizations. The quality of formation of the institutional system is a significant factor for restructuring of transition economies which include the Ukrainian economy. At the same time, a weak and not clearly defined institutional environment impedes the harmonious interaction of market regulators, leads to the growth of bureaucracy, corruption, production and transaction costs. Studying these problems on the basis of a new institutional theory is very important and promising.

Recently, the scientific investigations of institutional transformation are mainly conducted from the positions of the orthodox neoclassic theory as well as neoinstitutional economic theory. Such theory tends to be dependent on the previous ideas which do not enable to give an adequate explanation of the stable existence of inefficient institutional structures. This monograph presents an attempt to explain the existence and functioning of stable efficient economic institutes on the basis of synthesis of unorthodox economic theories. In the author's opinion, such explanation can contribute to the adequate understanding and evaluation of these theories. The suggested investigations are necessary for strategic planning of the country's economic policy, for the formation of regional development programs, especially when new institutional structures of the “cluster” type appear.

The scientific research enabled us to consider in a new light a number of issues of formation and application of theoretical and methodological foundations of institutionalism relying on the viewpoints of the Nobel Prize winners in the field of institutional theory. Also, our investigation made it possible to analyze the institutional transformations in the social market economy as well as to study the mechanisms of interaction of institutes, government and business in an emerging domestic institutional environment.

The contemporary economic systems are characterized by not only specific features and institutional structure, they also retain the genetic signs of the previous economic orders. The planned type of economy which preceded the contemporary transition processes possessed stable stereotypes of economic thinking. Even today such stereotypes determine, to a great extent, the motivation and forms of economic behavior of market economy agents today. Therefore, the analysis of problems of overcoming administrative barriers in Ukraine's transition economy must be based on the investigation of evolution in major institutes and coordination mechanisms which are typical for both the administrative-and-command system and the emerging market economy.

At present the dominant purpose of the developed and developing countries is the growth of national competitiveness and the expansion in the share of domestic companies at home and foreign markets as well as the increase of their efficient operation. There exists an increased interest to regional economy. Regional economy is considered to be a source of formation of competitive advantages for Ukraine's economy in general. Therefore it became necessary to test new forms of production organization which would make it possible not only to preserve the specialization of social-economic systems but also to raise the level of their innovative orientation. This factor contributed to the application of network forms of business organization in highly-developed economies, including the introduction of cluster models and technologies for uniting formal and informal business structures. The cluster models and technologies can be tested and approved in the domestic economy as well.

Investigating the systems of institutional and legal provision of the regional economy development reveals that social-economic systems formed, on the whole, the set of tools which enable to determine the cluster potential of certain areas. At the same time, the variety of cluster forms does not allow to develop a single universal approach which could be used for their identification. The analysis and assessment of economic benefits for the entrepreneurship structures due to their membership in the cluster, have caused an increased interest to the investigation of their organizational character from the side of foreign and domestic scientists.

The appearance, active introduction and progress of clusters is a new approach to the formation of the innovation economy. The cluster policy is gaining popularity very quickly — both abroad and in the Ukrainian regions. At the same time, a considerable part of experts consider that it is impossible to create clusters artificially. Until present time there is a mess concerning the specific features of the cluster policy, its place among the existing institutional formations and the use of tools of the country's economic policy. The most efficient tools of activation and development of clusters are actually unknown in Ukraine at present and have not found the application. On the basis of new institutional economic theories, the monograph analyzes the issues of the theory and practice of clusterization and the introduction of cluster models and technologies into Ukraine's economy. The government and the state authorities must remove the obstacles on the way to the formation of the national cluster associations. It must be done by means of elaboration of direct and indirect government measures for the support of clusterization processes in Ukraine as a whole and in our regions. In its turn, the mentioned processes will encourage the self-organization of enterprises and the integration of their efforts in order to raise the economic growth rates of enterprises and businesses. The basis of such growth must be the formation and the effective functioning of various chains of technological cooperation in the most promising economic sectors.

By generalizing the directions of activation and further development of the cluster processes in the domestic economy and the measures for formation of favorable conditions for the development of clusters in different branches, the scientists can promote the increase of organizational, legal and financial role of the government in such aspect as the use of the European experience in the implementation of large-scale programs started by the authorities and public organizations in order to stimulate institutional transformations and the government support for the progress of clusters in Ukraine's regions.

# CHAPTER 1

## THEORETICAL AND METHODOLOGICAL FOUNDATIONS OF INSTITUTIONALISM IN THE ECONOMY

### 1.1. Institutional theory: formation and application

The changes taking place in Ukraine's economy in the recent decades require that scholars and practicing economists should not only reconsider the theoretical foundations of economic science, but also they should apply the world experience of managing complicated production and social systems on the national and regional levels. Moreover, the transformations in the contemporary Ukrainian society were greatly influenced by the world globalization, internationalization and integration processes. These processes occurred on the basis of fundamental changes in science, technologies, and, especially, in mentality and consciousness of all participants of social – economic relations.

The appearance of institutional theory should be singled out in particular. This theory proved to be important among different scientific approaches to solving the problem of interaction of the authorities, business and social – economic institutions in the period of market economy formation. Because the efficiency of any economic decision depends, primarily, on the society's institutional basis. The existence of such basis is the main prerequisite for market environment. It should be noted that the fundamental institutional structure of the Ukrainian society has changed very little during the recent fifteen-twenty years, though its external features and basic structure have been somewhat transformed. The people and the authorities behave, to a great extent, as before, only adapting themselves to the changes taking place in domestic and external environment<sup>1</sup>.

In order to provide successful development we must have not only the trust of the population to restructuring processes and the consideration of the motives forming this trust. The country must also undergo institutional transformations due to which this trust (i.e. the attitude to what is going on) is realized.<sup>2</sup>

Thus, the experience of reforms in postsocialist economies proves the strategic significance of institutional aspect of transformations, its priority in economic policy. Having quickly destroyed the old institutions which ensured certain production, financial and social stability in the society, the reformers in the majority of postsocialist countries were not able to create the frame of market economy so quickly.

That is the frame which would guarantee the sustainable character of the system on macro-, meso-, and microlevels, i.e. to create new institutions which did not exist in socialist times.<sup>3</sup>

A considerable part of scholars consider that the main reason of appearance of institutionalism is the transition of capitalism into monopolistic stage. This transition was accompanied by considerable centralization of production and capital which led to the emergence of social contradictions in the society.

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<sup>1</sup> Institutional architectonics and dynamics of economic transformations /ed. By A.A.Hrytsenko – Kharkiv: Fort, 2008. – P.21.

<sup>2</sup> Geyets V.M. Society, state, economy: phenomenology of interaction and development. – Kyiv: Institute of economics and forecasting of the National Academy of Sciences (NAS) of Ukraine, 2009. – P.373.

<sup>3</sup> Ilchenko N.M. Methodology of research of the state management problems: institutional approach // Electronic resource. – Access mode: [http://nbuv.gov.ua/UJRN/apdy\\_2011\\_1\\_8](http://nbuv.gov.ua/UJRN/apdy_2011_1_8)

Therefore it is considered that institutionalism originated as a form of protest against postulates of the classic and neoclassic theories of market economy that dominated in the late XIX – early XX centuries. But the majority of economists regard that the prerequisites of emergence of institutionalism are economic and political instability, the existence of social conflicts and contradictions. This fact confirms the significance of the abovementioned problems which brought about the increased interest of scientists in institutional economic theory and its major schools at the end of XX – the beginning of XXI centuries. It is rather symbolic that exactly in this period the interest to another scientific sphere increases: the interaction and interrelations between different institutions such as the state and law, property and self-government, business and its infrastructure provision, education and science, finance and management, and so on. All these spheres are investigated in the context of the cluster theory and practice of formation and functioning of the abovementioned institutions, mainly on the level of regional economy.

However, in order to understand the essence of the cluster theory in the framework of economic science it is necessary to consider this theory in the system of basic notions of institutionalism.

The definitions of institutions used by scholars today are so varied that it is a difficult task to find clarity even in the approaches to interpretation of such fundamental notions of institutionalism as “institute” and “institution”. In this sense the latest publications of the Ukrainian and Russian scientists T. Gayday, A. Hrytsenko, O. Inshakov, Y. Kovalenko, V. Torasevych, D. Frolov,<sup>4</sup> and A. Chukhno are typical. In different sciences, first of all sociology, philosophy, psychology and law there are various definitions of institutes (institutions) which are not accessible for theoretical substantiation of economic processes, and their application in economic science and practice does not make any logical sense. In conclusion, it confirms the systemic incompleteness of categorical apparatus in the institutional approach. Consequently this creates certain obstacles for integrating scientific investigations and mutual professional understanding of researchers.

Institutionalism (lat. institutio — habit, teaching) is rather often regarded as a direction of economic thought. This theory was formed in 1920-1930s for investigating the totality of social-economic factors (institutions) in time and to provide the society's social control of economy. In this respect the concept of institutionalism had a double goal: 1) the creation of political economy or social-economic theory in contrast to the widespread economic theory called “economics”; 2) the formation of evolutionary theory which was to substitute the theory of balance.<sup>5</sup> Institutionalism is not a widespread, fruitful, influential school of economic theory which is explained by the advantages of its methodology and subject of cognition. The investigation of historical way of the institutional theory enables to determine the main stages of its establishment and advance, to follow the process of formation of its essence, the evolution of theoretical and methodological foundations.

As an economic theory, institutionalism had a dominant place in the USA before 1940s. Since that time, institutionalism has considerably developed which

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<sup>4</sup> Frolov D. Institutional evolution of post-Soviet institutionalism // Problems of economics. – 2008. – №4. – P.41-44.

<sup>5</sup> Levin P.B. Institutionalism as theoretical basis of functioning of social infrastructure // Economics and State. – 2010. – №2. – P.28.

has led to the emergence of some concepts and theories that can be applied by the modern Ukrainian enterprises, and, especially, their associations on the regional level. Because institutionalism as economic theory is characterized by a number of postulates. These postulates are the following: 1) the basis of analysis is the method of description of economic phenomena; 2) the object of analysis is the evolution of social psychology; 3) the driving force of the economy is not only material factors, but also moral, ethical, legal elements in historical development; 4) the interpretation of social-economic phenomena is performed from the viewpoint of social psychology; 5) the limited use of abstractions typical for neoclassicism; 6) the striving for integration of economic science with social sciences; 7) the necessity of a detailed quantitative investigation of phenomena; 8) the support of the state's antimonopolistic policy. Such postulates and approaches have achieved wide application as regards the formation and improvement of enterprise associations which also include clusters. That is why the purpose of this monograph and the corresponding investigation is to consider the issues of formation and development of the cluster associations in the context of institutionalism, its theories and concepts.

Before discussing the problems of formation, development and application of institutionalism in Ukraine's economy, let us consider the existing opinions of economists concerning such definitions as "institution" and "institute" with the aim of their unequivocal scientific interpretation (if it is possible) as well as for their further use in the cluster theory. Because a number of notions in the cluster theory are used and explained not quite unequivocally.

This fact complicates the development and application of theoretical definitions in the methodology of science, in the legal and economic spheres of scientific research. The Russian scientists O. Inshakov and D. Frolov have made much effort to find a key for understanding the essence of economic institutes and clear differentiation of the notions "institution" and "institute". These terms were often identified by scholars. According to the opinion of O. Inshakov and D. Frolov, "the practice of word usage could not serve as the basis of scientific language formation, as the major requirement to it is unequivocal definition".<sup>6</sup> Therefore these authors insisted on the necessity of differentiation between institutions and institutes and stated that such methodological "transition" could bring institutional economic theory to a qualitatively new level of development. According to O. Inshakov and D. Frolov, "institutions are social forms of functions of subjects, objects, processes and results of economic activity that ensure the evolution of the system of social distribution of labor on the basis of statuses, norms, rules, instructions, regulations, contrasts, standards and orders."<sup>7</sup> It is exactly *functionalism* which is recognized by the authors as the basis for studying economic *institutions*, whereas the paradigm of structuralism is the most relevant task for investigating *institutes*. Institution acts objectively as a driving force of any specific activity and is a basic category of institutional theory. The authors consider institutes to be a more complicated phenomenon than institutions. In order to understand what institute is it is necessary to realize the essence of institutions which are the basis of institutes. The essence of institutions is the way of action from which the way of thinking of its entities is derived. It is indicated by the etymological meaning of the word (Lat. *institutio*) – way of

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<sup>6</sup> Inshakov O.V. Institution is the key to understanding economic institutes // Economic theory. – 2011. – №1. – P.53.

<sup>7</sup> Ibid. – P.56.

action, system, teaching, instruction, direction. Therefore institution should be understood ontologically – as a form of socialization for the function of individual or associated entity. Gnoseologically, institution can be understood as a unity, a system of knowledge in performing this function, as its description for transferring information about it, for teaching and forming corresponding competences.

Paradoxically enough, institutes as a category are derived from institution not directly, but indirectly – through organization. This imaginary contradiction was noted by not only the abovementioned authors, but also by many foreign researchers who had to state that “the contemporary economic theory includes both institutions and organizations, that is institutes *sine* (without) people and *cum* (involving) people.”<sup>8</sup>

It should be noted that it was D. North who discussed and tried to solve problems of differentiating such notions as “institution” and “institute”. He regarded “institutes” as “organizations”. It was significant that due to the prestige of North as a Nobel Prize winner he managed to achieve this aim in practice in the English – speaking usage. However, it was to the detriment of the exactness of definitions. In order to facilitate the introduction of his concept, D. North resorted to a well-tested device of metaphor; as a result, in his concept institutions were transformed into “rules of the game”, and organizations into “players”. He wrote: “If institutions are rules of the game, then organizations and entrepreneurs working in them are players”.<sup>9</sup> So, for solution of some common tasks and for achieving certain goals players can unite or create organizations which consist of some groups of individuals. By the way, under organization as a category of institutionalism, K. Arrow also understood “a group of individuals who aspire to achieve certain common goals, or, in other words, to maximize the goal function.”<sup>10</sup> O. Williamson wrote that “organization is a totality of people who are structurally separated in the framework of the regulated processes of receiving and processing information, making decisions on a number of issues connected with the use limited resources”.<sup>11</sup> E. Furubotn and R. Richter give a much wider definition of organizations, i.e. institutes: “... organizations, as a whole, are understood as the structured groups of individuals who take care of common goals. Firms, markets, states are, in this sense, organizations.”<sup>12</sup>

Thus, etymologically the word “institute” (from Lat. *institutum*) means establishment, office and organization with the help of which institutions are realized, i.e. perform exactly these specific social functions, or they are taught, transferred to new agent, players.

Such is the evolutionary role of institutes as “hard structures” in economic systems as distinct from “soft” institutions which are transferred and preserved only after “hardening”.<sup>13</sup>

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<sup>8</sup> Furubotn E. and R.Richter. Institutes and economic theory. – Ann Arbor: Michigan Unty Press, 2005. – P.11.

<sup>9</sup> North D. Institutes, institutional change and economic performance. – Moscow: Nachala, 1997. – P.18-19.

<sup>10</sup> Arrow K. I. Essays in the Theory of Risk-Bearing. – Amsterdam: North Holland, 1970. – P. 24.

<sup>11</sup> Williamson O. Mechanisms of Governance. – New York: Oxford University Press, 1996. – P. 123.

<sup>12</sup> Furubotn E. and R.Richter. Institutes and economic theory. – Ann Arbor: Michigan Unty university Press, 2005. – P.11.

<sup>13</sup> Inshakov O.V. Institution is the key to understanding economic institutes // Economic theory. – 2011. – №1. – P.53.

Institutes are typical complexes of institutions which act as functional genotypes of organizations, models of their functional structure which have been formed in the course of evolution. Each institute has a unique composition of institutions in its disposal which ensures the possibility of various forms of human activity organization.

Institute consolidates a specific status of organizations, i.e. social forms, functions and structures of economic activity which, in reality, are an integrated system. "Institute is an abstract functional model of particular organizations which fixes their specific status and the most general institutional features. Figuratively speaking, it is the sum of organizations in which their particular specific characteristics such as structure or staff amount, are "dissolved". Economic institute is an aggregate analytical category which unites, in an abstract way, all the totality of organizations operating in the economy of the country, a group of countries or in the world (depending on the scale of the analysis) on the basis of their general specific status".<sup>14</sup>

The investigations of Y.Kovalenko<sup>15</sup> are interesting from the viewpoint of the possibility to apply the institutional theory in the financial sector of the economy, to regulate the notion system and major categories of institutionalism in financial science and practical modernization of economic activity. The author concentrated her direction of research in a logical sequence, on studying and determining the essence of four major categories of institutionalism in the financial sector of economy according to the pattern "institutions – organizations – institutes – bodies". According to the author's definition, "institutions are systems which contain hard (official) limitations (rules and characteristics of compulsion), soft (unofficial) limitations (behavior standards and stereotypes of thinking) and intuition which ensure optimal organization, coordination and stimulation of behavior of economic entities (households, corporations, states and other organizations) and result in the reduction of transaction costs". Another definition of Y. Kovalenko runs: "organizations in the financial sector are social forms which appear on the basis of links between the subjects (entities) in the financial sector and introduce the corresponding institutions".

She also states that "from the viewpoint of institutional theory, financial institutes are socially recognized functional-organizational forms of financial activity, through which the systemic functions of the economy's financial sector are realized". Also, she defines "the bodies are the organized institutes which provide the functioning and development of other institutes (organizations) through the realization of certain institutions".<sup>16</sup> V. Dementyev stresses the indefiniteness in institutional investigations, at the same time making a substantial study of methodological problems in the course of determining the notion "institute".<sup>17</sup> While analyzing dozens of quotations and statements of well-known scholars, he gives over ten definitions which, to a certain extent, reveal the essence of this notion but do not give an unequivocal understanding of its essence.

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<sup>14</sup> Inshakov O.V. Institution is the key to understanding economic institutes // Economic theory. – 2011. – №1. – P.61.

<sup>15</sup> Kovalenko Yu. The use of categorical apparatus of institutional theory in the financial sector of the economy // The world of finance. – Issue 4. – P.39-49.

<sup>16</sup> Ibid. – P.41-42, 45-47.

<sup>17</sup> Dementyev V. What we investigate when we investigate institutes? // Economic theory. – 2009. – №3. – P.75-92.

Contemporary economists define “institutional economics as a scientific direction of modern economic thought which investigates the issues of economic theories in their interdependence with institutional changes”.<sup>18</sup>

While the influence of the government institutions on economy as a whole and the changes in institutional environment have been sufficiently described in science, the issues of interaction of the authorities, business and social-economic institutes on the regional level have not been deeply investigated. Besides, institutionalism provides important tools for cognition of modern development from the viewpoint of synergy and universal science. It concentrates attention on the most efficient driving forces of economic development”.<sup>19</sup>

Academician A. Chukhno<sup>20</sup> states that the advantages of institutional theory consist in the fact that the subject of its cognition is institutes that take place in economy, social sphere, in the sphere of morale, law, religion, etc. The importance of the definition of institutes as the subject of investigation can be explained that it directly affected the formation of the name of this economic theory (institutional theory, institutionalism). The institutionalists interpret the essence of institute as a primary element in the driving force of the society in the economy and beyond it. They identify various categories, phenomena (the state, entrepreneurship, monopolies, private property, trade union, family, religion and so on) with institutes. These categories and phenomena reflect habits, customs, ethic, legal decision, public psychology and the key aspect – the evolution of *economics*. Institutionalism is, to some extent, an alternative to the neoclassical direction of economic theory.

The neoclassics proceed from the theory of Smith about the perfection of the market economic mechanism and the self-regulation of the economy which corresponds to the so-called “pure economic science”. As distinct from them, institutionalists consider that the driving force of the economy is not only material factors, but also moral, legal, spiritual and other factors which are studied in the historical context. Thus, actually the subject of analysis for institutionalism is economic and noneconomic aspects. In this case, the objects of research – institutes – are not opposed to each other and are not divided into primary and secondary ones.

The fundamental principle for the system of views of the institutionalists is the principle of natural selection of institutes which was suggested by T. Veblen as the essence of the evolution of social structure, of the basis of social progress.

It should be noted that, according to the views of the institutionalists, the way of thinking, the verbal symbol, the customs and traditions are regarded as the primary reason of the society’s social-economic development. In their logic, real economic relations are derivative, they reflect the manifestation of human customs, way of thinking embodied in institutes. Therefore, the economic order of the society in such interpretations appears to look very specific.

As a rule, the institutionalists proceed from an external, relatively superficial approach as regards the understanding of social structure, factors of social development. As distinct from orthodox Marxists, they do not recognize the

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<sup>18</sup> Institutional economics / ed. By D.S.Lvov. – Moscow: Infra – M., 2001. – P.3. Bykonya S.F. Transformations of the Ukrainian economy in the aspect of new institutional theory // Scientific paper of Donetsk National Technical University. – 2005. – Issue 89-2. – P.97.

<sup>19</sup> Tarasevych V.M. About institutional evolution of precivilization universum formations // Economic theory. – 2007. – №4. – P.41-48.

<sup>20</sup> Chukhno A. Institutionalism: theory, methodology, meaning // Economy of Ukraine. – 2008. – №6. – P.4-13.

key role of relations of property on means of production and the class structure of the society caused by these relations. The ideologists of institutionalism rejected the idea of production relations as the basis of socio-economic structure and formulated their specific approach to the study of social phenomena and economic process.

Considering the methodological fundamentals of institutionalism, many researchers state that this theory has much in common with the German historic school. For example, V. Leontyev points out that the outstanding representatives of the American economic school, in particular T. Veblen and V. Mitchell, “developed the general line of the German historic school in their criticism of quantitative analytical methods in economic science. Partially it can be explained by the fact that at the turn of the century the influence of the German school in the USA was as great, or maybe greater, than the influence of the English school”.<sup>21</sup> In this context we should remark that historicism, consideration of social environment factor for substantiating the ways of economic development reflects the similarity of methodological principles of institutionalism and historical science in Germany. However, it does not mean the complete inheritance of traditions of the German science.

The methodology of institutionalists was formed on the basis of the following methods and regulations: 1) a wide use of descriptive-statistical method; 2) historical-genetic method; 3) the application of category of institute (a totality of legal norms, customs, traditions) as the starting and fundamental category.

Thus, institutionalism is a qualitatively new direction of economic thought which united the best theoretical and methodological investigations of the state of the market in the previous schools of economic theory as well as methodological tools of the historical thought of Germany (for investigating the problems of the society’s “social psychology”).<sup>22</sup>

The founder of institutionalism is considered to be T. Veblen. The representatives of institutionalism tried to expand the limits of economic analysis by applying the approaches and methods of the related sciences. The followers of this approach considered that the behavior of “the economic person” is mainly formed in the framework and under the influence of social group and collectives. The institutionalists regarded the task of the economic science not only in making a forecast, understanding the system of interconnections, but also in giving recommendations, substantiating the “prescriptions” of corresponding changes in politics, behavior and social consciousness.

Let us note that the basis of economic and sociological doctrines of institutionalism and neoinstitutionalism is the heritage of many economic theories. They include the theory of classical economic liberalism (A. Smith, D. Ricardo), the theory of the government-regulated market economy (J. Keynes), the philosophy of positivism and solidarity (A. Cont and E. Durkheim), the theory of the governing (bureaucratic) organizational structures (M. Weber), the theory of property rights (R. Coase, A. Alchian), the theory of public choice (K. Arrow, J. Buchanan), the new economic theory (D. North), the theory of agents (J. Stiglitz) the theory of transactional organization (O. Williamson), etc. Proceeding from this, in contemporary conditions, the methodological expansion of institutional approach is characteristic of the majority of branches in the humanities. This is because institutes which were, previously, mainly the object of research for

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<sup>21</sup> Leonenko P.M. History of economic theories. – Kyiv: Znannya, 2008. – P.479.

<sup>22</sup> Ibid. – P.480.

lawyers and sociologists, became the subject of study of the economic science, anthropology, political science and others<sup>23</sup>.

Institutionalism emerged as a theory opposite to political economy and economists. And the ideologists of this theory tried to reflect not only formal models and strict logical schemes but also life in all its diversity. That is why in the so-called “old” institutionalism (represented by T. Veblen, J. Commons, W. Mitchell) institutes were identified with customs, corporations, trade unions, state, etc. The ideologists of “old” institutionalism considered the property right as a tool of analysis. They rejected the ideal character of the market and essentially changed their beliefs concerning the completeness of information and absolute rationality of agents (entities) operating in the market.

After its emergence, “old” institutionalism did not spread very widely which can be explained by the following reasons: the vagueness of the fundamental notion of institute; its orientation at the activity of such groups as trade unions and the government; insufficiency of its methodological basis. The institutional theory received further development in the framework of “new” institutionalism (represented by O. Williamson, R. Coase, D. North, H. Demsetz) which pays much more attention to the study of institutional environment where economic entities are operating. It should be noted that “new” institutionalism is described by various names: neoinstitutionalism, transaction economics, economic theory of property right, contract approach and so on.<sup>24</sup>

The creative impulse for the emergence of “new” institutionalism was the article of R. Coase “The nature of the firm” published in 1937. In this article the existence of such hierarchical structures as firms which are opposed to the market was grounded. We should observe that Coase’s scientific paper gave birth to a completely new direction of economic studies – new institutional theory (neoinstitutionalism). A number of concepts were formed on the basis of his theoretical basis. Such concepts reflect the ideas of the transactional approach and are aimed at a deeper and fuller comprehension of the firm phenomenon.

In its fundamental ideas neoinstitutionalism is closer to neoclassics than to “old” institutionalism. The main difference of the institutional theory from neoclassical one is the rejection of suppositions that: 1) all the resources of the economic system are allocated and are the property of separate agents; 2) the rights of owners are reliably protected; 3) the agents possess the information necessary for making decisions; 4) the resources are absolutely mobile, etc. Therefore a new category of restrictions (alongside with physical and technological ones typical for neoclassical theory) was introduced into economic analysis – institutional restrictions.<sup>25</sup> For instance, the identification of institutions with certain types of restrictions is quite a traditional understanding of essence of institutes in contemporary economic literature.

The general feature of all neoinstitutionalists is the recognition of the fact that social institutes are analyzed with the help of standard tools of microeconomics. The key prerequisites for the formation of neoinstitutionalism

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<sup>23</sup> Ilchenko N.M. Methodology of investigation of the state management issues: institutional approach // Electronic resource. – Mode of access: <http://www.kbuapa.kharkov.ua/e-book/apdu/2011-1/doc/1/06.pdf>.

<sup>24</sup> Kozachenko G.V. Institutional theory: essence, evolution and modern application // Electronic resource. – Access mode: [http://www.nbuv.gov.ua/portal/Soc\\_Gum/Emp/2008\\_20/kozachenko.pdf](http://www.nbuv.gov.ua/portal/Soc_Gum/Emp/2008_20/kozachenko.pdf).

<sup>25</sup> Prokopenko V.Yu. Methodological foundations of investigating the real estate market. Institutional theory: main principles and evolution // Contemporary issues of economics. – 2011. – №8(122). – P.42.

as an economic theory are the following: 1) methodological institutionalism; 2) the concept of economic person; 3) the interpretation of activity as exchange.

For the formation of neoinstitutional theory an important prerequisite was the basis principle that people carry out their activity in any sphere, take care of their personal goals (interests) and that there is no insurmountable boundary between the business and the social sphere or politics. That is, neoinstitutional theory tries to expand the principles of individualism not only into sphere of economic activity, but to all kinds of human activity, including social sphere and government service.

The concept of “economic person” occupies an important place in neoinstitutional theory. This principle means that a person in market economy identifies his / her advantages with a commodity. His behavior is rational, as he tries to make such decisions which maximize the significance of usefulness function, but, as distinct from classical and neoclassical theories, not only in the economic field, but also in other spheres of public activity. The recognition of the individual’s rationality in any activity makes this principle universal. In practical activity it means that all people are guided in their activity, primarily, by economic principle, in particular they compare boundary benefits and boundary expenses (first of all, benefits and expenses connected with decision making).<sup>26</sup>

Besides, the ideologists of institutionalism expanded the field of analysis as they consider also transaction costs, i.e. costs connected with the exchange of property rights. It is different from neoclassics who considered mainly physical (scarcity of resources) and technological limitations (insufficiency of knowledge, practical skills, etc.). Let us observe that it was caused by the extended interpretation of exchange, according to which any activity can be regarded as exchange.

The representatives of institutionalism consider any field of human activity by analogy with commodity market. However, in comparison with other economic theories, neoinstitutionalists approach the peculiarities of this exchange in greater detail, taking into consideration the rational limitations of people and such fact that decision making is connected with risk and uncertainty. In order to ensure rational managerial decision making, the expenses on decision making are compared not with the situation which is considered to be model in microeconomics (perfect competition), but with those real alternatives existing in practice.

In the framework of neoinstitutionalism institutes are regarded as “rules of the game”, the system of measures which ensure the performance of their functions and direct human interaction in some ways of economic activity. Institutes are divided into: 1) formal, which are registered in legislative and other standard legal acts and envisage observing these acts, which is ensured by the system of the state bodies, even by the action of various forms of compulsion, etc.; 2) informal, which reflect a totality of norms, rules of social, cultural and moral-psychological types. Here belong institutes of business behavior which regulate human relations in the process of economic activity<sup>27</sup>.

Institute as a certain rule of behavior or its provision is created for solving certain tasks. Among the variety of tasks for institutes, two major tasks can be singled out.

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<sup>26</sup> Leonenko P.M. History of economic theories. – Kyiv: Znannya, 2008. – P.504.

<sup>27</sup> Chukhno A. Institutionalism: theory, methodology, meaning // Economy of Ukraine – 2008. – №6. – P.5.

One of the main tasks of institutes is to ensure the coordination of different interests of economic entities. In this case, such coordination does not need to correspond to the laws of justice or economic expediency. Thus, the necessity of the participation of the state and the government in the process of formation of the economy's institutional structure during the transition period is substantiated. The reason is that the market tools of "restraints and counterbalances" do not function because of their absence. Therefore, it gives an opportunity to stronger economic entities which took part in the primary capital distribution in good time to dictate their terms on the basis of their own interests.

A well-known representative of neoinstitutionalism D. North states that institutes exist in interdependence and interaction, while the totality of major political, social and legal rules-institutes characterize their institutional environment<sup>28</sup>. This environment forms the basis for economic cycle – processes of production, exchange and distribution<sup>29</sup>. The peculiarities of interaction of separate individuals and the institutional environment have been examined in a three-level scheme 'individual-institutional agreements-institutional environment'<sup>30</sup> suggested by O. Williamson. According to the given scheme, individuals interact with the institutional environment in the following way: the environment influences their social position, and they, in its turn, can influence the environment by taking part in social and political processes. However, first of all, the interaction between an individual and the institutional environment takes place through institutional agreements or contracts, which play double role. In particular, they render the effect of the institutional environment on the social position of individuals (by means of establishing rules);<sup>31</sup> they also render the influence of individuals on the institutional environment.

Another key task of institutes is the reduction of the value of transaction costs. It should be noted that the category of transaction costs was firstly substantiated by R. Coase, as a natural sequence of institutional limitations. These limitations were introduced into the sphere of economic analysis by R. Coase and his followers. The scholar points out that in process of making agreements between economic entities "it is necessary to conduct negotiation, to carry out observation, to establish links, to remove differences"<sup>32</sup>. The costs which result from these procedures are called transaction costs. R. Coase states that "transaction costs affect not only the conclusion of contracts, but also what goods and services are produced"<sup>33</sup>. With the account of the abovementioned aspects, the model of rational choice of the economic entities applied by neoclassic remains unchanged. However, such model is supplemented by additional condition: the expenses on the search for additional information about the agreement must be balanced with the expected marginal income from the information obtained.

Let us observe that rather a detailed investigation of transaction costs was made in the framework of "the economy of transaction costs" substantiated by O.

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<sup>28</sup> North D. Institutes, institutional change and economic performance. – Moscow: Nachala, 1997. – P.33.

<sup>29</sup> Shastitko A.E. New institutional economic theory. – 3rd ed.– Moscow: Economic faculty of Moscow State University, GEIS, 2002. – P.47.

<sup>30</sup> Prokopenko V.Yu. Methodological foundations of investigating the real estate market. Institutional theory: main principles and evolution // Contemporary issues of economics. – 2011. – №8(122). – P.45.

<sup>31</sup> Shastitko A.E. New institutional economic theory. – 3rd ed. – Moscow: Economic faculty of Moscow State University, GEIS, 2002. – P.46-50.

<sup>32</sup> Coase R. The firm, the market and the law. – Chicago: University of Chicago Press, 1990. – P.15.

<sup>33</sup> Handbook of New Institutional Economics / ed. by C. Menard, M. M. Shirley, O. Williamson, D. North, R. Coase, D. Allen, D. Lueck. – Berlin Heidelberg, 2008. – P. 35.

Williamson. The fundamentals of this concept are two postulates: the postulate of limited rationality and the postulate of opportunist behavior<sup>34</sup>.

According to O. Williamson, limited rationality appears as a result of insufficiency and incompleteness of knowledge possessed by economic entities as well as natural insufficiency of human intellectual abilities. The entities are obliged to choose not the optimal decisions but those decisions which are acceptable, in their point of view, on the basis of limited information they possess. The opportunist behavior envisages any forms of violation of obligation by the agents for maximization of personal usefulness. That is, the agents behave in such a way (in the form of lesser volume of services, of goods of lower quality, etc.) if it allows them to obtain profit<sup>35</sup>.

D. Allen suggested a somewhat different concept of transaction costs. He considered these costs from the viewpoint of property rights. The researcher regarded transaction costs as the expenses of establishing and ensuring property rights<sup>36</sup>. According to D. Allen's views, it is not significant for the formation of transaction costs whether the market exchange is carried out or not. Therefore, D. Allen notes that such expenses include "dead" expenses connected with the necessity of protecting property rights. Among the tools for establishing and ensuring property rights the scientist singles out inspection, compulsion, security, that is why the costs related to these procedures are transaction and will equal zero on condition that property rights are protected and observed in any case.

The concept of property rights is no less important in a new institutional theory, alongside with the concept of transaction costs. The research of the concept of property rights started in the framework of new institutional school of R. Coase<sup>37</sup>.

It should be mentioned that under the system of property rights the new institutional theory means the complex of norms which regulate the access to scarce resources. Property rights include both physical objects and objects of nonmaterial world. From the position of the society, property rights are institutes which regulate the relations between individual agents. From the viewpoint of the agents, these rights form the so-called "bundles of legal opportunities" concerning decision making about this or that resource. However legal opportunities which create "the bundle", relate not to the resource itself, but to its qualities which reflect functions and services performed by the resource. Property rights involve the opportunity to consume, to receive income and to alienate these qualities<sup>38</sup>. In this way, property rights are a certain set of predetermined legal opportunities of owners of such rights in relation to the particular resource. In this context it is advisable to pay attention that the given sets or "bundles" are able "to split" therefore different legal opportunities in relation to different properties of the same resource can belong to different subjects.

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<sup>34</sup> Ibid. – P.475.

<sup>35</sup> Shastitko A.E. New institutional economic theory. – 3rd ed. – Moscow: Economic faculty of Moscow State University, GEIS, 2002. – P.45.

<sup>36</sup> Handbook of New Institutional Economics / ed. by C. Menard, M. M. Shirley, O. Williamson, D. North, R. Coase, D. Allen, D. Lueck. – Berlin Heidelberg, 2008. – P. 475.

<sup>37</sup> Coase R. The firm, the market and the law. – Chicago: University of Chicago Press, 1990. – P.15.

<sup>38</sup> Fross K. Resources and Transaction Costs: How Property Rights Economics Furthers the Resource-Based View / K. Fross, T. Fross // Strategic Management Journal. – 2005. – № 26 (6). – P. 543.

The main elements of the property rights “bundle” are, as a rule, the following components<sup>39</sup>: the right to prohibition of the access to the resource for other agents; the right to use the resource; the right to receiving the income from the resource; the right to transfer legal opportunities.

It should be noted that a separate set of legal opportunities corresponds to different resources. That is, the wider the set of legal opportunities is, attached to the particular resource is, the higher its value is.

The necessary condition of the normal market functioning is specification, i.e. exact definition of property rights. At the same time, the reverse phenomenon is the erosion of property rights, when these rights are not clearly established and poorly protected. Therefore, the principal regulation of the new institutional theory means that the specification of property rights is not free of charge and is connected with transaction expenses because in “real” economy (according to the terminology of the neoinstitutionalists) property rights cannot be clearly defined and protected absolutely reliably<sup>40</sup>.

The deciding feature of the classification of neoinstitutionalist theories suggested by O. Williamson is the differentiation of the neoinstitutional theory from the neoclassical one. O. Williamson proceeds from the idea that the difference between these theories lies in the orientation of scientific investigations. The neoclassical theory is characterized by “technological” orientation while the neoinstitutionalist theory reflects contract orientation<sup>41</sup>.

As distinct from the neoclassical theory which is based on assumptions about the instantaneous realization of exchange, the availability of complete information, the lack of the opportunist behavior of economic agents, the focus of attention of the neoinstitutional theory is the problems of concluding and performing contracts in case of availability of institutional limitations. The formation of classification of the neoinstitutionalist theory by O. Williamson is based on the regulation of division of the neoinstitutional theory in accordance with the objects of its research. The first group of the neoinstitutionalist concepts includes the investigation of the institutional environment, i.e. those limits (political, social, legal) in which economic activity is carried out. O. Williamson refers the theory of social choice to such type of concepts. The theory of social choice studies the rules regulating the public sphere relations. The theory of property rights studying the rules which regulate the relation in the private sphere is also referred by O. Williamson to this type of concepts.

The objects of investigation for another group of the neoinstitutional theories are organizational forms which are created by the economic agents on the contract basis. The scientist includes here the theory of agent relations which regulate the relations “principal-agent”. These relations, in its turn, involve the theory of incentive mechanisms which envisages the formation of optimal schemes for ensuring rational distribution of risks between the principal and the agent, and the “positive” theory of agent relations which is devoted to the division of functions of property and control. We should say that the described groups are called “ex ante” by O. Williamson, that is such groups which are concentrated on

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<sup>39</sup> Prokopenko V.Yu. Methodological foundations of investigating the real estate market. Institutional theory: main principles and evolution // Contemporary issues of economics. – 2011. – №8(122). – P.47-48.

<sup>40</sup> Ibid. – P.48-50.

<sup>41</sup> Handbook of New Institutional Economics / ed. by C. Menard, M. M. Shirley, O. Williamson, D. North, R. Coase, D. Allen, D. Lueck. – Berlin: Heidelberg, 2008. – P. 44.

laws necessary for providing the implementation of contract obligations before concluding the contracts or at the stage of their implementation<sup>42</sup>.

The third group of concepts is based on the transactional approach. These concepts are characterized by O. Williamson as “ex post” concepts concentrated on the measures of providing the contracts at the very stage of their implementation. According to the transactional approach, the goal of the organization is the reduction of transaction costs, i.e. those costs which are connected with the contract implementation. This approach is centered on the investigation of “the regulation structures”, the mechanisms used for evaluation of the behavior of the participants of contract relations, argument solution, adaptation to unexpected changes, applying sanctions to the violator of contract obligation, etc. O. Williamson considers that a specific kind of regulation structures corresponds to a specific agreement, that kind of structure which ensures its best implementation<sup>43</sup>.

P.M. Leonenko<sup>44</sup> notes quite logically that as distinct from the representatives of the “old” institutionalism who were on the periphery of economic thought for a long time, the followers of the “new” institutionalism were able to become very popular among the scientists in economics in the whole world. The reasons of their recognition were new approaches and the application of new methods of research. P.M. Leonenko singles out such major differences between the “old” and the “new” institutional theories.

– The ideologists of the “old” institutionalism (the followers of T. Veblen) studied the problem of modern economic theory by using the methods of other social sciences. While the neoinstitutionalists (the followers of R. Coase) chose a somewhat other way – they revived the neoclassical methods of economic theory, in particular, the application of the apparatus of modern microeconomics and the theory of games, in studying political, legal, sociological and other issues.

– The application of the inductive method of investigation (from particular case to generalization) did not ensure the establishment of the traditional institutionalism as a general institutional theory. The ideologists of neoinstitutionalism applied the deductive method of cognition – from general principles of neoclassical economic theory to the explanation of particular phenomena in social life.

– The focus of attention in the “old” institutionalism as a direction of radical economic thought included, basically, the actions of groups (as a rule, trade unions, governments) concerning the protection of interests of the individual. It is opposite to neoinstitutionalism which considered an independent individual who voluntarily, in accordance with his/her interests, decides the member of which collective he/she should be. Besides, the representatives of neoinstitutionalism took into account the two following important elements which characterize actions, movable interests. These elements are the concentration on oneself, that is attention of the subject to the consequences of any considered action for oneself; the rational calculation which consists in systematic attempts to evaluate the possible expenses, benefits, satisfaction, etc.

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<sup>42</sup> Handbook of New Institutional Economics / ed. by C. Menard, M. M. Shirley, O. Williamson, D. North, R. Coase, D. Allen, D. Lueck. – Berlin: Heidelberg, 2008. – P. 44.

<sup>43</sup> Ibid. – P.45.

<sup>44</sup> Leonenko P.M. History of economic theories. – Kyiv: Znannya, 2008. – P.500.

It should be noted that the list of differences between the “old” and the “new” institutionalism is not exhausted with only the differences mentioned (Table 1.1).

Table 1.1

Comparative characteristics of the principles of the “old” and “new” institutional theories

<b>Characteristics</b>	<b>“Old” institutionalism</b>	<b>Neoinstitutionalism</b>
The period of formation	Early XXth century	Late XXth century
The main reason of appearance	The criticism of orthodoxal prerequisites of the classical liberalism	In connection with the formation of the fundamentals of modern orthodoxal direction
The science which inspired	Biology	Physics (Mechanics)
The direction of the scientific thought development	From sociology, political science, law, etc. to economics	From economics to sociology, politics, law
The method of cognition	Inductive	Deductive
Methodology	The methods of other humanities (sociology, political science, law, etc.), the organic and evolutional approaches were used	The methodology of economic neoclassics (methods of microeconomics, theory of games), balanced and optimization approaches were used
The center of attention	Collective actions	Independent individual
The prerequisite of analysis	Holism	Methodological individualism
The element of analysis	Institutes	Atomistic, abstract individual
The notion of the role of institutes	Form the advantages of individuals	Form the external limitations for individuals (conditions of choice, limitations, information)
The notion of the role of the individual	The individual changes, his advantages and goals are endogenic	The individual does not change, his advantages and goals are exogenic
The notion of technologies	The technology is endogenic	The technology is exogenic
Founders	T. Veblen, G. Commons, W. Mitchell	R. Coase, G. Bekker, D. North, J. Buchanan

However, it is necessary to observe that it is exactly the three abovementioned differences that became the basis for rapid development of a new direction in economic theory. It is confirmed by the increased interest to institutional investigations during the last decades.<sup>45</sup> First of all, it is connected with the attempts to overcome the limited character of some regulations of the economic theory – Economics (the axiom of new rationality, absolute level of information knowledge, perfect competition, establishment of balance only by means of price mechanism and so on). Also, the interest was caused by the desire to consider contemporary economic, political, social processes with the help of

<sup>45</sup> Leonenko P.M. History of economic theories. – Kyiv: Znannya, 2008. – P.502.

the comprehensive and detailed approach. Because the aspirations of modern economists to analyze the phenomena in the postindustrial society by means of traditional methods of research have not given the desired results yet.

Thus, institutionalism is a complicated formation according to the directions of research and the achievements in understanding of the economy and the society. The methodological basis of the classical direction in institutionalism includes the following aspects<sup>46</sup>.

1. The expansion of limits of the cognitive process of economic theory by means of applying noneconomic sciences – history, sociology, law, psychology and other social sciences. Such interdisciplinary approach provided the research beyond the limits of economics, widening the field for revealing interconnections and interdependences, the scale of theoretical generalization.

2. The investigation of economy and society not in statics, but in dynamics, the principle of evolution, historicism which determines the necessity of displaying the driving forces and factors of development, revealing the main tendencies in the evolution of the economic and social system.

3. The replacement of methodological individualism, that is the analysis of behavior of the individual, by the principles of methodological holism, according to which the center of analysis is institutes, not individuals, in particular the system of institutes, not separate institutes.

4. The importance of social control of economy, the active economic and social role of the state and the government, which enable to ensure the formulation, the legislative adoption, the activity of the formal institutes, and to balance them with nonformal institutes, to form and regulate the competitive environment.

It is necessary to note that the methodological foundations of institutionalism of the classical direction are closely connected with the classical political economy, the theory of the Marxist economic theory, the philosophy of pragmatism. This direction is characterized by the study of production, capital, science, technology, forms of production organization, the role of the state and the government in economy and society. Moreover, social-economic processes are investigated not in statics, but in development (in dynamics), which leads to the orientation of this methodology into future, into the perception of the economic system in movement, into the process of transition from lower to higher, more perfect forms<sup>47</sup>.

As methodologically neoinstitutionalism is based on the fundamentals of neoclassical theory, the major notions for neoinstitutionalists will be not production, capital or technologies. The fundamental notions for them will be categories of exchange, market as the universal form of human activity, which is the direct subject of research of the neoinstitutional direction. Neoinstitutionalists concentrate their attention on the investigation of property rights, transactions, transaction costs, contract agreements which are analyzed from the viewpoint of exchange, maximization of usefulness. The representatives of this theory do not take into consideration such concrete factors of production as implements of labor, technology, production resources, which prevents from applying a wide approach to the study of development of production, economy. However, A.

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<sup>46</sup> Chukhno A. Institutionalism: theory, methodology, meaning // Economy of Ukraine – 2008. – №6. – P.7-8.

<sup>47</sup> Ibid. –P.8-9.

Chukhno justly states<sup>48</sup> that neoinstitutionalists have accepted the main methodological principles of neoclassical theory and supplemented it with their special methodology and terminology, specific notions (institutions, organizations, transactions, transaction costs, property rights, limited rationality, opportunist behavior, main contracts, specific assets, institutional change and so on). It is worth mentioning that this system of categories does not duplicate the notions existing in the classical orthodoxy, but reflects new economic processes and phenomena which have not been investigated or which have been investigated insufficiently.

The theoretical-methodological approaches of neoinstitutionalism were enriched by the following developments: legal determinism, contract approach, the theory of firm, the rules and forms of behavior which regulate the relations in public and private spheres and which were reflected in the theory of social choice, property rights. All this contributed to the improvement to the theoretical and methodological tools of neoinstitutionalism. Thanks to these theoretical developments, considerable advances have been made in the theoretical explanation of new phenomena, processes, in the development and perfection of the institutional economics which explains a high assessment of achievements of the representatives of neoinstitutionalism who were awarded with Nobel prizes.

Thus, the contemporary institutionalism reflects the dynamics of the social-economic progress, the steady movement by its evolutionary stages: preindustrial, industrial, informational postindustrial society. The class approach which prevailed in the society for a long period (two-three centuries) was ousted by a much more progressive civilization approach based on human values.

The methodology of modern institutionalism is grounded on the objective process of increase of scientific-technological factors in the development of economy and society. Technical, technological changes affect the development of institutes, the place and role of people in production and society. Instead of the widespread subjective-technological characteristics of the human being, the modern institutionalism proceeds from the importance of the subject of society, from the subjective, individual in the human being, and therefore, a subjective, individual choice. All these aspects are considered as socially and culturally determined, but the individual is not something invariable. On the contrary, the individual exists under the influence of the material and social environment, the practical activity of people<sup>49</sup>.

Generalizing the peculiarities of establishment of the institutional theory, we consider that it is expedient to depict the classificational division of the institutional approach. It will give a possibility to follow the process of development and the origin of economic theories more evidently, to determine the main concepts of institutionalism during the period of establishment and development of this theory (see Fig. 1.1)<sup>50</sup>.

After investigating the peculiarities of the establishment of the institutional theory let us examine the issues of its application in the process of management of economic development in foreign countries and in Ukraine. The world experience shows that the developed countries possess a well-elaborated state institute due to the clear formulation of the general goal and functional tasks (the balanced

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<sup>48</sup> Chukhno A. Institutionalism: theory, methodology, meaning // *Economy of Ukraine* – 2008. – №6. – P.9.

<sup>49</sup> *Ibid.* – P.12.

<sup>50</sup> Leonenko P.M. *History of economic theories.* – Kyiv: Znannya, 2008. – P.509.

political environment, the strengthening of the legal basis, the support to investments in social-cultural sphere, the protection of socially destitute citizens, the environmental protection).

The developed countries provided the basic conditions for the development of entrepreneurship which envisage the availability of the stable tax legislation, transparent accountancy, stable game rules, etc. Also the stability of the legislation, the implementation of contracts and the protection of property rights are institutionally guaranteed.<sup>51</sup>

The countries with the developed economy apply different institutional regulators within the range of medium and long-term strategies which enable to achieve success under the conditions of growth of globalization and competition. In such strategies the methods of planning, forecasting, programming and determining the priority innovation sectors of economy are used. It should be said that in Ukraine such methods were also used by the government, but they appeared to be inefficient because of insufficient development of the country's institutional system. That is why the analysis of experience of applying institutional regulators in foreign countries makes it possible to assess their advantages and disadvantages in order to efficiently use them in the conditions of transformation of Ukraine's economy to the best world standards of the society's development.

The phase of the society's development is an important factor which determines the expediency of applying these or other elements (regulators) of the institutional theory in the country's economy. For instance, in the period of crisis the institutional structures of other states with their other types are used, as a rule, in some countries.

For, example President F. Roosevelt applied the elements of the USSR's institutional system in 1930s – the mechanism of planning, of the public work organization, the government policy of full employment and others. After overcoming the economic crisis Roosevelt continued making nonstandard decisions, in particular, he approved “the fair competition codes” for the majority of companies. These codes compelled the companies to employ a predetermined number of jobless people. Therefore, due to such actions nearly 10 million jobs were created during 3 years.<sup>52</sup> In the period of transition to the stage of stabilization, the governments of some countries apply the institutional forms of those countries which have an analogous, but a more perfect institutional system. In particular, the experience of the USA in keeping competitiveness by institutional methods proves its high efficiency. Because the USA retains its advantage in a number of long-term fundamental factors such as: the application of the principles of economic liberalism, according to which the regulatory policy and the government stimulation of the economy are carried out; the maintenance of the leading positions in the main directions of fundamental science; the availability of the unique space and military programs that ensures the country's long-term technological advantages.

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<sup>51</sup> Melnyk T.M. Institutional factors of economic development: theory and practice // Electronic resource. – Access mode: [http://www.nbuv.gov.ua/portal/Soc\\_Gum/VDU\\_ekon/2010\\_2\\_1/tom1/245.pdf](http://www.nbuv.gov.ua/portal/Soc_Gum/VDU_ekon/2010_2_1/tom1/245.pdf). – P. 247.

<sup>52</sup> Ibid. – P. 248.

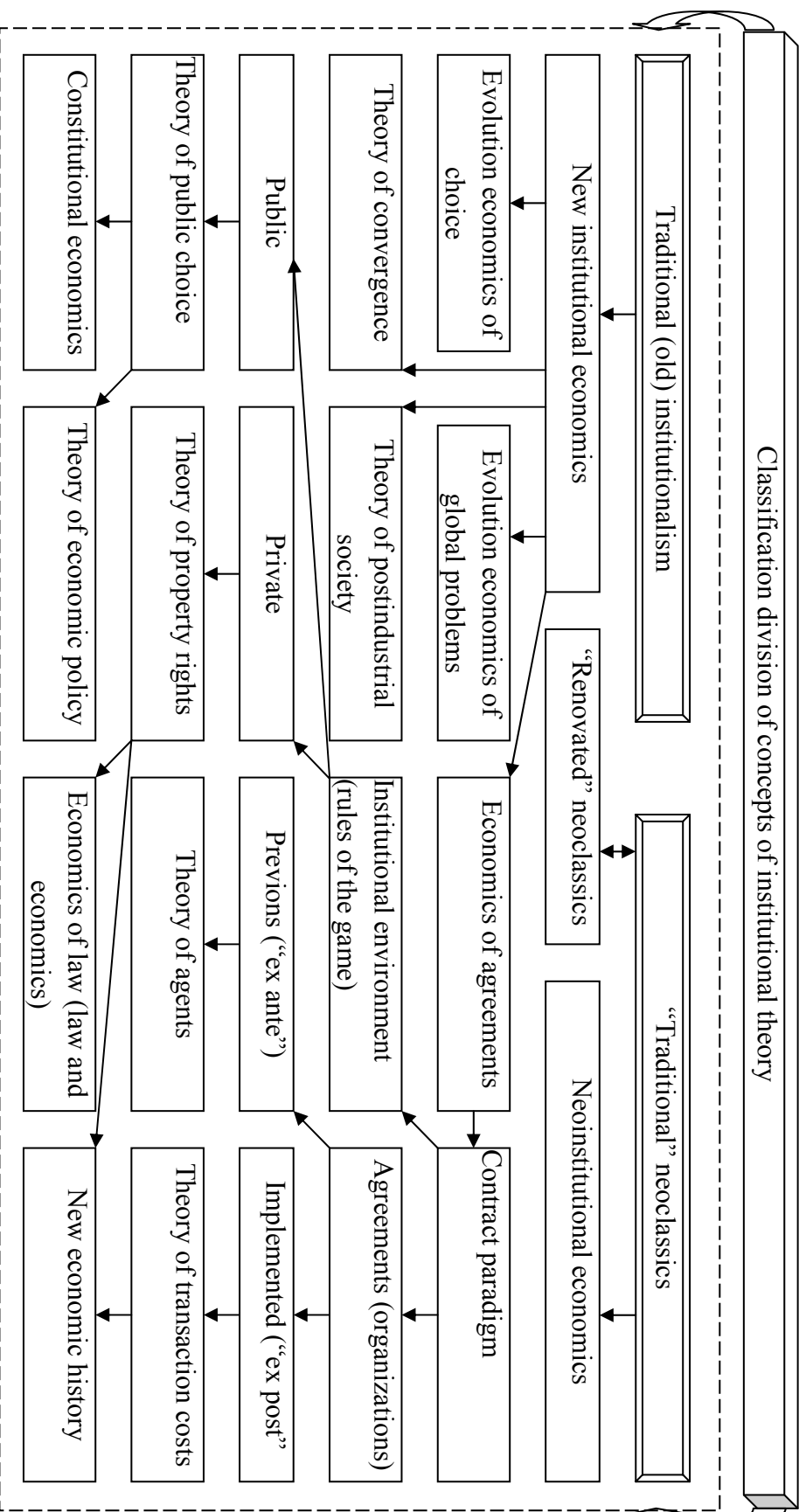


Fig. 1.1. Classification of concepts of institutional theory

It is necessary to observe that the USA possesses a high rating in competitiveness due to the use of the institutional methods. The National Council for competitiveness which functions in the USA has great importance for raising the country's positions in competitive struggle. The Council is a non-profit, independent, two-party organization which elaborates recommendations and strategies for ensuring the state's competitive positions at the world markets and for the economy. The formation of comprehensive programs for the development and growth of competitiveness are implemented on the federal and state levels in the USA.<sup>53</sup> They include: the education programs, the programs of attracting foreign buyers and sellers, etc. An important component of ensuring the successful realization of these programs is the use of information systems which enable to establish the ties with companies in different countries of the world.

It is important that following the example of the USA similar councils for competitiveness were created in Great Britain, France, Finland, Denmark, Poland, Hungary and other developed countries. The composition and structure of these councils make it possible to fruitfully cooperate with governments, providing the efficient mechanisms of dialog between the governmental, private, trade union and academic institutions on the issues of the country's competitiveness. On the basis of the results of research conducted by the councils, the governments are suggested clear, substantiated measures concerning politics and programs of actions. The implementation of such measures can contribute to the increase of competitiveness and the improvement of the population standards of living<sup>54</sup>.

The study of experience of the postwar reconstruction in a number of countries, such as Italy, Germany and Japan, leads to the conclusion that the primary reason of their achievements in economic activity were not the resources or their efficient use, but an informal component of the institutional system – the legislation and its absolute observation by every citizen. For example, one of the most significant factors of overcoming a deep crisis in these countries was the application of the regulatory institutional tools borrowed from noneconomic spheres to the process of reconstruction.

The investigation of foreign experience of applying institutional regulators enables to make a conclusion that competitive strategies in the developed countries are intended for medium and long-term periods.

Such strategies are based on the use of the indicative planning, scientific forecasts of technological changes, priority of the economy's innovation sectors<sup>55</sup>. The more so, the developed countries created a favorable institutional environment, under the conditions of which plans, programs, forecasts are implemented in the economic activity, while the transactors obtain advantages in competitive struggle both on the domestic and the global markets.

The quality of formation of the institutional system is an important factor of market reforms in the transition economies, including Ukraine.

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<sup>53</sup> Melnyk T.M. Institutional factors of economic development: theory and practice // Electronic resource. – Access mode: [http://www.nbuv.gov.ua/portal/Soc\\_Gum/VDU\\_ekon/2010\\_2\\_1/tom1/245.pdf](http://www.nbuv.gov.ua/portal/Soc_Gum/VDU_ekon/2010_2_1/tom1/245.pdf). – P. 248.

<sup>54</sup> Ibid. – P.250.

<sup>55</sup> Ibid. – P. 251.

Because the existence of stable and transparent institutions provides for the normal functioning of market mechanisms which are essential for ensuring successful realization of the market coordination of economic processes. While a weak and indefinite institutional environment delays the harmonious interaction of market regulators, leads to the growth of lawlessness, bureaucracy, production and transaction costs of the business<sup>56</sup>.

As it is justly stated in the paper<sup>57</sup>, a high level of openness of the domestic economy does not guarantee a positive effect on the economy, as the export incomes are not invested into the development of Ukraine's economy, but remain abroad or are spent on the satisfaction of demands of a small fraction of the population. As distinct from the developed countries, the developing countries and the countries with a transition economy (where Ukraine can be referred to) apply mainly the tools and means of short term effect in the framework of the annual state budget implementation. This significantly limits their regulatory potential.

The objective manifestation of the undeveloped institutional environment in Ukraine and transition economies is a considerable part of the shadow economic activity. While in the developed countries the shadow sector is quite limited and does not possess reproduction ability, in certain transformation economies this sector makes a wasteful effect on the development of public production. Some aspects of this phenomenon can be observed in Ukraine. The disregard, the insufficient understanding of the fundamentals of the institutional evolution theory caused a durable crisis in the economy and other spheres of the Ukrainian society. The crisis manifested itself in the ungrounded liberalization of market development, the growth of the shadow sector and the stagnation of the economy, the weakening of the state regulation tools. The excessive enthusiasm over market liberalization resulted in the increase of nonpayments, barter trade, constant pressures with the fulfillment of the state budget, the privatization emergency, the corruptive redistribution of resources and results of the economic activity<sup>58</sup>.

When studying the modern economic history of Ukraine we can single out the major peculiarities in the introduction of the institutional changes.

As a result of the stable decrease of average living standards, the reaction on the restriction of economic freedom turned out to be more distinct than on the expansion of the allowed changes of social-political choice. In the course of liberalization and introduction of the market ideology the basic prerequisites of the "real" freedom were not taken into consideration – the responsibility and self-sufficiency of the participants-contractors of market agreements. The almost simultaneous loss of usual warranties, the uncertainty with the value of personal assets, and, especially,

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<sup>56</sup> Sova O.Yu. Preventing the deficit of the state budget by efficient application of the institutional theory // Scientific papers of Donetsk Technical University. – 2006. – Issue 103-3. – P.101.

<sup>57</sup> Melnyk T.M. Institutional factors of economic development: theory and practice // Electronic resource. – Access mode: [http://www.nbuv.gov.ua/portal/Soc\\_Gum/VDU\\_ekon/2010\\_2\\_1/tom1/245.pdf](http://www.nbuv.gov.ua/portal/Soc_Gum/VDU_ekon/2010_2_1/tom1/245.pdf). – P.250.

<sup>58</sup> Goncharova N. Institutional theory and the development of Ukraines economy // Electronic resources. – Access mode: <http://dspace.tnpu.edu.ua:8080/bitstream/123456789/123/3/1/Goncharova.pdf>. – P.8.

liabilities disoriented individuals in the evaluation of the corresponding changes.

In the period of the market economy formation, the formal institutional norms are often transformed into informal ones with the implication of personal and private relations. In some cases the strictness of formal requirements (laws, decrees, orders) is reduced by subjective loyalty. Depending on the pressure force of lobbying personal interests such “some cases” can turn into mass-scale cases. There are well-known and rather numerous examples of tax benefits, of “assistance” in passing custom procedures, of obtaining profitable financial and commodity resources. That is, actually the formal regulators of public and economic choice cease playing the role of stabilization, and the norms of public law are transformed into opposite nonstandard economic behavior. However, in this case we do not oppose formal and nonformal institutional norms as both norms are necessary since their actions are mutually strengthened.

Thus, in modern conditions when the state and government bodies are forming the fundamentals of economic policy, it is essential that such policy formation should be based on the evolutionary forecasting of development prospects. The substantiation of succession and rates of the institutional changes in the modern Ukraine’s economic system is gaining significance. At the same time, at least medium-term periods of forecasting must be taken into account.<sup>59</sup>

It should be noted that timely and qualitative institutional changes enable to implement liberalization and business freedom in the organized way, to avoid anarchy, polarization in the ownership and regulation of the economic resources and in appropriation of the result of collective labor (with the participation of several sides). Institutionalization is an important prerequisite of economic consensus which all the market participants must voluntarily (or compulsorily) adhere to. Therefore, a necessary condition of transformation changes in all branches of the economy must be the keeping and execution of the evolutionary institutional demands of market reforms. The reason is that it is institutionalism that can be the basis of support for competitive principles of business activity in all its forms.

Thus, the world experience of application of the regulatory models reveals that in order to ensure economic development, to raise the competitiveness of the countries with transformation economy, in particular Ukraine, institutionalism must serve as an expedient concept of regulation.

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<sup>59</sup> Goncharova N. Institutional theory and the development of Ukraines economy // Electronic resources. – Access mode: <http://dspace:tnpu.edu.ua:8080/bitstreamn/123456789/123/3/1/Goncharova.pdf>. – P.8.

## **1.2. The place of “institutional economy” in the works of the Nobel Prize winners**

During the recent decades the attention to the institutional theory as a whole and to its neoinstitutional direction has grown considerably. Partially, it is connected with the attempts to overcome the restriction of some prerequisites typical for the economy and to consider the contemporary economic processes comprehensively. Partially, it is connected with the necessity to investigate new phenomena of the age of scientific and technological revolution, when the use of traditional methods does not bring the desired result.

Modern institutionalism did not emerge from nothing. The predecessors of this theory were the representatives of the “old” traditional institutionalism who also tried to establish the connection between economic theory and law, sociology, political science, etc. However, there are at least three major differences between the views of the “old” institutionalists (T. Veblen, J. Commons, V. Mitchell) and the neoinstitutionalists.

First, the “old” institutionalists (in particular J. Commons in his research “Legal basis of capitalism”) conducted their investigations in the direction from law and politics to economics; they tried to approach the analysis of modern economic theory with the help of the methods of other sciences of society. But neoinstitutionalists move in the opposite direction of research — they study political, legal and a lot of other issues of social sciences with the help of the methods of neoclassical economic theory, and, primarily, with the use of the apparatus of modern microeconomics and the theory of games.

Secondly, the “old” institutionalism was grounded on the inductive method; it proceeded from particular cases to generalization. As a result, the general institutional theory has not been finally formed. Institutes were analyzed without a general theory, while the situation with the development of economic thought was reverse: the traditional neoclassical theory was a theory without institutes. The situation in modern institutionalism is radically changing: neoinstitutionalism applies the deductive method — from the general principles of the neoclassical economic theory to the explanation of the particular phenomena in social life. In this book an effort is made to analyze institutes on the basis of a single theory and inside it.

Thirdly, the “old” institutionalism as a direction of the radical economic thought paid attention mainly to the actions of collectives (primarily trade unions and government) for the protection of the interests of the individual. At the same time, neoinstitutionalism aims mainly at the independent individual who decides, according to his/her own will and interests, what collective it is beneficial to join.

At the same time the structure of both old and new institutional concepts is much more complicated. Still, the dualism of the “old” institutionalism and neoinstitutional theories remains. Both directions were formed either on the basis of the neoclassical theory or under its considerable influence (Table 1.2).

Table 1.2  
The leading scientists and the structure of the new institutional theory

<b>Theory</b>	<b>Leading scientists</b>
The theory of social choice studies the institutes functioning in the public sphere	James Buchanan, Gordon Tullock, Mansur Olson
The theory of property right investigates institutes operating in the private sphere	Ronald Coase, Armen Alchian, Harold Demsetz
The theory of organizations studies the organizational forms which are created by individuals with the consideration of “the game rules”	Oliver Williamson, Claude Menard, Oliver Faverean, Benjamin Klein, Boris Milner
The agency theory is devoted to the interaction “principal – agent”	Joseph Stieglitz, David Sappington
The mechanism design theory is one of the directions of the agency theory which investigates the organizational schemes for ensuring the optimal division of the market between the principal and the agent	Leonid Hurwicz
The positive agency theory which deals with the problem of “the separation of property from control”, the elaboration of the norms so that the behavior of agents (managers) should deviate from the interests of principals (owners) in the smallest degree	William Meckling, Michael Jensen, Eugene Fama
The transactional approach to studying economic organizations. One of the directions of this approach investigates the expenses for calculating the quantity and quality of goods and services	Ronald Coase, Douglas North, Stephen Chen
The theory of governance structure studies contract relations	Oliver Williamson
The concept of balance on the basis of the theory of games	John von Neumann, Oskar Morgenstern, John Nash
The mechanism design theory	Leonid Hurwicz, Eric Maskin, Roger Myerson

The growing popularity of the ideas of the neoinstitutional economic theory can be proved by a great number of Nobel Prizes in economics which were awarded to the economists-institutionalists. During the first 20 years of conferring this award only five scholars in sphere of institutional investigations received the Nobel Prize — Jan Tinbergen (1969), K. Arrow (1972), Gustav Murdal (1974), Henry Simon (1978), James Buchanan (1986), during next 20 years the amount of scientists-economists who became the Nobel Prize winners grew to eleven: Ronald Coase (1991), Gary Becker (1992), Douglas North (1993), Robert Fogel (1994), Amartya Sen (1998), George Akerlof (2001), Michael Spence (2001), Joseph Stieglitz

(2001), Daniel Kahneman (2002), Oliver Williamson (2009), Elinor Ostrom (2009).<sup>60</sup>

Still, T. Veblen (1856-1929) is considered to be the founder of institutionalism. He came from the family of the Norwegian emigrant peasant. The main work of Veblen is entitled "The Theory of Leisure Class" (1899).<sup>61</sup>

Veblen categorically objected to the idea that the economic theory may be only the science of prices and markets. He considered that its subject is human activity in all its manifestations and it must deal with relationships between people. As distinct from the neoclassics, Veblen was sure that a human being cannot be regarded as equipment, assessing his/her usefulness as a material benefit, with the aim of maximalization of general effects from using the cash stock of these or other resources. The economic behavior of the individual has a more complicated, sometimes even irrational character. The individual is greatly influenced by social psychology: the instinct of inheritance, the instinct of self-preservation, the inclination to rivalry, interest and so on. In Veblen's system an essential role is played by such psychological category as "the comparison of envy". With the help of this category he explains such economic phenomena as the inclination to prestigious consumption and accumulation of capital.

The economic and social structure of the society, according to Veblen, contributes to the situation that entrepreneurs exploit the worst limits of human psychology. They strive to eliminate competition, to limit the output of goods, to create bigger enterprises, to separate the owners of the American companies (shareholders) from people who manage them (managers).

Proceeding from this, Veblen made the conclusion that a consumer was not "the king" of the market who demands and receives the best goods and services at the lowest prices.

For theoretical explanation of this phenomenon Veblen introduced the notion "conspicuous (demonstrative) consumption". It is typical for rich people ("upper class") who buy goods and services only in order to throw dust in the eyes, to make an impression. In its turn, such consumption makes the middle-income consumers and poor people follow the example of the rich by buying goods with the same goal. All this leads to the unnecessary waste of resources, which could be used more reasonably at the benefit of a great majority of people.<sup>62</sup>

The major motive of Veblen's theory was the criticism of the contemporary social elite of America. He formulated a number of principles of general theory which clearly revealed the influence of the widespread social thought: Marxism, the theory of instincts, Social-Darwinism and so on. According to Veblen, the evolution of social institutes fixed by customs as the ways of social life regulation takes place under the influence of the external environment by means of natural selection.

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<sup>60</sup> Leonenko P.M. History of economic theories. – Kyiv: Znannya, 2008. – P509. Dovbenko M.V. The Nobel prize evaluation of investigations of economic institutions // Economic theory. – 2009. – №4. – P.65-74.

<sup>61</sup> Veblen T. BSE // Electronic resource. – Access mode: <http://bse.sci-lib.com/article/003613.html>.

<sup>62</sup> Ibid.

He considered that the main factors demanding the institutional changes include the progress of science and technology, the growth of population. While the major conservative factors are stereotypes of thinking which had been formed. According to Veblen, the existing institutes are always the result of the past processes, they never meet the demands of the present time. The evolutionary institutional structure interacts with the human biological nature, the innate instincts of people. Among such instincts Veblen singled out the instincts of workmanship, which determines the aspiration of people for creative activity and material welfare; the parental bent, the care for family and, in further development, for social welfare; the leisure interest which manifests itself in the desire for perception of the surrounding world and is based on the deep-rooted game instinct. Alongside with the mentioned instincts, Veblen points out to the presence of the human instincts of self-assertion, cupidity and self-esteem which evoke the desire to improve the personal at the expense of others. Following Morgan, Veblen singled out in history the periods of savagery, barbarism and civilization. The scholar states that the first period is characterized by public property, the equalizing distribution and the corresponding institutes that are grounded on the instincts of workmanship and parental bent.

In the process of technology improvement, production begins to exceed the level sufficient only for life support which creates the opportunity for exploitation. The growing instincts of cupidity and selfishness begin to manifest themselves. Chiefs and priests appropriate the excess of product over the minimal means of subsistence. As a result, the collectivist institutes decompose, private property becomes widespread. Military success, but not labor activity, becomes the highest valor of the individual. Savagery is replaced by the barbarian; the fundamental antagonism between productive labor and idleness appears. The status of productive labor decreases greatly. Having once appeared, the upper class continues to exist at the stage of civilization. The upper class successfully imposes its world outlook to the whole society. Veblen considered the the main conflict of his time to be the opposition of “the world of business” (his contemporary type of the upper class) and “the world of industry” (all people employed in production activity, among them the leading role belongs to engineers and technical personnel).<sup>63</sup>

In the course of “the Keynesian revolution” and the elaboration of macroeconomic analysis, the works of Simon Kuznets expanded the foundation of the theory of economic development and institutionalism laid by T. Veblen. The investigations of Kuznets formed the basis of the modern theory of economic growth. The interest to the problem increased in 1950s when the growth potential was being exhausted, when the competition of the USA with the Soviet Union, with Japan intensified, and the problems of the third world countries emerged. Special attention was paid to modelling of economic growth as a means of revealing and verification of the conditions necessary for its constant steady realization in a long-term period. The models of R. Solow, J. Robinson and other scholars appear.

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<sup>63</sup> Veblen T. BSE // Electronic resource. – Access mode: <http://bse.sci-lib.com/article/003613.html>.

The key role in the formation of the modern theory of economic growth was played by the works of Simon Kuznets, the founder of the quantitative approach in the investigation of the problem.

The main program of investigations of S. Kuznets in the field of economic growth began after the Second World War. It consisted of three parts. The first was implemented as a series of large articles in which the nature of the subject and the plan of research were determined. The example is the article "To the theory of economic growth" (1955). S. Kuznets stated that the general theory of economic growth must explain the mechanism of development of the advanced industrial countries as well as the reasons of restraining the development of the backward countries. This theory must also embrace the countries with planned and market economies, big and small states, developed and developing countries. The theory of economic growth must explain the influence of foreign economic relations as well as the impact of wars and interventions on economic growth. In the opinion of Simon Kuznets, the necessity of putting such ambitious tasks can be explained by the fact that we can make substantiated conclusions only if we study economic growth in most various contexts and conditions.

Proceeding from this, Kuznets insisted that empirical investigations which composed the second and major part of his program, should embrace big periods of time and big space. In this case the objects of observation should be not geographic regions or industrial areas, but the whole countries. The scholar was sure that until the labor-consuming preparation work of gathering material about the previous experience was completed, any unspecific theories of economic growth would be unnecessary. He suggested conducting wide empirical investigations in four key elements of economic growth to which he referred: demographic growth, knowledge growth, internal state adaptation to growth factors and external relations between countries.<sup>64</sup>

The empirical investigation carried out by Simon Kuznets proved that the growth of the country's aggregated product inevitably envisages a deep transformation of the whole economic structure. Such transformation concerns many aspects of economic life — the structure of production, the sectoral and professional structure of employment, the distribution of work inside the family and market activity, the factor income structure, the size, age composition and territorial distribution of the population, the interstate flows of goods, capital, labor resources and knowledge, the organization of industry and the state regulation.

S. Kuznets considered that technology could be only a potential: "The main thing lies in the application of science; moreover, it concerns not only the total economic growth, but nearly to the same extent — the effect of feedback in the development of science itself." It is necessary to change its institutional structure. The next application of science in production is "in a sense equivalent to the creation of many experimental laboratories which provide new data for further stimulation of scientific progress".<sup>65</sup>

Among the economists of the institutional direction Gunnar Myrdal (1898-1987), the representative of the Swedish school, should be especially

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<sup>64</sup> Gorkina L.P. The theory of economic growth: the Nobel aspect // Economics and forecasting. – 2005. – №3. – P.147-157.

<sup>65</sup> Ibid. – P.147-157.

singled out. Myrdal is the winner of the Nobel Prize in economics for 1974 “for the pioneering work in the theory of money and economic fluctuations, and for the penetrating analysis of the interdependence of economic, social and institutional phenomena”. Myrdal was the University professor, the government councilor, the member of Parliament, the head of the research group for the study of the social position of the Black people in the USA, the Minister, the bank director, the head of the planning commission and the employee of the international organization. As distinct from other Nobel Prize winners, Myrdal considered himself to be one of “the institutional economists”. He had considerable international prestige, not only as a political figure, but also as an economist who was able to unite the problems of economic and social policy. His main works are “The Money Balance” (1931), “An American Dilemma: the Negro Problem and Modern Democracy” (1944), “The World Economy” (1956), “Asian Drama: An Inquiry into the Poverty of Nations” (1968).

Gunnar Myrdal tried to determine the place of social science in the general system of knowledge. He criticized a purely economic approach to the issues of well-being. In his opinion, economists should be afraid to declare political beliefs and make them the element of research because, as a rule, economists are inspired by not only scientific interest but also by aspiration to improve the society.

Besides the issues of planning, Myrdal pays great attention to the problems of integration. In his book “The World Economy: Problems and Prospects” the Swedish economist seeks for the answer to the question: “Where are we going?” With this aim he investigates the main trends in the development of international relations and elucidates the possibility of their changes.<sup>66</sup>

Myrdal considers that the international economic integration is possible provided its necessity is understood and “the basis of international solidarity” is created. He thinks that international economic relations must and can be regulated by means of politics. In case of absence of conscious regulation, the chaotic development of the world economy will inevitably lead to deepening of disintegration and can even cause the world conflict.

The concept of international economic integration by Myrdal is based on the analysis of the cumulative causation. It is grounded on “the existence of such interdependence of all factors in the social system at which any change in any factor causes changes in other factors... Due to the process of interactions... the whole system receives the impulse to move in the direction of the primary change but goes much farther it”. As distinct from the theory of balance which assumes that the corresponding factors invariably return the system to the state of rest, the principle of cumulative development foregrounds such processes that once having started create the conditions for further development.

Myrdal criticizes numerous theories of economic growth which declare the principle of “the automatic change” of social life of nations in the process of technical-economic modernization of the industry.<sup>67</sup>

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<sup>66</sup> Khudokormov A.G. History of economic theories (modern stage). Myrdal: the synthesis of institutionalism and the Swedish school. – M.: Infra-M, 1998. – P.76-81.

<sup>67</sup> Ibid. – P. 80.

Gunnar Myrdal considers that the complete change of backward social and economic institutes has a decisive role in the successful technical and economic development. It is possible to achieve progress only applying simultaneously the measures for eradicating outdated views which dominate in the nation's psychology alongside with technical-economic modernization. Myrdal wanted to prove that only deep reforms in the population growth control, in the distribution of arable lands as well as in health care can result in a fast economic development of the countries of South-East Asia and the solution of the region's acute social problems.

While assessing the role of political institutes in this process, the scientist comes to conclusion that “soft governments” in the countries of this region are too weak to overcome what he calls “cumulative factors of poverty”.<sup>68</sup>

In such a way Myrdal attempts to state the principles of experimental theory of development on the basis of many facts as well as to determine the correlation of factors, which ensure the elimination of backwardness by means of transition to overall progress.

The conclusions and assessments made by Myrdal gave the reasons to call him “a cheerful pessimist”. At the same time the idea of conscious “social control” of the economy is characteristic of the whole institutional-sociological direction and this idea was transferred not only at the national, but also at the interstate and global levels.

Alongside with G. Myrdal the theory of interdependence of economic, social and institutional phenomena was studied by Friedrich von Hayek. The early works of Hayek were devoted to the theoretical problems of economy. During 1920s he published a large number of articles on trade cycle, monetary and economic policy. In Hayek's opinion, in the period of economic upturn (which really occurred at the end of 1920s) the forced savings took place. The forced savings were caused by the credit expansion, even during the steady price level. This process leads to the increase of the stock of capital over the desired amount. Early or late, such overaccumulation of capital (surplus in comparison with voluntary savings) results in a crisis. The concept of Hayek envisaged the monetary explanation of the Great Depression later given by M. Friedman. At the same time Hayek stated that the period of depression was characterized by excessive consumption combined with an incorrect economic policy. From his viewpoint, the excessive unemployment was caused not by total consumption according to demands, but by distortions in relative prices, which, in their turn, were formed because of the unpredictable changes in money supply. It was these changes that broke the balance of demand and supply of the workforce in the whole economy. Hayek regards that only the market mechanism which is not limited by any restrictions can correct this disbalance and return the system into the state of balance. From these positions he condemned the expansionist and interventionist policy conducted by the government.<sup>69</sup>

It was typical for Hayek to defend individualism and to fight against the predictable development trend in the direction of collectivism. He

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<sup>68</sup> Khudokormov A.G. History of economic theories (modern stage). Myrdal: the synthesis of institutionalism and the Swedish school. – M.: Infra-M, 1998. – P.76-81.

<sup>69</sup> Hayek F. Monetary Theory and the Trade Cycle . – London, 1933. – 244 p.

proceeded from the idea that the expansion of the state power inevitably leads to the suppression of intellectual will and free development of culture. Hayek's struggle against etatist trends reached its climax in his book "The Road to Serfdom" (1944) and "Constitution of Liberty" (1960) where he warned that if the economic order of the XVIII century were not restored, the Western would go a terrible way of totalitarianism. Only the unimpeded functioning of free market economy can guarantee the major human rights. In Hayek's opinion, any democratic government following such socialist goals as equal distribution or price control are to become totalitarian regimes. In the same way, any attempts to introduce competitive markets in the totalitarian state will cause political upheaval. The reason is that freedom of choice forming the basis of the market is incompatible with autocratic ideas. This argumentation was not new, but Hayek added absolute consistence to these arguments.<sup>70</sup>

Hayek was awarded the Alfred Nobel Memorial Prize in economic science for 1974 together with Gunnar Myrdal "for the pioneering work in the theory of money and the theory of economic fluctuations, and for the penetrating analysis of the interdependence of economic, social and institutional phenomena". In his Nobel Prize lecture Hayek criticized those economists who had prophesied the consequences of the expansionist monetary and fiscal policy guided by what he called "pretensions of knowledge". Also, Hayek reproached such economists for incorrect assumptions.<sup>71</sup>

The Nobel Prize laureate for 1978 Herbert Simon developed the theory of economic growth, in particular the process of decision-making which partially refers to institutional economics. His contribution into economic science is primarily connected with the works on the theory of making decisions in economic systems which is a relatively new sphere of economic research.

In 1947 Simon published the book "Administrative Behavior" in which he stated the innovative approach to the problem of decision-making in the field of business organization and management. This approach called "administrative behaviorism" became the key direction of Simon's research in the following years. Later it included a lot of other aspects and was transformed into the concept of "economic behaviorism". In his book Simon described a business firm as an adaptive system which includes material, human and social components. These components are linked by a communication network and by a general striving of its members to cooperate with each other to achieve common goals. Simon rejected the classical notion in the economic theory that a firm is a rationally acting enterprise whose aim is only the maximization of profit. He put forward a thesis that in the firm decisions are adopted by the members of the collective, and their ability for rational actions is limited, on the one hand, by the impossibility to foresee all the consequences of the decisions made by them, while on the other hand, by personal desires and social conditions. As such process of making decisions can result, in its best, in the choice of

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<sup>70</sup> Hayek F. Monetary Theory and the Trade Cycle. – London, 1933. – 244 p.

<sup>71</sup> Hayek F. A. Nobel Prize Awarded Achievements / F. Hayek // Electronic resource. – Access mode: [http://www.nobelprize.org/nobel\\_prizes/economics/laureates/1974/hayek-cv.html](http://www.nobelprize.org/nobel_prizes/economics/laureates/1974/hayek-cv.html).

only satisfactory and not optimal variants, Simon formulated an original conclusion. He stated that firms set the goal not to maximize a profit, but to find acceptable decisions which appear in the form of complicated problems. This often compels people to make the decisions which cause conflict situation. Simon's book "Administrative Behavior" is considered to be a classical achievement in the theory of organization and making decisions. Besides, this book considers the inseparable links of production development and institutional transformations. Simon elaborated the theory of making decisions by firms from the angle of theoretical foundations of institutional economics.<sup>72</sup>

George Stiegler was awarded the Nobel Memorial Prize in 1982 for innovative investigations of industrial structures, market functioning, reasons and results of the government regulation. He was a leading scientist who partially investigated the aspects of institutional transformations and the development of the economy. Since late 1940s Stiegler had been engaged in the issues of industrial organization. In 1949 he criticized the theory of "monopolistic competition" which was connected with the name of the English economist Edward Chamberlin and with the so-called Harvard school of industrial organization. Stiegler stated that the theory of Chamberlin was not very suitable for forecasting economic development, though, at first sight, it gave a more realistic representation of industrial structure. In Stiegler's opinion, this theory did not introduce any new ideas in comparison with what already proceeded from completely opposite models of "improved competition" and "pure monopoly" which are standard tools of the theory of price formation. In his work "The Division of Labor is Limited by the Extent of the Market" (1951) Stiegler developed the postulate of Adam Smith that the size of the firm is limited by transport expenses and population density.<sup>73</sup>

The another work "The Economies of Scale" (1958) George Stiegler introduced "the survivor principle" into economic science. This principle became an inalienable element of the theory of industrial organization. The scientist determined "the minimal efficiency scale" which ensures survival as the smallest size of the enterprise (measured in the units of the produced output or the employed workforce) which is capable of remaining in the sphere of production after the changes in technology and the market situation. For instance, the introduction of new industrial technology can enable big enterprises to become profitable. In this case the minimal scale of efficiency in steel industry will increase. Though statistical data often proved to be rather limited, "the survivor principle" was used in the analysis of industrial organization more and more widely.

Gradually the interests of Stiegler moved from the sphere of pure theory into the field of economic regulation. He was especially interested in the issue of the state intervention into the economy and the place of the market in contemporary economy. Stiegler was not content with the dominating principles according to which the agencies performing regulation act in the interests of the society, he advanced the so-called "theory of capture" in management. According to this theory, contrary to the

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<sup>72</sup> Simon H. The gallery of economists// Electronic resource. – Access mode: [http://gallery.economicus.ru/cgi-bin/frame\\_rightn.pl?type=in&links=../in/simon/biogr/simon\\_b6.txt&n](http://gallery.economicus.ru/cgi-bin/frame_rightn.pl?type=in&links=../in/simon/biogr/simon_b6.txt&n).

<sup>73</sup>Ibid.

fact that regulation which is conducted by the corresponding agencies of the states, protects industrial enterprises from new competition rather than the consumer's interests. As an example, Stiegler mentions the attempts of the trade commission to limit the movement of trucks among the states which gave profit to the railway companies, and not to the population.

Stiegler's theory of regulation unites law and economics which is a pioneering work of interdisciplinary character. Stiegler's theory demonstrated that only the analysis of political-economic organization of the country as a whole could explain how and why the industrial regulation should be introduced. In his popular articles "What Can Regulators Regulate?" coauthored with K. Friedland, and "Public Regulation of the Securities Markets" published in 1960s, Stiegler revealed the inefficiency of the applied methods of economic regulation and sharply formulated the following problem: if, as a rule, regulation does not meet the determined objectives, why should there be so many regulation agencies?<sup>74</sup>

Many postulates by Stiegler on the issue of economic development regulation were stated in such works as "The Citizen and the State" (1975), "The Pleasures and Pains of Modern Capitalism" (1982). These postulates were taken into consideration by the American presidents James Carter and Ronald Reagan. However, Stiegler himself always upheld the status of an independent scientist. "I do not belong to the school of Reaganomics", he stated, "but I do not support its opponents either. And I think it would be just wonderful to reduce the government pressure on production".<sup>75</sup>

In his Nobel Prize lecture Stiegler used the theory of search formulated by him in 1961 in relation to what he called "the market of new ideas" in economic science. "Most economists are not the suppliers of new ideas but only demanders. Their problem is comparable to that of the automobile buyer: to find a reliable vehicle. Indeed, they usually end up buying a used, and therefore tested, idea", he said.<sup>76</sup>

A special role in the development of the theory of new institutional economics belongs to the Nobel Prize winner for 1986 James Buchanan. He wrote over 20 books and more than 300 articles. The main categories of analysis for Buchanan are not such organic units, as nations, state or parties, but individual persons who are able to adopt rational decisions which promote the benefit of the society as a whole. The theory of public choice foresees how the behavior of individuals in their various political roles (electors or taxpayers, lobbyists or candidates for political leaders, elected politicians or members of political parties, bureaucrats or government officials and judges) can affect the state of the society as a political organism as a whole. On the contrary, economic theory tries to connect the behavior of individuals in their economic role of sellers or buyers, producers or workers, investors or entrepreneurs with the results which manifest themselves on the level of the economy as a whole.

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<sup>74</sup> Stiegler G. The gallery of economists // Electronic resource. – Access mode: [http://gallery.economicus.ru/cgi-bin/frame\\_rightn.pl?type=in&links=/in/simon/biogr/simon\\_b6.txt&n](http://gallery.economicus.ru/cgi-bin/frame_rightn.pl?type=in&links=/in/simon/biogr/simon_b6.txt&n)

<sup>75</sup> Stigler George J. Autobiography // Nobel Prize Awarded Achievements // Electronic resource. – Access mode: [http://www.nobelprize.org/nobel\\_prizes/economics/laureates/1982/](http://www.nobelprize.org/nobel_prizes/economics/laureates/1982/).

<sup>76</sup> Ibid.

In the article “The Pure Theory of Government Finance” (1949) James Buchanan gave a kind of manifesto. He opposed two concepts of the state. According to the first concept, the state is the only authority of making decisions. The decisions are aimed at maximization of public welfare and distribution on the whole society. The second one shared by Buchanan means that the state is the system of its individual members who act as a collective while “the government only expresses the collective will of the individuals and cannot appropriate the right to maximize anything”. The formulation of Buchanan's ideas in the concept of the state coincided in time with the dispute over the problem of social choice. The dispute was caused by the publication of the book of K. Arrow “Social Choice and Individual Values” (1951). Proceeding from his personal understanding of the role of the state, Buchanan rejected the desirability of collective rationality as the purpose of social choice. He substantiated this idea by the fact that in society where “the only creature who has aim or value is the individual, the question of social or collective rationality does not emerge”. The article of Buchanan “Individual Choice in Voting and the Market” (1954) made a significant contribution into the understanding of variety of motives which influence the behavior of individual.<sup>77</sup> Buchanan singled out two conceptually different levels of social choice — initial constitutional (before the adoption of the constitution) and postconstitutional. The investigation of the first level assumed the elaboration of economic theory in the framework of the constitution. At the second level, the elaboration of economic theory was performed for political institutions. The difference between the two levels of choice may be revealed by analogy with the choice the people make during the game. Firstly, the rules are defined, then the strategy of the game is formed in the framework of these rules. In general, the constitution can be presented as a set of rules for playing a political game. The daily political actions are the result of the game in the framework of the constitutional rules.

Buchanan demonstrated that the application of this analogy could help understand a number of serious processes. Similar to how the rules of the game determine its probable result, the constitutional norms form the results of politics or, on the contrary, complicate their achievement. Thus, the effectiveness of politics or the improvement in the process of making legislative or managerial decisions demands changes or reforms of the constitution. The underlying principle of the search for the better rules of the game is the analysis of its possible direction under different rules. The approach to the constitutional reform is analogous as it must be determined by the analysis of possible development during the choice of alternative politics and the effect of alternative processes.<sup>78</sup>

The difference between the constitutional and postconstitutional choice was first stated in the monograph “The Calculus of Consent” (1962) written by Buchanan together with Gordon Tullock. The monograph united the ideas of Buchanan about the connection of the theory of public finance with the process of voting, on the one hand, and the postulates of Tullock's

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<sup>77</sup> Buchanan I. The gallery of economists // Electronic resource. – Access mode: [http://gallery.economicus.ru/cgi-bin/frame\\_rightn.pl?type=in&links=/in/buchanan/biogr/buchanan\\_b](http://gallery.economicus.ru/cgi-bin/frame_rightn.pl?type=in&links=/in/buchanan/biogr/buchanan_b).

<sup>78</sup> Buchanan J. The pure theory of public finance: A suggested approach / J. Buchanan // J. Pol. Econ. – 1949. – Vol. 57. – P. 496–505.

research of the theory of political organization, on the other hand. Developing the view of Knut Wicksell on politics as the process of complicated mutually advantageous change, Buchanan and Tullock tried to find an answer to the question in what way these exchanges should be organized so that all participants could expect a pure positive result on the level of constitutional choice. Especially they were interested in the question what political rules and procedures must govern the choice of collective or government policy. The authors considered these questions from the viewpoint of individual members of the society who face the choice of alternative rules and procedures of making decisions and who are aware that later they would be compelled to act in their framework.<sup>79</sup> The scientists investigated different levels and rules of making decisions, including such aspects as unity, eligible majority, mutual services, the institute of representation, two – and one-chamber legislative bodies, etc. Buchanan studied the process of using these rules in different spheres of social and economic life and described the results in several articles and monographs “Public Finance in Democratic Process” (1967), “Demand and Supply of Public Goods” (1968).<sup>80</sup>

From the viewpoint of James Buchanan, the state-producer contributes to the formulation of the agreement between citizens concerning the demand on the consumed goods and services. It must be done in the framework of constitutional rights and rules. But the activities of politicians, managers and bureaucrats promote the strengthening of this function of the state at the postconstitutional stage. This conditions the threat of the appearance of Leviathan. Buchanan makes use of the famous political symbol of T. Hobbs which signifies the autocratic state. Buchanan sees the way out in the application of modern theories of politics and management for the formation of institutes and rules which would prevent from developing in the direction of the autocratic regime.<sup>81</sup>

In his later works Buchanan continued the investigation of the constitutional development of the society, including the analysis of problems of democratic development under the conditions of budget deficit. In his work “Democracy in Deficit” (1978) written together with Richard Wagner, the constitutional demand of the balanced budget was substantiated by means of analysis of the postconstitutional behavior model. Under such model the financial deficit helps politicians to obtain political support from a great number of political segments. The support is achieved by government expenditures on special purposes with the simultaneous restraint of taxes which could cover these expenditures. In the paper “The Power to Tax” (1980) written together with Geoffrey Brennan James Buchanan substantiates the constitutional restrictions on the government authority in the field of taxation. In the work both scientists proceed from the model of the postconstitutional policy in which the government is regarded as the body striving for the maximization of profit. Directly and

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<sup>79</sup> Buchanan J. M. Public choice perspective / J. Buchanan // Econ. scel. publ. – 1983. – N 1. – P. 19.

<sup>80</sup> Buchanan I. The gallery of economists // Electronic resource. – Access mode: [http://gallery.economicus.ru/cgi-bin/frame\\_rightn.pl?type=in&links=../in/buchanan/biogr/buchanan\\_b](http://gallery.economicus.ru/cgi-bin/frame_rightn.pl?type=in&links=../in/buchanan/biogr/buchanan_b).

<sup>81</sup> Buchanan J. The pure theory of public finance: A suggested approach / J. Buchanan // J. Pol. Econ. – 1949. – Vol. 57. – P. 496–505.

indirectly, Buchanan supported the proposals of the constitutional rules that contain the requirement for the balanced federal budget. The idea of this work was, expanded by James Buchanan and Geoffrey Brennan in another common book “The Reason of Rules” (1985).<sup>82</sup> Many topics of this book were interwoven with the postulates of the book “The Consent Calculus”. Arguing with their opponents, the authors defended the statement that in the process of making political decisions individuals will act as homo economicus. They stressed that people would act not in the narrow egoistic framework, but, on the contrary, their behavior would be characterized by a rich range of individual motives.

The Nobel Prize winner for 1991 Ronald Coase was the follower of the theory of institutional economics. He was the first who introduced “transaction costs” into the economic terminology. He searched for the institutional basis of the market and criticized those economists which were worried only by the establishment of market price balance and who disregarded the influence of the law and other social institutions on the behavior of the firm and the market functioning. He maintained, in his afterword to the Nobel Prize lecture, that there was little sense in discussing the exchange process by economists without specifying the institutional structure within which trade is taking place. Because it affects the incentives of the production process and transaction expenses.

Ronald Coase declared his scientific idea first in November 1937 when he published his fundamental article “The Nature of the Firm”. In this influential work Coase formulated two questions which seldom were the objects of direct economic analysis and had not received a clear reply before his article. In particular, why economic organizations are represented by firms and why each firm has certain size. He tried to avoid the beaten way by which the answers were searched for, in particular: the analysis of ability of the price of the good to be coordinated with the use of resources for this good. Because this theory did not take into consideration a considerable part of resources spent by the firm on administrative coordination of actions for the sale of the good. Also R. Coase demonstrates that the accuracy and effect of the analysis of institutions of the economic system can be increased if the analysis is implemented on the basis of the rights to using “material objects” and not the very “material objects”. These rights called “property rights” can include complete property, different kinds of users’ rights or the rights limited by certain contract items and internal rules of the organization. R. Coase comes to conclusion that the determination of property rights and their distribution between people on the basis of the law, contract regulations and other rules directly affect economic decisions and their result. The more so, property rights form the main component in the analysis of the economy’s institutional structure.<sup>83</sup>

Ronald Coase laid the foundation for important conclusion at the next stage of his research. While working at the University of Chicago, he elaborated the theory which specialists consider to be a revolutionary theory

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<sup>82</sup> Buchanan I. The gallery of economists // Electronic resource. – Access mode: [http://gallery.economicus.ru/cgi-bin/frame\\_rightn.pl?type=in&links=../in/buchanan/biogr/buchanan\\_b](http://gallery.economicus.ru/cgi-bin/frame_rightn.pl?type=in&links=../in/buchanan/biogr/buchanan_b).

<sup>83</sup> Dovbenko M.V. The afterword to the Nobel lecture of Ronald Coase (1991): the institutional structure of production // Economic theory. – 2005. – №4. – P.55-70.

from the viewpoint of scientific approach to property rights. The direction of economic science founded by him is called “the problem of social cost”. It is exactly how his second book is entitled – “The Problem of Social Cost”. Coase not only demonstrated that the reasons for failure of the market lay in the transaction costs, but he also clearly formulated the problems of functioning of the economic organization from the point of view of comparative institutional analysis. The results of the conducted research show that a great number of laws are not really important at zero transaction costs. This thesis corresponds to the conclusion in his book “The Nature of the Firm” that under such conditions firms are unnecessary. All interrelations can be carried out by means of simple agreement without administrative interference, i.e. directly through the market. This led Coase to such idea: transaction costs never equal zero, which, in fact, explains the institutional structure of the economy, including the changes in forms of the economy, including the changes in forms and different kinds of legal norm. Or, more exactly, the institutional structure of the economy can be explained by relative costs of different institutional agreements combined with the efforts of the sides on maintaining the minimal general costs.<sup>84</sup>

Thus, the paradoxical postulate has been put forward: in absence of the costs for making agreement, the structure of production remains the same irrespective of the fact who owns which resource. The theorem was proved by Ronald Coase on many examples, partially arbitrary, partially taken from real life.

The work of Coase on the firm became the ground for a quick expansion of scientific research in this field of microeconomics and, in particular, for the explanation of the model of financial intermediaries. Institutional conditions and forms are an organic part of the economy, its “landmarks”, “regulators”, “inspectors”.

The Ukrainian laws and instructions, banks and exchanges, new traditions and ethic have not been completely formed, established, they do not interact. If the institutional environment is weak, then the economy is not stable either, bankers and managers are not self-confident, external effects are not compensated. Neoinstitutionalism removed the modern Western theory from the institutional vacuum, from the fictitious world, where the economic interaction takes place without friction and costs. The interpretation of social institutions as the means for solving the issues of transaction costs created the prerequisites for fruitful synthesis of the economic science and other social sciences. Thanks to the neoinstitutional economic science the picture of economic reality has changed, and the researchers face a whole range of principally new problems which were never realized before. The scientists characterized the investigations of Ronald Coase as “the breakthrough in the understanding” of the institutional structure of economy.<sup>85</sup>

The investigations of the historical development of institutional economics are conducted in the works of Robert Fogel. He received the Nobel Prize in 1993 for “having renewed the research in the field of

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<sup>84</sup> Coase R. The firm, the market and the law. – Chicago:University of Chicago Press, 1990. – P.15.

<sup>85</sup>Dovbenko M.V. The afterword to the Nobel lecture of Ronald Coase (1991): the institutional structure of production // Economic theory. – 2005. – №4. – P.55-70.

economic history by applying economic theory and quantitative methods in order to explain economic and institutional changes”.

Robert Fogel was one of the pioneers of the new paradigm. He became famous after his first book which overturned traditional notions about the role and the conditions for development of railroads in the West of the USA<sup>86</sup>, and then in the United States as a whole.<sup>87</sup> Traditionally it was considered that railroads were absolutely indispensable for economic growth in the country in 1840-1890s. They promoted the trade turnover growth as the most efficient transport, stimulated the reclamation of new lands and, besides, they gave a major impulse to the development of industry, primarily steel industry. Fogel’s work demonstrated that was at least too exaggerated. In order to evaluate the real role of railroads he makes use of the so-called “counterfeit models”, i.e. he assesses the possible type of development of the American economy on the basis of statistical data as if there were no railroads under the same conditions. It turns out that the significance of railroads cannot be considered decisive: waterways could substitute railroads as a way of transportation. In such case the GNP in the USA would not fall by more than 3 percent, the reclamation of new lands would not be retarded due to the developed system of canals; the major share of demand in steel production would be satisfied not by the need in new rails, but the replacement of old rails. That is, railroads turned out to be not so vitally important, as it was considered before.<sup>88</sup>

One more work by Robert Fogel written together with Stanley Engerman became very well known. The book was devoted to the role and efficiency of slavery in the southern states of the USA before the war.<sup>89</sup> Traditionally, it was considered that slavery in America was very inefficient because of the forced labor, that slavery led to the decrease of entrepreneurial spirit of the efficiency of per capita distribution of resources and incomes in the slave-owning South. However, the investigations of Fogel and Engerman demonstrate that the intensive organization of enterprises, the scale economy and the favorable state of the cotton market made the plantation enterprises profitable. Also, their research shows that the expenses on slave reproduction were lower than the profit from the slave trade; that the efficiency of agricultural production in the backward South was higher than in the developed North. The authors maintained that the per capita incomes in the southern states were not just of the same level as in the most highly developed countries of that time but the incomes were characterized by extraordinary high growth rates. Thus, the efficiency of the slavery system was much higher than it was regarded and the reasons of such efficiency were not economic, but political and social factors.<sup>90</sup>

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<sup>86</sup> Fogel R. W. *Railroads and American Economic Growth: Essays in Econometric History* / R. W. Fogel. – John Hopkins Univ. Press, 1964. – 416 p.

<sup>87</sup> Fogel R. W. *The Union Pacific Railroad: A case of Premature Enterprise* / R. W. Fogel. – John Hopkins Univ. Press, 1960. – 129 p.; Fogel R. W. *Time on the Cross: the Economics of American Negro Slavery* / R. W. Fogel, Stanley L. Engerman. – Boston, 1974. – 336 p.

<sup>88</sup> Fogel R. W. *Railroads and American Economic Growth: Essays in Econometric History* / R. W. Fogel. – John Hopkins Univ. Press, 1964. – 416 p.

<sup>89</sup> Fogel R. W. *The Union Pacific Railroad: A case of Premature Enterprise* / R. W. Fogel. – John Hopkins Univ. Press, 1960. – 129 p.

<sup>90</sup> Fogel R. W. *Time on the Cross: the Economics of American Negro Slavery* / R. W. Fogel, Stanley L. Engerman. – Boston, 1974. – 336 p.

These works by Robert Fogel changed the existing notions of the real course of the American history and had a great influence on the investigations of economic historians, giving the direction of further research. In later years Fogel gathered and processed the documentary material from the history of household on the basis of evolution of such indicators as the norms of savings, labor participation, fertility, death rate, the migration of the population. He intended to define the effect of historical traditions on the position and role of households in modern economic system.

At the turn of the century the theory of new institutional economy elaborated in the work of the Nobel Prize laureate Douglas North was gaining popularity. This theory considers the expenses which the society must bear and support for creating and following the rules of the games of its functioning as a decisive factor affecting the accumulation of wealth.<sup>91</sup>

According to the theory of new institutional economics, the society can be considered progressive if it tries to minimize transaction costs. Among the factors which considerably increase such costs are: high cost of economic information, its deficiency or selective (unequal) supply. Part of such information can be regarded as “ordinary good” which can be purchased or sold on a regular basis. However, many materials act as “social good”, and such kind of information can be given by the state authorities to citizens free of charge or at a price which covers only administrative costs.<sup>92</sup> The interdependences between economic growth, transaction costs and the level of openness are shown on Fig. 1.2.

North considered that the among the totality of factors which cause corruption the following factors could be determined: the predominance of demand over supply; a high share of the government – controlled finance in the GDP; the establishment of lasting informal relations with officials for protecting separate firms against potential competitors; the tolerance of the society to bribe-takers; financial offences during the implementation of the government financed tremendous projects; relatively low risks in bribery and so on.<sup>93</sup>

Among the major principles (institutional characteristics) which are the basis of formal rules that ensure sustainable development are openness, accountability, equality of opportunities. Compared with the budgetary or money policy, the influence of these principles on economic indicators is less perceptible, at first sight, but their existence has considerable and lasting importance.

The formal institutional system which is grounded on openness, accountability and equal opportunities leads to the creation and development of informal rules (moral norms) which provide the conditions for stable long-term growth.

However, in a nonstandard environment (in absence of openness, etc.) entrepreneurs lose confidence that the conduct according to the established rules of behavior and the observation of laws will help them achieve their goals and that the government will support and protect them.

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<sup>91</sup> North D. Institutes, institutional change and economic performance. – Moscow: Nachala, 1997. – P.190.

<sup>92</sup> Ibid.

<sup>93</sup> Ibid.

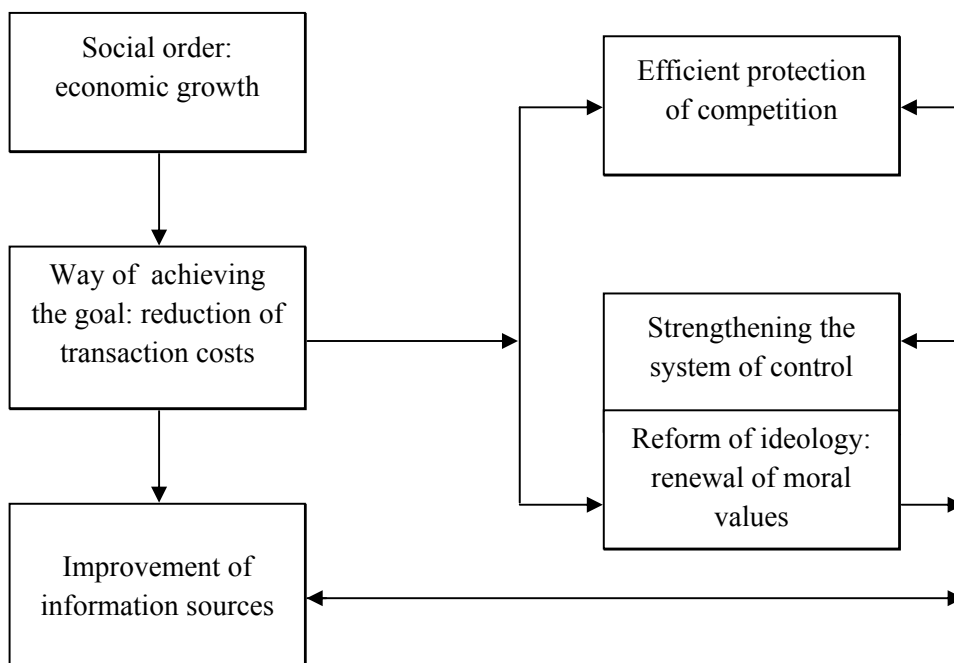


Fig. 1.2. Increasing the level of transparency of economic processes as one of the conditions of growth

In this case the influence of the institutional system on the development of informal rules is negative (Fig. 1.3)<sup>94</sup>

North maintains that the deficiency of economic information prevents from attracting foreign investors. This leads to insufficient application of know-how, complicates entering foreign markets, slows down economic growth.<sup>95</sup>

The winner of the Nobel Prize in Economic Sciences for 1997 Myron Scholes discusses partially the issues of institutional economics in his research works. Scholes is famous for his theoretical and practical investigations of determining the value of securities at the secondary market. In 1983 he moved to hold the position of professor at Stanford University. There he proceeds with his investigations of the selected topics, and at the same time he starts studying the new issues of investment banking and the corresponding incentives. He stated interesting ideas in the books “Decentralized Investment Banking: The Case of Discount Dividend Reinvestment and Stock Purchase Plans” written with Mark Wolfson in 1989 and “Tax Planning, Regulatory Capital Planning and Financial Reporting Strategy for Commercial Banks” (1990). The latter work was written together with Pete Wilson and Mark Wolfson.

The close cooperation of Scholes with Wolfson led to the joint elaboration of a new theory of tax planning under the conditions of uncertainty and asymmetrical information. They expounded their scientific developments in the book “Taxes and Business Strategy: A Planning Approach” (1991).

<sup>94</sup> North D. Institutes, institutional change and economic performance. – Moscow: Nachala, 1997. – P.190.

<sup>95</sup> Ibid. – P.190.

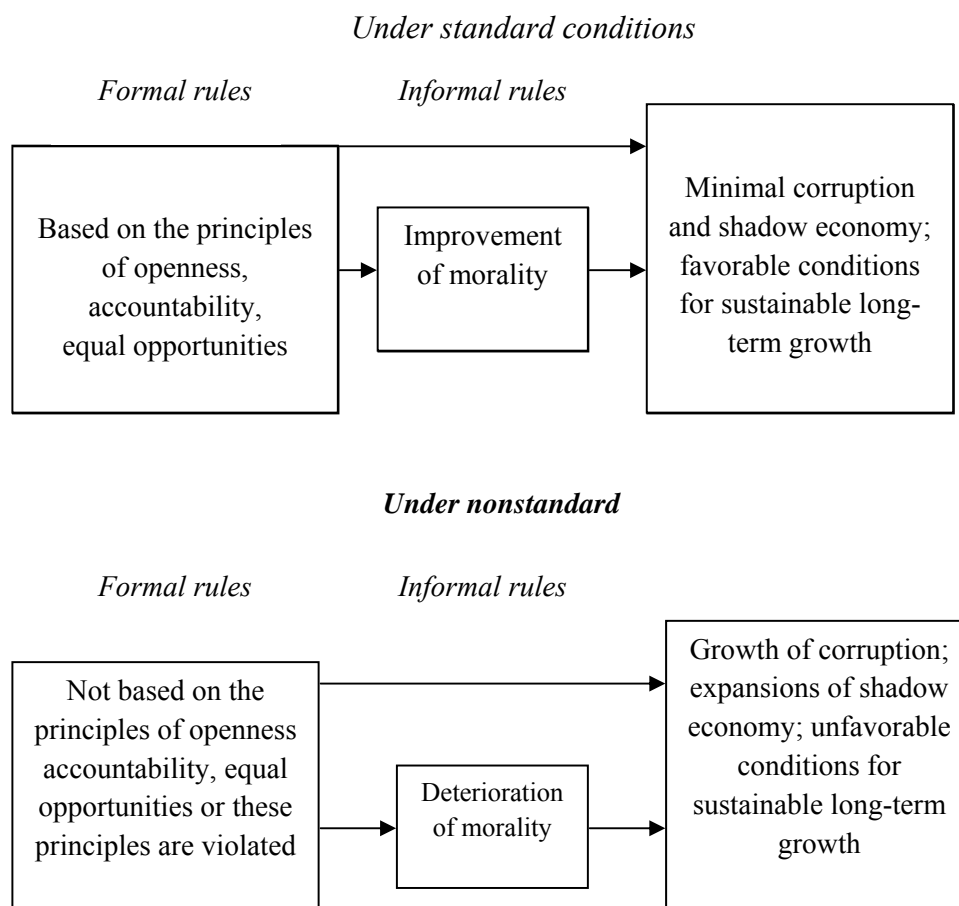


Fig. 1.3. Relations between formal and informal institutes and their effect on economic growth

Myron Scholes strives to understand the mechanism of the investment market in details and the efforts forming its evolution on a global scale. The contribution of Scholes into finance economics was not limited only by the elaboration of the method awarded with the Nobel Prize. In particular, the scientist elucidated the issue of the effect of dividends on the stock value and assessed the parameters for measuring the risk of stocks in the CAPM (Capital Asset Pricing Method), worked out the technique for analysis of the market efficiency.<sup>96</sup>

As distinct from Douglas North with his interpretation of institutes as “rules of the game” in the economy, another Nobel Prize winner Robert Merton substantiated the necessity of the endogenous functional approach to understanding institutes. In his opinion, exactly through the prism of the functional approach institutional changes have endogenous (inner-system) character.<sup>97</sup>

Paradoxically enough, but until present time theoretical economists ignore this point of view which is much more advanced and euristically

<sup>96</sup> Dovbenko M.V. Scholes Myron (USA) // Economic theory. – 2001. – №5. – P.85-87.

<sup>97</sup> Merton R.K. The applications of the theory of options evaluation: 20 years after // World economic thought. – V.5, book 2: World recognition: lectures of the Nobel Prize laureats. – Moscow, 2005. – P.239-240.

valuable compared with the widespread concept of North. On the contrary, the Nobel Memorial Prize laureate of 2007 Leonid Hurwicz is close to North in his interpretation of institutes. He writes: “We are inclined to consider institutes like rules rather than formats of behavior”.<sup>98</sup> It would be regrettable if this “inclination” of the famous scientist would be accepted by modern institutionalists as a guide to action.

Modern scientists ascribe objective effect to institutes and institutions, giving them “the ontological status”, independent of human activity. With such understanding of these notions, it is really impossible to see, to physically perceive or to measure institutes.

Though, the concept of economic mechanisms, without doubt, is the main contribution of Hurwicz to economic theory, the description of his influence would be incomplete without an attempt to analyze his heritage more widely. The understanding of mechanisms of economic interaction is significant not only in microeconomics. The modern theory of economic institutes is based on the same principles. The early works of Roger Myerson which laid the technical foundation of the theory of mechanisms were far from institutional theory. But his later works, in particular the attempt to connect the topics of Hurwicz with the problems of contemporary political economy, exactly belong to institutionalism.

The connection of institutional economics with the theory of economic mechanisms may seem not very obvious. Really, the approaches to the definition of institute are primarily connected with the names of Douglas North, M. Aoki or Avner Greif. When we deal with the traditional understanding of institutes the names of G. Commons or his follower Geoffrey Hodgson are mentioned. The name of Leonid Hurwicz is hardly ever mentioned in this connection, at any rate by the Ukrainian researchers. Hurwicz considers that the task of institutional economics is to facilitate communication, to integrate institutional phenomena into the models which were built for studying economies, systems of voting, and organizations. First of all, he is interested in economic institutes, but some aspects of the models are quite general and they can be applied to the analysis of political and other social institutes. In fact, these noneconomic aspects should not be ignored, since the creation, implementation and system of compulsion to observe rules are the main elements of the model. Its starting point is the theory of economic mechanisms.<sup>99</sup>

In order to understand the significance of Hurwicz's role it is necessary to pay attention to his participation in the integration of two directions: economic theory with its powerful formal mathematical apparatus and institutionalism whose ideas contain a gigantic potential for development and require formal apparatus for modelling and “calculations”.

Hurwicz notes that from the viewpoint of semantics the term “institute” can be applied to both rules and effective patterns of behavior. The market is such example. But from the view of political choice it seems logical that it is rules that can be subjected to deliberate changes while the change of behavior in the framework of these rules is the consequence. That

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<sup>98</sup> Yudkevich M. The theory of economic mechanisms (the Nobel Prize in economics for 2007). – Problems of economics. – 2008. – №1. – P.20-28.

<sup>99</sup> Hurwicz L. Toward a Framework for Analyzing Institutions and Institutional Change Markets and Democracy / S. Bowles, H. Gintis, B. Gustafsson (eds.). – Cambridge: Cambridge University Press, 1993. – P. 51.

is why he is inclined to regard institutes as rules rather than as patterns of behavior.<sup>100</sup>

Leonid Hurwicz makes an attempt to formalize the notion of institute on the basis of the notion of economic mechanism. According to Hurwicz, the economic mechanism gives a large number of choices of economic subjects, and it is connected with each subject by the result of these choices. In this sense, the mechanism sets the system of incentives. So, the mechanism is close to the notion of economic institute which also structures the gains from these or other strategies building the system of incentives. This is done due to the creation of rules. However, such identification would be too hard. Really, on its basis we can inevitably come to conclusion that institutional framework sets the behavior of economic subjects.

Hurwicz gives the formalized definition of institute for the first time in his article “Institutes as families of game forms”. In this paper he says about institutes as balances in certain games which structure the rules of behavior of the subjects, their strategies and gains. The multitude of balance in the model game corresponds to the multitude of parameters of institutes which can be formed in the society for the solution of certain problems. And the choice of a certain institute can be conditioned by not only the characteristics of the system, but also by the totality of random ideas determining the choice.

It is this idea – the idea of the evolutionary choice of the institutional alternative by the society that lays the foundation of comparative institutional analysis. The researchers who made the major contribution to the development of this direction, first of all Avner Greif and Masahiro Aoki,<sup>101</sup> simulate and consider institutes as balances in the repeated interactions of economic subjects. But the idea of institutional choice makes their approach similar to the approach of Hurwicz. In many works Aoki emphasizes the connection of his concepts of institutes and institutional interactions with the ideas expressed in the early works of Hurwicz. The majority of researchers are familiar with many “institutional” ideas of Hurwicz only indirectly when they come across his name in the works of the institutionalists who appreciate his ideas. Evidently, it can be explained by the fact that until recently there was a gap between “economic” and “institutional” theory. This gap was harmful for both sides because the supporters of institutionalism did not appraise the formal constructs and the concepts and ideas based on these constructs. For institutional economics, overcoming such gap can become the point of growth and integration into mainstream. In this lies the merit of Leonid Hurwicz.<sup>102</sup> Discussing the significance of integration of the standard economic theory and the theory of institutes, Hurwicz stresses the importance of this task in the context of solving the issues of institutional planning and design of reforms. The efficient design of the superstructure of the existing institutes, new institutes, new rules and mechanisms for the conformity to these rules must

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<sup>100</sup> Hurwicz L. Implementation and enforcement // *Political Economy, Institutions, Competition, and Representation*. – Cambridge: Cambridge University Press, 1993. – Ch. 2. – P. 51–59.

<sup>101</sup> Aoki M. Endogenizing institutions and institutional changes // *Journal of Institutional Economics*. – 2007. – Vol. 3, N 1. – P. 1–31.

<sup>102</sup> Hurwicz L. Economic Design, adjustment processes, mechanisms, and institutions // *Economic Design*. – 1994. – Vol. 1. – P. 1–14.

contain the analysis of people's behavior in the framework of these or other incentives, certain mechanisms as its basis. In this aspect, the theory of implementation of economic mechanisms is closely connected with the concepts which appear in the process of investigation of the institutional system and the operation of social rules.

In 2009 two American scientists Oliver Williamson and Elinor Ostrom were awarded the Nobel Prize in economic science. Ostrom is the first woman to receive such award. This event demonstrates the recognition of the significance of institutions in overcoming the global financial and economic crisis as well as the reflection of vigorous development of institutionalism. The supporters of this scientific school try to expand the possibility of neoclassical analysis by the studying the organization problems and the way the structures of property rights and transaction costs affect motivation and economic behavior. One of its classics is Oliver Williamson.<sup>103</sup>

The scientific ideas of Oliver Williamson not only influenced greatly modern economic theory, they also gave a strong impulse to the development of investigations which reflected its integration with related sciences. This integration includes the fields of economic analysis of law, economic sociology, political science. The ideas of Williamson made it possible to study an exceptionally wide range of forms of social organization on the basis of the transaction concept. Analyzing deeply the issue of transaction costs, the scientist suggested the following definition of the basic term "transaction" – "transaction occurs when a good or service is transferred from the final point of one technological process to the initial point of another process, adjacent to first one. One stage of activity ends and another begins".<sup>104</sup> In the modern economic system transaction costs are comprehensive and rather big. According to some estimates, they average from 50 to 60 per cent of the net national product.<sup>105</sup>

For Williamson, the borderline between the administrative-and-command mechanism (typical for a large company), market and control is movable. The choice of any mechanism is the result of comparison of their efficiency in the organization of such transfers (transactions). In real life the mechanisms operate in the form of the inner- and intercompany economic agreements which were legalized into contracts. In his research of transactions Williamson proceeds from three methodological principles. The first principle means that the agreement efficiency depends on how the structure of management of this agreement corresponds to the attributes of this transaction. Such attributes involve the degree of specificity of the assets used for the agreement implementation, the frequency and the degree of indeterminacy of conditions for the realization of the agreement. The second principle is based on the fact that it is impossible to foresee all the circumstances of contact implementation in the process of elaboration of contracts because of the limited rationality which is so characteristic of people. Therefore, complicated contracts inevitably are imperfect or

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<sup>103</sup> Dovbenko M.V. The Nobel prize evolution of investigations of economic institutions // Economic theory. – 2009. – №4. – P.65-74.

<sup>104</sup> Williamson O. The economic institutions of capitalism: Firms, markets, and relational contracting . – Access mode: <https://papers.ssrn.com/abstract=1496720>.

<sup>105</sup> Dovbenko M.V. The Nobel prize evaluation of investigations of economic institutions // Economic theory. – 2009. – №4. – P.65-74.

“relative” and that is why they require constant interactions between their participants concerning the adaption of their relations to the changing contract terms. The third principle is the following: the fact of interaction of the contract participants at *ex post* stage (i.e. actual, implemented values) and the idealistic character of beliefs in the absolute and inviolable balance of interests of the sides contained in the primary agreement (*ex ante* stage, i.e. envisaged, planned values) make the investigation of the contract process inevitable in all its “wholeness”.<sup>106</sup>

Oliver Williamson considers that the main aim and the result of functioning of economic institutes is the minimization of transaction costs. Firms are created when a separate person finds it difficult to do something alone. Williamson proceeded further than the founder of the firm theory Ronald Coase and explained what compels the firm to make certain decisions. The neoclassical firm model on which economists relied before ignored the comparative institutional aspects of the internal firm and market organization and did not elucidate many important issues, like antimonopoly regulation, Williamson maintains. Improving his model of the managerial discretion behavior, the scientist introduced the issue of organizational evolution of a big corporation and the mechanism of its influence on the formation of the firm's goal – oriented function as a field of research.

Elinor Ostrom made an interesting attempt to classify the underlying rules of institutes.<sup>107</sup> In her opinion, the rules determine which actions or situations for the participants of interrelations are necessary, prohibited or allowed. The aim of the rules is to arrange particular relations and make them predictable. The rules include: the possible positions, or roles, of the participants (a member of organization, an agent, a subordinate and so on), the order of occupying and leaving these positions by the participants; actions which employees occupying these positions should and should not perform; results which the employees occupying certain positions can, must and don't have to achieve.

In this case the rules only suggest the framework within which the participants make the choice, but they do not impose the exact choice the participants must make (i.e. their behavior). Elinor Ostrom singles out the rules which suggest: a set of possible positions and the amount of the participants who can occupy certain position; the technology of choice among the participants, the applicants for certain positions and leaving these positions; the results which can be achieved and the costs connected with each variant; the set of available actions for the participant who occupies certain position (the same for all positions), in each point of interaction; the function of making decisions for each situations; the permitted channels of communication between the participants who occupy certain positions as well as the form of their interaction.<sup>108</sup>

The approach of Estrom to institutes as rules is close to the position of North. At the same time he calls the system of rules for the formation of rules as constitutional rules while Estrom calls them the rules of collective action. Collective actions are used everywhere and concern all levels of the

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<sup>106</sup> Dovbenko M.V. The Nobel prize evaluation of investigations of economic institutions // Economic theory. – 2009. – №4. – P.65-74.

<sup>107</sup> Ibid. – P.65-72.

<sup>108</sup> Ostrom E. An Agenda for the Study of Institutions / E. Ostrom // Public Choice. – 1986. – Vol. 48. – P. 3–25.

society and its authorities. Elinor Ostrom is well known as a specialist in political studies of social relations in the sphere of ecology and in social-ecological relations. She is the author of over 270 scientific works, among them “Strategies of political research” (1982), “Governing the Commons: The Evolution of Institutions for Collective Action” (1990), “Understanding Institutional Diversity” (2005). The results of Ostrom's investigation enable to understand a new sphere of the complicated institutional reality in social life – various institutional systems which are not related either to the market or to the state. Her works are mainly connected with the evolution of institutes of collective property – municipal, cooperative, community.<sup>109</sup>

Among the institutional scientists Elinor Ostrom enjoys considerable respect: firstly, in 1975-1976 she was Vice-President, and later in 1996-1997 President of the American association of political science. During 1982-1984 she was elected President of international society of social choice which unites scientists in the fields of economics, sociology and political science. Ostrom is a member of the American Academy of Arts and Sciences, the National Academy of Sciences of the USA, Honorary Doctor of Zurich, Michigan, Uppsala, Mc Gill (Montreal), Berlin and other universities in different countries.

Complex organizations follow numerous economic and noneconomic goals. It is true in relation to economic institutes which are varied, dynamically changeable and hard to cognize. At the same time, the complexity of their analysis has become the incentive for research. E. Ostrom and S. Crawford suggested an original system for formalizing the basic notion of “institutions” in their article “A Grammar of Institutions”<sup>110</sup>

Elinor Ostrom gave a detailed interpretation of the notion “institution”: “Institutions can be defined as the sets of working rules that are used to determine who is eligible to make decisions in some arenas, what actions are allowed or constrained, what aggregation rules will be used, what procedures must be followed, what information must or must not be provided, and what payoffs will be assigned to individuals depending on their actions... All rules contain prescriptions that forbid, permit, or require some action or outcome. Working rules are those actually used, monitored, and enforced when individuals make their choices about the actions they will take”.<sup>111</sup>

Thus, we can make a conclusion that despite the great discoveries in economics made by the well-known Nobel Prize winners, the final judgements about the essence of institutions, economic institutes, institutional economics and the clear differentiation between new and “old” institutional schools is still open to discussion, significant and demands further theoretical and practical research.

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<sup>109</sup> Dovbenko M.V. The Nobel prize evaluation of investigations of economic institutions // Economic theory. – 2009. – №4. – P.65-74.

<sup>110</sup> Crawford S. A Grammar of Institutions / S. Crawford, E. Ostrom // American Political Science Review. – 1995. – Vol. 89. – N 3. – P. 582–600.

<sup>111</sup> Dovbenko M.V. The Nobel prize evaluation of investigations of economic institutions // Economic theory. – 2009. – №4. – P.65-74.

### **1.3. Institutional transformations in the social economy**

The problems of formation of main institutes in the market system and the imperfect structure of their interaction have become the main reason of unsatisfactory results at the beginning of market transformations. They also caused a number of difficulties in the crisis period in Ukraine. Moreover, the macroeconomic policy of our government did not correct separate negative phenomena. On the contrary, such policy even encouraged their growth. In this respect, the issue of influence and activity of the state authorities and the government in the socially oriented national economy becomes particularly significant. The government must influence the institutional environment more energetically because the spontaneous creation of new institutes and the selection of the existing ones does not always choose the best, optimal variants. On the contrary, spontaneity, especially under the conditions of uncertainty, can form and strengthen the institutes which contradict the interests of the society as a single whole. Even after the first steps of the market reforms in Ukraine it became clear that the goals and tasks of the new stage of development in the country were much more complicated and had a larger scale than those that had been solved in previous years. Because there came a period of deep qualitative transformations in practically all spheres of public life – economic, social, political, spiritual.

The new strategy of economic and social development envisages the creation of the institutional environment. Such environment would stimulate, on the one hand, business activity, economic growth on the basis of structural-innovative transformations, establishment of the modern social infrastructure, mechanism of the social market economy, and, on the other hand, it would help to overcome growing contradictions between the economy and the society. It is essential to conduct a consistent policy of deep democratization in the economic processes, the establishment of the full-fledged market economy and civil society. At the same time the strategy of institutional transformations must correspond to the criteria of the EU membership (the Copenhagen criteria) defined by the European Council. These criteria involve:

- the stability of laws and institutional structures which guarantee democracy, the supremacy of law, provision of human rights, respect and protection of the rights of national minorities;

- the existence of the operating market economy and the ability to withstand competitive pressure and market forces in the framework of the European Union;

- the ability to take the obligations proceeding from the EU membership, including the recognition of the goals of the political, economic and currency union.

Social and economic policies are fundamentally interconnected and interdependent, which requires a detailed study of the system of institutes that will be adequate to the economic basis of the market. Therefore, the tasks of positive theoretical analysis of institutional changes in the Ukrainian economy are not exhausted.

The variety of institutes can be formed depending on how the replacement of basic institutes by new ones takes place. The most expedient transformation is when the economy and the society recreate the social and

economic institutes of the past in general, and then, steadily, introduce changes into these institutes. Actually such type of transformations can be regarded as evolutionary.

In the process of historical development the market economy has undergone considerable changes. For instance, the concept of “social market economy” created by the West German economists L.Erhard and W.Oiken differs greatly from the theory of classical liberal economy (i.e. from the concept of market economy) according to which the state and the government are assigned the role of “the night guard”. L.Erhard and W.Oiken recognize that in the XX century the state faces tremendous tasks, and it is improbable to release the state authorities from implementing these tasks.

The main thing that unites numerous supporters and researchers of the social market economy is the realization of necessity and possibility of combining the use of market mechanisms with the solution of social problems, as distinct from the centralized planned economy. Thus, the social market economy can be regarded not as “the third way” between capitalism and socialism, but as a historical compromise between theory and practice of the free market, on the one hand, and modern state interventionism, on the other. The concept of the social market economy is based on the consistent opposition of the market economy to the centralized controlled economy not only at the level of coordination mechanisms, principles of economic freedom, but also on the issues of achieving social justice and prosperity.

Still, it is an open question what particular criteria the particular economic system in the country must correspond in order to be both social and market economy.

Some time ago the answer to this question was suggested by Alfred Muller-Armack. In his work “Management of the economic order and market economy” (1946) he determined the criteria and features of the social market economy. He writes that the essence of the social market economy consists in the combination of the principle of market freedom with the principle of social leveling.<sup>112</sup> “Social levelling” is understood as ensuring such mechanism of distribution of the national income which could exclude both excessive enrichment and poverty of the citizens. The market mechanism of creating incomes with their sharp differentiation should be leveled out or corrected by means of corresponding direction of the country’s social expenditures, but mainly by means of conducting the appropriate tax policy.

One of the main aims of the social market economy is also the provision of external conditions for the normal functioning of market mechanism. The essence of this policy consists in the elimination of any competition barriers by controlling the operation of monopolies, oligopolies and cartels.

Alongside with the tax system, the most important tool of the government regulation must be the policy of stabilization of money circulation and finance. The significance of these measures was obvious for the German neoliberals. The social market economy is impossible without

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<sup>112</sup> Muller-Armack A. Wirtschaftsordnung und Wirtschaftspolitik / A. Muller-Armack. – Bern, Stuttgart: Aufe, 2006. – C. 110.

following a consistent course for the stability of currency, Erhard notes, and only in this way we can prevent certain strata population from enriching at the expense of other groups of population. So the main elements in the structure of the social market economy are:

- the competitive system based on the private property on the means of production; the market which functions as the coordination mechanism and the regulator of economic activity; the households, industrial, agricultural, transport enterprises, banks, trade firms as economic subjects;

- the government which ensures and controls the general conditions of the market economy functioning by means of the policy of support of the competitive system and the establishment of the normative and legal basis.

The state and the government encourage the leveling out of different strata of the population, making use of such tools of influence as the money-and-credit system, the taxation policy, the labor market regulation, the provision of education, social insurance and so on.<sup>113</sup>

The decisive goal of the social market economy is the achievement of a high level of prosperity for the majority of population in the conditions of economic freedom and on the basis of the competitive system. “The Swedish model” of the social market economy as well as other economic models which demonstrated their vitality in some parts of the world compulsorily envisage the measures for the government regulation of the economy. However, economists are still arguing about the efficiency of these measures, the proper level of the government intervention into the economy and, in general, its necessity.<sup>114</sup> In practice this issue has been undoubtedly approved in the countries with the civilized market economy. However, without essential elements of planning, government administration and economic regulation there is no market and no market can exist. Therefore, any attempts to revive the market model of the so-called period of free competition or the period of primary capital accumulation (which is worse) are doomed to failure in our postsocialist economy. The outstanding economist John Galbraith noted in this connection: “Those who speak, as so many do so glibly, even mindlessly, of a return to the Smithian free market are wrong to the point of a mental vacuity of clinical proportions. It is something in the West we do not have, would not tolerate, could not survive. Ours is a mellow, government protected life, for Eastern Europeans pure and rigorous capitalism would be no more welcome than it would be for us”<sup>115</sup>.

Considering the necessity of macroeconomic planning, the well-known American businessman and manager Lee Iacocca stresses that “government planning doesn’t mean socialism. It simply means having a game plan, an objective. It means coordinating all the pieces of economic policy instead of doing it piecemeal. We will have no progress if we do not give up that absurd idea that any planning on the national scale is the offensive against the capitalist system”<sup>116</sup>.

There are many objective and subjective factors affecting the formation of the future model of Ukraine’s economy. The postsocialist

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<sup>113</sup> Kredisov A. The essence of the structure and the principles of organization of the market economy // Economy of Ukraine. – 2003. – №4. – P.13.

<sup>114</sup> Mocherny S. To what system should we move? // Economy of Ukraine. – 1993. – №6. – P.17.

<sup>115</sup> Khubiyev K. Collective – group property // Economic sciences. – 2001. – №1. – P.24.

<sup>116</sup> Iacocca L. The career of manager. – Moscow: Progress, 2001. – P.24.

character of the Ukrainian economy is an important, but not a single factor in the essence of the future economy. Every famous market model in its pure form is inaccessible for Ukraine's economy. At the same time it is difficult to imagine that the Ukrainian market could not be at all similar to any existing market model.

"The Japanese model" is distinguished by certain lag in the living standards of the population (including the level of wages) behind the growing labor productivity rates. Due to this, the cost of production is reduced, and the competitiveness of products at the world market increases considerably. However, any serious measures to control the property differentiation in the society are not taken. "In the Japanese market model, the administrative– economic methods of regulation are also applied, e.g. the terms and the volume of equipment renewal are established with the indication of the fine sanctions in case of their infringement; also, at the government level the decisions are made about the transference of enterprises, and so on"<sup>117</sup>. However such model can function only on condition of an exceptionally high development of national self-consciousness, i.e. when the society recognizes the priority of national interests over the interests of the individual.

"The Swedish model" is distinguished by a strong social policy aimed at the reduction of property inequality at the expense of redistribution of national income in favor of the less prosperous strata of the population. This creates favorable conditions for the restoration of the skilled workforce in both material branches of production and in intellectual, nonproductive spheres.

"In comparison with the USA, the share of expenditures on the retraining of employees in the state budget is higher than the share of expenses on unemployment benefits. Compared with Great Britain, the employment of the population is maintained by the retraining of the employees rather than by means of preservation of the amount of jobs. The social policy ensures a high level of satisfaction of social demands through the redistribution of payments (rendering free services or services at reduced prices)"<sup>118</sup>. Such model of the market economy is based on a relatively high basic level of the country's economic development and the skills of the employees.

"The American model" is built on the system of promotion of entrepreneurship activity and, consequently, on the enrichment of most active part of the population. The characteristic feature of the American market model is the economy regulation on the "residual" principle, that is those aspects of reproduction are regulated which are not subjected to regulation on the basis of free competition. The American market model is characterized by a much smaller share of the government expenditures in the gross domestic product (GDP) and a small share of public expenses.

Firstly, it is connected with the different function of the tax system: taxes are collected not only for the redistribution of incomes but rather for influencing the price level, changing the structure of supply and demand (for

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<sup>117</sup> Klymko G.N. The fundamentals of economic theory (political-economic aspect). – Kyiv:Vyshcha shkola, 2007. – P.566.

<sup>118</sup> Ibid. – P.566-567.

instance, the American system of ecological taxes brings about a high percentage of compensation from harmful productions).

Secondly, the structure of the government expenditures is also different: the level of the government investments (except the investments into the military-industrial complex, the aerospace industry and others) is lower than usual. At the same time, the level of the government purchases and expenditures to support the currency system stability is higher.

The peculiarities of the American market model also include the clearly expressed anticyclical, antiinflation character of the government intervention into the market economy<sup>119</sup>. This model is grounded on a high level of economic development as well as on the social and cultural national priorities – the mass-scale orientation at the achievement of personal success.<sup>120</sup>

If we pay attention to the adaptation of the Ukrainian economy to one of models of the social market economy we can say that in this case we must proceed from the similarity of current economic situation in Ukraine and the situation in those countries which were the first to create the social market economy. After leaving the Soviet Union, Ukraine inherited the monopolized, centrally controlled economy. Something identical was in Germany after the Second World War. The existence of the compulsory cartels in the economy from the time of the Nazi Reich, a high degree of centralization in the management of enterprises and other limitations of the market independence for economic entities alongside with the ruins of the postwar period – all these factors compelled the government of the country to find a way out. Therefore Germany was the first to introduce the principles of social market economy. Among these principles are the refusal from strict administrative regulation of the economy, its restructuring on the basis of priority manufacture of the socially important production and others. The postwar Germany can become an example for Ukraine in many aspects. But the Ukrainian reality greatly differs from the postwar German economy because there private property had never been abolished while in Ukraine several generations had been educated in the conditions of the absence of private property.

Therefore, today the public sector of the economy will dominante over the private one for a considerable period of time. It demonstrates parallels with the forecast for the development of the Hungarian economy. This forecast was made by the famous economist Janos Kornai. In his opinion, in the next two decades Hungary will face dual economy with its two components – the public and the private sectors. The share of the private sector will start decreasing only gradually. Taking this fact into consideration, it is necessary to make efforts in order to accelerate this process and to make it more efficient. However, we should not hope so much for this acceleration. Therefore favorable conditions for the development of the private sector should be created. At the same time, it must be realized that such development will not be too fast. The proportions between the private and public sectors will gradually change in favor of the former, but a long period of their coexistence is envisaged. Thus, this

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<sup>119</sup> Ibid. – P.572.

<sup>120</sup> Chichikanov V. Which model do we choose? // Economy and life. – 2000. – №7. – P.14.

combination with its conflicts and frictions will inevitably last for rather a long period.<sup>121</sup>

It should be admitted that Kornai's forecast about the development trends and the future economic realities in Hungary is suitable for all postsocialist space, as similar phenomena are observed in Ukraine.

During the formation of the social market economy primary attention should be paid to the establishment of the corresponding institutes. Such institutes will take into account not only economic and social peculiarities of our country but also the possibilities of adaptation of the experience in the highly-developed countries to the domestic conditions.

As we take into consideration the scientific achievements of D.North, O.Prutka, S.Kirdina in relation to the concept of institutional transformations, we regard these changes as a relatively independent direction of the general system-based transformations which obey the total regularities of formation and evolution of the institutional structures – the matrix principle of their reproduction.<sup>122</sup> During further development the obtained qualities (in the economic system these are new norms, rules, laws, institutional forms which ensure the efficient operation of the economic subject) are consolidated or disappear when they become incompatible with new conditions. Such system of institutes becomes nonelastic and unstable.

Institutional transformations are conditioned by the direction of their previous development. According to the institutional-evolutional concept, they must unite two trends: a) the modernization of the dominant basic institutes, and b) the formation of alternative additional new institutes.<sup>123</sup> The basic institutional environment in Ukraine was distinguished by the communal nature, i.e. the existence of objective demand in social technologies for attracting natural and material facilities into the industrial circulation. In such environment, the main positions belong to the institutes which ensure, in the most reliable way, the reproduction and development of the society as a whole and not separate social groups. The dominance of the nonmarket institutes in Ukraine predetermined the issue of modernization of the institutional matrix which is typical for the market system. Ukraine can occupy an independent place in Europe and in the world in case of following the innovation way of development. The foundations of such development can be laid in the process of restructuring of the economy. This is the only way to consolidate the raw materials orientation of economic processes which are formed spontaneously.

In a wide sense, the institutional transformation is not only the change of formal conditions of economic activity. The changes of relations, property, the appearance of new subjects of economic activity (commercial banks, stock exchanges, investment funds) are also included here.

Thus, the institutional transformation in the transition economy becomes the process of appearance, development and consolidation of the rules of economic behavior and market institutions (organizations) and the replacement of the old institutes – the rules and organizations of the administrative -and-command system by the new rules and organizations.

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<sup>121</sup> Kornai I. The way to free economy. – Moscow: Ekonomika, 2000. – P.22.

<sup>122</sup> North D. Institutes, institutional change and economic performance. – Moscow: Nachala, 1997. – P.33.

<sup>123</sup> Fedorova V.G. Modernization of another Europe. – Moscow: IF of the Russian Academy of Sciences (RAS), 2007. – P.44.

However, the factor of succession in the change of economic structures and relations functions as a brake. Naturally, sudden changes of the whole normative and legal basis are impossible. They are carried out by removal of old acts and changing the legal system, stage by stage, the replacement of old acts and laws by new ones which correspond to the spirit of the transformational restructuring in the country's economy. An important role in the creation of the integrated and interrelated institutional system is played by the government and the state authorities. Ignoring this aspect and intending to free the economy from the government intervention resulted in serious failures of the early liberal transformations. Therefore the market reforms did not succeed as planned. The fragmentary market institutes do not always operate according to the laws of the market. The practice proves it.

In the period of radical transformations in Ukraine, sharp conflicts of various social– economic forces (the interest groups) are still going on. The interest groups obtain the opportunity to directly influence the decision-making process, the elaboration of the normative and legal documents. It occurs on the background of the weakening of the state authorities and their institutes. As a result, the sphere of creating norms and laws turned out to be in the focus of severe political and administrative struggle whose result is the adoption of the document necessary for certain grouping. There exist opposing groups which attempt to resist the competitors. Because of this, some part of the adopted normative acts does not function in practice, some part of them is soon cancelled, which becomes the indicator of political instability.

The formation of the institutional system takes place under the conditions of the struggle between political groupings and economic clans inside the state authorities (the legislative and executive bodies, between different government departments, as well as between grouping and individuals). The saddest thing is that this struggle concerns not the implementation of the national interests, but it is aimed at the improvement of personal interests or – the interests of certain clan. In such a way the transformation of the institutional system is hindered, and, alongside with it, the necessary process of humanization in the economy and the production process, the provision of economic freedom of the citizens and the equal rights for self– development are impeded. The same concerns the creation of “the social market” (the expansion and the active, equal part of the whole, able-bodied population in the market processes).

Instead, we are facing the unlimited monopoly of the government officials and bureaucrats (to allow or to ban starting personal business) and the inadequate economic conditions. In such situation the total alienation of the citizens from the means of production, management, organization and results of labor is continuing. This situation leads to the society's destabilization, desocialization of personality and the helpless fuss of the authorities. The shortage of necessary institutions in Ukraine restricts the major market mechanism – competition, and substantially hinders the modernization of economic culture, production, management.

Thus, the basis of the strategic course, its main principle must be the realization of the government policy aimed at introduction of the innovation model of restructuring and the economic growth, the establishment of Ukraine as a high-technology country. The available intellectual, scientific

and technological potential gives grounds for such prospects. In combination with the tasks of the European integration such aim could become the foundation of not only the country's economic strategy, but also the nation's political consolidation.

As for the definition of the notion "the social orientation of the country", it consists in the political coordination and regulation of a wide range of social processes. These processes are grounded on the ideas, regulations and conceptual approaches which are formulated scientifically and which have both lasting, strategic and short-term, tactical character. Such ideas must be realized with the help of the system of specific measures, actions, tools, incentives and mechanisms for the sake of practical regulation of social processes. The social activity of the government is elaborated and implemented on macro-, meso – and microlevels, but the priority is the national level.

The rising social orientation of the country is the course which predetermines the general direction of movement when the inevitable social inequality is balanced by the aspiration for justice, when individualism must be balanced by the mature feeling of solidarity. The growth of social orientation demands maintaining certain balance between democratic institutes and strong power of the country's authorities, between the national regional, business regulation of the economy and the market mechanism of self-regulation, between the private and the public property, between economic efficiency and social justice. Because any distortions lead to serious failure in the functioning of the social-economic system. The economic quality of development (efficiency, profitability) must be combined with the social quality (high level of education, well-being, life expectancy satisfaction from the character of work and labor conditions, etc.). The understanding of the nature and the role of social parameters must be free from traditional myths and ideas (like, for example, free social service, government paternalism, inefficiency of investments in social sphere and other.

The major tasks in the government's social activity at the current stage must be:

- the elimination of poverty, ensuring the dynamic growth of living standards, primarily, by means of increase in salaries, retirement pensions, grants, compensation payments, etc.;
- the socialization of the economy's structural components implemented in the country (the units of structural, investment, price, budgetary, money-and-credit policy as well as taxation activity and so on);
- the provision of conditions for the maximally full implementation of social justice principles, observation of social rights and guarantees of people defined by the Constitution;
- the provision of social stability and social security.

The practice shows that the realization of the social function by the government is closely connected with the legacy of the posttotalitarian times. This legacy is manifested in the uncontrollable actions of the redundant bureaucracy who are not satisfied with high salaries but who are also lavishly provided with additional benefits at the expense of the state budget. These benefits concern the housing and rest payments, pension privileges and so on. The control of bureaucracy alongside with the

privileged pensioners is a complicated process which requires the formation of the foundations of real democracy in the Ukrainian society. This must put an end to the hypocrisy of the government structures concerning the social protection of the main part of the population while, in reality, it concerns only the unlimited care of the most prosperous group of the Ukrainian society which is well “nourished” by the privatization-distribution of the state property. Only by eliminating these drawbacks in the social existence of the society can the government rely on the confidence of the citizens and the positive reception of the reforms.

The indicator of the efficient government policy in the social sphere is the living standard and the quality of life of the population. The parameters of the social policy involve the development of the social sphere and well-being, the level of education and life expectancy. The same parameters are used to evaluate the success in the transformation policy. The most important elements of the government’s social policy are the promotion of high level of employment through the formation of the corresponding mechanism of employment support, the provision of social protection, the aid to the poorest people, the unemployment benefits, the social insurance and so on. The government must ensure the implementation of two approaches in its income policy:

1) to guarantee every citizen the existence not below the poverty line (the European approach grounded on the leading role of the state and the government and the principles of social justice);

2) to create conditions for promoting economic activity of the population (the American approach based on economic rationality). Social protection also envisages the government participation in the development of education, health care, environmental protection, retraining of the employees.

The major goal of the government is to give impulse to the growth of the economy on the principles of increasing public production for further socialization of the economy, provision of decent living standard and quality of life of people . At the same time, it would be wrong to transform the country into a kind of a centre of protection “of everybody and everything”. Such paternalist practice would be completely inefficient and would evoke only dependant spirits. Whereas the main aim of the government’s social policy in the transition economy after the privatization in favor of the nomenclature groups is to remove the obstacles in provision of freedom and equal conditions in the economic activity for all able-bodied citizens. The citizens will be able to ensure decent living conditions for themselves and their families with their labor and initiative. This corresponds to the demands of economic efficiency and to the principle of social justice, and such policy should become the main direction in the social protection of the population.

The social functions of the government affect their duties to the society, they are regulated by the Constitution and include numerous components. Among these functions are: the provision of even ordinary reproduction of the population with the improvement of life quality and the reproduction of labor potential according to their dimensions of spirituality, health, professional level and so on the provision of employment, minimal subsistence level, the development of health care, education, culture, the improvement of the state of environment. These functions can be realized on

the basis of short-term and long-term programs. In particular, in the nearest future the main efforts should be concentrated on the following:

- the preservation of potential in the leading branches of social sphere (science, education, medical care);

- the uniform distribution of the burden of the transformational crisis between different groups of citizens which means that the government must regulate incomes correspondingly. The major instrument of influence in the government's social policy is its organic component – the fiscal policy. The fiscal policy is used as a means of mobilization and comprehensive formation and development of the modern social sphere as considerable financial resources are required for such development.

Taking into consideration the global tendencies, the social activity of the government logically attracts social transfers which are implemented through the fiscal mechanism. Nowadays the role of social criteria in the development of fiscal relations is growing, with the simultaneous strengthening of connection of their social and economic functions. The economic function includes the dependence of fiscal relations on money-commodity connections, special principles of structure of budgetary and tax systems, methods of financing, as well as various forms of application of fiscal means. The social function incorporates the goal-oriented direction for the comprehensive development of the individual, and the provision of the population's well-being, the combination of interests of producers and consumers. Thus, the improvement of the fiscal mechanism envisages as a compulsory condition the all-embracing attraction of all economic agents to the sphere of its influence. That means the removal of "the shadow" part of the economy from the criminal sphere because "the shadow economy" accounts for more than half of all resources and financial flow which do not operate for the sake of the Ukrainian economy. By the way, the world theory and practice of fiscal regulation has elaborated enough forms and techniques of the government influence on social processes in the society by means of the fiscal mechanism. Such forms and techniques involve: "tax expenses" in the form of benefits, concessions, compensations, deferrals; insurance premiums to the state and private insurance funds; charity contributions from private persons, firms and organizations; public initiatives on the creations of various funds; the money resources of the citizens.

An important kind of the government's social policy is the preparation of the social budget with the substantiation of the sources of income and social expenses. In the budget the volume of expenses must be determined which the government spends on pensions, health care, social protection of the population. The elaboration of such budget is a compulsory part of the financial regulation of social relations in the period of transition economy. The new task in the social activity of the government should be the state (government) social order. The social order becomes the mission of the executive power which is financed from the state budget. The social order is intended for the implementation of the goal-oriented program or a separate project directed at the solution of social problems.

Thus, the social activity of the government is a multifunctional , comprehensive process, a properly organized and coordinated movement of material and financial resources in order to reach the socially acceptable standard and quality of life of the nation. The major task of the

government's social regulation policy consists in the rational mobilization, distribution and direction of financial flows to the necessary places (addresses) for the effective solution of the whole range of social problems in the period of transition economy. The task of the policy also includes the reformation in the social sphere on the basis of the principal organizational-financial changes which occurred and are taking place in Ukraine.

Therefore, the main functional direction in the social sphere is the purpose-oriented provision of reliable prerequisites for the implementation of human rights and freedoms in all their manifestations. This direction also includes the consolidation of the middle class – the basis of political stability and democratization of the society as well as the restriction of the dangerous differentiation of the population incomes and the overcoming of poverty. We mean not only considerable strengthening of the reform course, but also its transformation into an important tool of acceleration of the economic growth, strengthening harmony and mutual understanding in the society. The formation of the social market economy of European type in Ukraine is a decisive factor for raising social attractiveness of the reforms, the provision of wide support to these reforms, the establishment of modern European standards of quality of life.

During the development of transformation processes in the Ukrainian society the corresponding institutes of the market culture, structures and infrastructures were formed chaotically and with considerable retardation. Because of the critical gap between the economic and institutional reforms, the government had to work out the strategy of the market institute formation. The liberalization of prices and privatization which were conducted beyond the controlling and regulation institutes, both formal and informal, led to the disastrous results. Under such conditions, the inefficiency of institutes of the centralized system caused the collapse of universal institutes such as business ethic, public control and others. The state, the government actually ceased performing the function of the guarantor of economic agreements and contracts. The released niches of the institutional structure were inevitably filled by the informal shadow structures.

The key prerequisite of raising efficiency in the government control and regulation of social-economic development is the creation of the mechanism of political, administrative and legal responsibility of the government officials for the adopted and implemented decisions. In the modern state the government is a social institute. The essence of the authority lies in the fusion of the legal, social and economic components.

At the same time, in order to ensure the emergence and development of new efficient socially acceptable market institutes economic power and economic freedom of the independent market participants, their spontaneous self-organization are not sufficient. The institutional agreements cannot reflect the Pareto-efficient result of free voluntary interrelations.<sup>124</sup> The reason is the existence of serious social restrictions in the free choice of economic agents. The decisive factor in the interaction of the sides is the authorities. It is the authorities that exercise influence on the results of the market activity. Therefore the central economic problems are organization

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<sup>124</sup> Palermo G. Economic Power and the Firm in New Institutional Economics: Two Conflicting Paradigms // Journal of Economic Issues. – 2000. – Vol. 34, No 3. – P. 586.

and control over the economy as the result of functioning of the authorities.<sup>125</sup>

The institutionalists do not reduce the economy to the sphere of exchange only, they handle it as the totality of forces whose interaction is distinguished by not only the striving for profit, for enrichment, but also by the striving for power. In Ukraine both components of economic power are manifested very clearly, i.e. the possibility for one part of the society to impose its goals to another part; it is also the possibility for the authorities to restrict the economic behavior of other public group in order to minimize personal expenses and to maximize profits and advantages. Therefore there exists differentiation of social and private expenses in the Ukrainian reforms in the conditions of inequality which is the result of conscious maximization of advantage by a group of persons which belong to the authorities.

If we analyze the European experience of the highly-developed countries we can observe that the mechanism of self-regulation of the social market system is ensured by the effective government management. However, Ukraine has inherited a cumbersome, irrational structure of the state management. This drawback could be compensated by efficient management. The Japanese economists consider that their country would never achieve success without the support of the managerial resources of the national bureaucracy. In their opinion, the national economic policy is also essential.

The coordination of the social economy lies in the purpose-oriented policy of the government for ensuring the formation of the institutional structure in the social sphere of the economy and for creating the prerequisites for the formation of similar institutes by other subjects of economic relations. The result of such double influence is the formation of the system in which every element (institute) is influenced by the institutional environment and, in its turn influences effectiveness of other institutes and the institutional system of the social economy as a whole. The variety of types and forms of social institutes as well as their combinations is nearly unlimited; they form the institutional structure of the social economy in its different spheres: education, health care, pension benefits, insurance, system, public transport and others.

The institutional changes in the social economy become a means of solution of different organizational– economic tasks at micro– and macro - levels by means of improvement or formation of separate types of institutes. The government regulates the rules of conducting collective actions (laws), legislative acts, contractual relations between the subjects of the economic process. The same economic institutes can be effective in some cases, and in other cases they can impede the development of separate system, in particular health care. That depends not only on the economic situation in which the system operates at the moment of introduction of a “new” institute. First of all, the effectiveness of institutional changes depends on the general institutional structure of each system.

The experience shows that only “the consensus” types of the institutes being created can develop efficiently, that is when the new legal norm is

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<sup>125</sup> Samuels W. J. *Institutional Economics* / W. J. Samuels ; ed. by D. Greenaway, M. Bleaney, I. Stewart // *Companion to Contemporary Economic Thought*. – London; New York, 2001. – P. 25.

introduced as a result of the democratic coordination and under the careful attention of the government concerning the observation of this norm. The formation of the social institutes of growth is very important – such institutes as private property, competition, the corresponding legislative basis, social insurance. That is because exactly these institutes are the foundation of creation and development of the civil society. In the system of the social economy institutes are distinguished both by the form and by the content. Each type of institutes is characterized by general features and by its peculiarities which, in totality, predetermine the conditions and consequences of their simultaneous functioning.

The coordination of the social economy is performed under the conditions of the corresponding institutional provision, i.e. the elaboration of the corresponding legal norms in the sphere of public and economic relations. Also, the coordination of the social economy includes the measures and actions of the government aimed at the formation or the transformation of the existing institutes of property, financial, social legal, political institutes, “the rules of the game”, social phenomena (psychological, ethical) which have an influence on the development of the whole economy and the social sphere. Such institutes are competition, economic freedom, monopolies, trade unions, taxes, wages, insurance, stable way of thinking, legal norms, rules, resolutions, laws of the social strata, the system of relations between economic subjects and so on. Social insurance and wages become the key mechanisms of maintaining the living standards and prevention of the inadmissible decrease of living standards of the population as well the mechanisms of the reproduction of possible losses as a result of social risks. The institute of compulsory social insurance is established by the industrial society to ensure the financing of minimal social guarantees in case of material insecurity of the able-bodied population. Such material insecurity can take place because of disability (partial, complete, temporary, constant) or because of loss of job.

An important institute of social protection of the population is social assistance, especially social assistance to the poorest people. However, in the transition economy this aspiration of the government is not easy to realize financially, especially the provision of the guaranteed minimal income and the corresponding level of pensions. The system of social protection involves a set of measures elaborated for the provision of the living minimum and the access to the guaranteed social services for all members of the society. These services should embrace not only individuals but also the institutes whose activity influences the living standards of the population, first of all, they include the financing of health care and education. Among the superstructural factors of institutional improvement of the social economy a decisive role is played by the legal factors. The legal factors involve the perfection of the existing laws and the adoption of new laws for the formation of legal forms of the institutional changes in the sphere of basic (economic) relations and the improvement of the economic mechanism on this basis which is also a significant aspect of institutional transformations.

The development of science and technologies indirectly affects the changes and transformations of the social– economic institutes through technological– economic (specialization, cooperation) and organizational– economic relations. The absence of necessary improvements in the sphere of

science in this country as a result of insufficient institutional provision and the poorly developed rational forms of the economy management has led to the worsening of social state of 90 per cent of the population.

The maximal use of advantages in introducing market relations and the achievement of positive advances in social sphere on their basis are impossible without the institutional provision of economic freedom. Economic freedom is implemented in different forms and variants of economic behavior of enterprises, families, individuals as regards the choice of the field of application of their abilities, knowledge, incomes, etc. Economic freedom must be combined with economic responsibility, with the consideration of the legislative norms, interests of other economic subjects (entities).

The economic basis of freedom in current conditions is the combination of private, collective and public ownership. The economic freedom of the country cannot be realized without public ownership on the means of production, on the part of the national income. Without this type of ownership the existence of the economic system and, in its framework – private property, is impossible. Also, for the development of transformational processes of the society's democratization and the economy it self, including the social sphere, it is very important to ensure the freedom of the information sphere as the basis for independence of mass media, the freedom of speech, pluralism and the democratic foundations of the information activity. These freedoms predetermine the transparency of all social processes and, consequently, become significant factor of their improvement.

The change of economic relations in process of transformation of the economy brings about the corresponding reforms of the institutional structure when certain institutes cease to exist and other institutes emerge which are suitable for operation in the market conditions. It is especially true for the modern Ukrainian economy as a whole. The current stage of our economy is characterized by the search for efficient economic mechanisms and the corresponding forms of the institutional organization of the social system. The purpose of it is the further growth of social benefit production, the maintenance of the health care level of the nation, the provision of social protection of the population on the basis of the socially acceptable balance in the distribution of the national income.

It is essential today to make institutional changes in the economy of the social sector. This task requires that the state and government management should become more dynamic and that all spheres of entrepreneurship and economic activity of the state and private, commercial and noncommercial organizations should be coordinated. As the weak economic interaction with the market only increases the contradictions in the economy and impedes the solution of social problems.

The imperfect and contradictory laws, legislative acts which regulate the relations in health care, education, pension provision demand radical changes. Also, the problems of determination of wage level in all spheres of material and non-material production require new approaches. Because the current average wages and salaries in Ukraine hardly exceed the minimal level and do not provide the reproduction of workforce. As a result, even a simple reproduction of the population does not exist in the country. We are

facing a dangerous tendency when the death rate is higher than the birth rate. This leads to the depopulation in the country.

The financial institutes also demand changes, in particular, with the aim of adaptation of the spheres of health care and pension provision to the market economy conditions. Such changes must envisage the differentiated approaches to the organization of financing these spheres and self-financing. For example, an essential institutional component of health care is the provision of the constitutional right for free medical service in Ukraine. No less significant component is research institute whose operation is a necessary element of the general economic innovation process. The most effective institutional changes in this branch are connected with the development of cooperation between the government bodies, academic scientific centers, pharmaceutical companies and the companies producing medical equipment on the principle of joint research centers, consortia and joint research programs.

One of the acute problems is the budget financing of the operation and development of social wealth production. Therefore, the coordination activities of the government in this direction must be increased, that is the government must fulfill the following duties:

- the provision of research and development work with labor, material, financial and information resources;
- the improvement of health care system, primarily such sectors which are highly incompetent and the operation of which as social wealth is a necessary condition of the society's existence (such as ambulance service, scientific research);
- the collective actions aimed at the resource supply of the social production sphere;
- the encouragement of collective actions for ensuring the production of social wealth and services.

It is not possible to consider as perfect the redistribution of the limited money resources in favor of the social sector of the economy, with the increase of the general sum of expenses for the social sector as a whole. Practically, such redistribution of resources in favor of socialization will lead to worsen conditions of production in other branches of economy. The most acceptable solution of the problem of growth of financing in social sector is the reliable activity of the government for optimization of the total structure of social wealth, the resource provision of financing and the distribution of financing according to the principle of economic expediency. It is hardly possible to increase the expenses on social needs in the nearest years without high economic growth rates and the active role of the government in the improvement of tax policy, the growth of incomes in the state and local budgets. Therefore, an important direction of the government policy in the country can be the attraction of nonbudget sources of financing to the social sphere. One of such sources could be medical insurance companies as an institute which is an alternative to the state system of health care. Such institute could contribute to the creation of private medical establishment by means of investment of insurance payments. This is because at present the insurance companies have turned, in the best variant, into intermediaries, and in the worst variant – into the structure for avoiding

tax payments. The reason is the imperfect legislation and very low living standards of most people.

The primary market transformations in Ukraine were concentrated in two major directions: to free enterprises from the control of the planning bodies and the introduction of free price formation; to transfer enterprises into private property (privatization as the tool of the replacement of economic basis). Such approach was considered sufficient for the market economy to start functioning properly. But it was the limitation of this approach which predetermined the social– economic crisis in Ukraine. The mistake in this approach lies in the fact that it ignores the necessity of creating the market infrastructure first, instead of improvement of the planning system. Also the character of privatization which turned in practice into the robbery of public property led to the crisis.

The government has an important role in the formation of the institute of private property as one of the fundamental institutes in the market system. The analysis of establishment of private property enables to reveal the cause-effect links in many current phenomena of the country's economic life.

In the domestic and foreign economic literature the issue of the public property privatization has been deeply elucidated. The complex models of privatization have been worked out. These models take into consideration economic and noneconomic factors which determine not only the optimal time for privatization but also the optimal volume of capital investment during privatization. In our opinion, quick official privatization actually brought to the surface the process of transformation of the institute of property which had begun long before in Ukraine.

The aim of privatization in Ukraine was to create an efficient owner, but the country again became the testing ground for the large-scale economic experiment. The issue of formation of the institute of private property was not solved. But the most negative effect of privatization lies in the fact that the new owners of “the former public capital” used that capital not for production purposes, but for personal enrichment. The new owners did not consider it necessary to renovate capital assets, to increase new capacities; also they were unable to express the national economic interests, especially in the sphere of reproduction of material conditions for economic growth.

The government, the country's authorities should have retained the strategic economic objects in public ownership, except small and medium-sized businesses. From the very beginning of privatization, the population did not have any legal primary capital which would become the foundation in small business. And the saving of the population were eliminated by the price liberalization. Thus, the processes of formation of the private sector in Ukraine's economy appeared to be the expropriation of public ownership by a small number of persons who seized the opportunity as they belonged to the authorities.

The logical result of such privatization was that the government and the state authorities delegated the property to the circle of business people who had connections with the officials, and the formation of the oligarchy. That is, such situation was created in the country's economy when a narrow group of people concentrated billions of dollars in their hands by means of

manipulation with the economic power in the country, direct plunder of the budget.

The Ukrainian oligarchs did not emerge at the time of the objective accumulation of national wealth and the economic growth. They inherited the already existing property. On the contrary, the highly-developed countries found their financial and industrial owners during the general economic upturn. Big capital was formed on the basis of the real personal investments of the owners into the progress and organization of production. Therefore, in the conditions of social– economic transformations a sharp coevolutional contradiction is manifested – the contradiction between the functional goal of the state (the government) as the institute of realization of social, general system interests and the functioning of the state as the structure of the authorities which is used by the state and government officials in their personal interests. The key task for regulating the property relations is to provide the necessary legal and political support and reliable protection of the rights for private property which consolidates its positions; also the creation of favorable conditions for the accumulation of the national capital, the strengthening of its positions and the formation of the efficient owner at the privatized enterprises. If in the previous decade the main emphasis in this sphere was made on quantitative transformations, now, when the critical mass of private property has been formed, the provision of real guarantees of its immunity is moved to the foreground. In particular, it envisages the creation and effective functioning of the state system for the registration of real estate rights.

Among the main tasks of next decade is the essential improvement of the mechanism of corporative management realization and democratization of joint-stock property, the perfection of the legislation and the court practice concerning the provision of guarantees of the shareholders' rights, especially small shareholders. More goad-oriented efforts of the state and the government are required for protection and implementation of the citizens' property rights, for provision of immunity of people's rights for housing, land plots and deposits. The state must ensure all prerequisites for consolidation of the positions of the consumer cooperation. Actually the consumer cooperation has changed its nature, has adapted itself to the market and has preserved its niche in the qualitatively new economic situation.

One of the priority directions of the institutional policy involves the adaption of modern legal and organizational mechanisms for the protection of intellectual property. It is necessary to promote the commercialization of intellectual property, to ensure the protection of intellectual activity from unfair competition, illegal alienation, forgery and limitation of other rights in the production, scientific and literary spheres.

Also, it is necessary to considerably raise the efficiency of the state-owned enterprises and the use of the state corporative rights. The state (government) sector of the economy must operate on the principles of market motivation and profitability. The government, the local executive bodies must make the volume and the structure of the state sector of the economy optimal, they must introduce the effective principles of managing the state-owned enterprises and increase the control of the financial–economic activity of these enterprises with the share of the state ownership. At the same time, we should proceed with privatization, continue it, taking

into account the reduction of the influence of the state (government) sector. The further development of the privatization process, the promotion of its investment component and the improvement of its transparency and openness for investors will contribute to a more intensive flow of capital.

The strategy for economic growth and deep technological reequipment, as the restructuring of the whole economy, require concentration and centralization of the national capital and the formation of powerful industrial complexes. Such complexes can include national and transnational corporations, financial-industrial groups, holding companies as well as the creation of a developed network of subsidiaries and small businesses around these companies.

The Western scientists put the efficiency of the economy's functioning on the first place when they analyze the property relations. Therefore their analysis is oriented at the search for the most effective forms of ownership. The Western researchers regard the consolidation of the institute of the state as the main danger because the development and expansion of the government personnel implies the danger of appropriation of private property by the state, by the government.

In Ukraine the opposite trends is obvious: the continuing privatization actually makes the state sector incapable of affecting the country's economy and damages the most significant elements of the economic policy.

The property of the noncommercial sector – power systems, transport, communications, objects of the national culture such as places of interest, museums, libraries, reserves, etc. – do not give high profit and have long terms of repayment. But such property is ineffective. We consider that the amount of the noncommercial state ownership is a qualitative indicator of the country's national wealth. This indicator characterizes the living standards in the country and the level of development of the institute of the state.

“The privatization processes in Ukraine are characterized by the ineffective government policy which is distinguished by actual absence of the strategy for reforming property relations as a whole”<sup>126</sup>. As a result, there is no effective institutional system in Ukraine yet, such system which could ensure optimal use of the national economic potential and which could become the basis for social consensus as regards the strategic tasks of social and economic development<sup>127</sup>.

From the very beginning of the reforms the essential contradiction to the declared market-oriented approach was the disregard of the formation of the key market institute – competition. As the Ukrainian scientists note, the current attempts to improve the situation in the sphere of antimonopoly legislation are fragmentary and cannot produce a long-lasting effect.

The formation of the critical mass of the market transformations in the economy envisages comprehensive improvement of the operating market mechanism. This process must be stable and continuous, correlated with the demands of economic activity. At the new stage of the market reforms the following factors become most important.

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<sup>126</sup> Ukrainian privatization: prospects and priorities: the analytical report and the materials of “the round table” / Y.A.Zhalilo and others. – Kyiv: NISD, 2008. – P.19.

<sup>127</sup> Ibid. – P.34.

First, the development of competition, the increase of its influence on price formation, the intensification of the government regulation of natural monopolies and the increase of transparency of their operation. Also, they include the formation of the competitive environment at the markets of energy carriers, agricultural production, transportation, communications, communal services, placements of the government orders, centralized capital investment and others. The necessity to cancel benefits and preferences to separate economic entities and subjects, to level out the competition on the regional and local levels is foregrounded. The ability of the state authorities and the government to not only define but also to guarantee the single “game rules” for all economic entities and to conduct an efficient competitive policy is the foundation of investment attractiveness of the economy, the main factor of its stability.

Secondly, it is the increasing liberalization of all spheres of economic activity in accordance with the European Union’s criteria. Such approach does not contradict the logic of consolidation of the state efficiency, on the contrary, it is logically connected with this tendency. Deep and comprehensive liberalization has to be the basis of investment attractiveness of the Ukrainian economy, its democratization and systemic improvement. The transition to a more liberal model of economic development must predetermine the major direction of market reforms for the next decade.

The structural disbalance of the Ukrainian economy is caused by the uneven distribution of profits between the kinds of economic activity. In Ukraine the companies extracting oil, gas and nonferrous metals closed the access for new competitors into these sectors. Moreover, the excessive capital created in the fuel industry and in the sector of raw materials is not invested in other spheres of the economy with a low profit rate. This macroeconomic trap can be eliminated only by the government, Without interference of the government the redistribution of capital in the raw materials branches is impossible. The government must withdraw a bigger share of the natural rent obtained by the companies in the form of monopoly superprofits and redistribute it into the advance of other high technology and science-consuming types of economic activity. The refusal to solve this problem increases the structural disbalance of the economy and undermines the foundation of the sustainable development of the country’s economy.

The banking structures have a very insignificant function in the economy of Ukraine. The banks are not interested in crediting middle-sized and small businesses, in the expansion of the consumer and mortgage loans; the banks are concentrated at servicing the selected groups of customers. Such situation impedes the progress of the banking sector as a special sector in the market economy infrastructure.

The Ukrainian government, the authorities do not control the fulfillment of investment obligations of those owners who have won the tender auctions. The acting legislation completely allows the reduction of taxation through the policy of “tax optimization” or “tax planning”. The stabilizing possibilities of the country decrease sharply, the regulation function weakens.

As the results of current investigations demonstrate, four determinants must be the foundation for solving the task of the creation of competitive advantages of the country at the world market. These four determinants, according to Michal Porter, form “ the diamond of national advantage”.

They are: the parameters of factors of production (skilled labor, raw materials, production base, scientific potential, etc.); the competitive related and supporting industries; the demand conditions at the domestic market; the firm strategy<sup>128</sup>. The interaction of these determinants form the self-reinforcing system which ensures the innovative development of the country's economy. The fulfillment of the innovative function by the government is grounded on the formation of the system of development institutes. The state authorities have begun to pay special attention to this factor. Of particular importance in this system must be the Stabilization Fund of Ukraine. The experience of the European countries, the USA demonstrates that this institute is the source of financing of the national economy.

The formation of the complex of new tools plays a significant role in the creation of the system of institutes of social and economic development. The investment and venture funds have been founded on the basis of joint financing by the government and the business. Also, the government is discussing the idea of creating free economic zones, reforming the operation of the purpose-oriented funds. Actually, the reserves of the Ukrainian science and the education system are not practically engaged in this process.

There exists an important tendency of consolidation of the institute of national projects as one of the major institutes in the government regulation of Ukraine's social and economic development. Hopefully, what testifies to the advance in the direction of the social national economy is the analytical report "The National Projects for Ukraine"<sup>129</sup> elaborated by the specialists of the National Institute for Strategic Research. They have made a list of national projects: "Discovering Ukraine", "The National Infrastructure of Roads", "The Agricultural Sector of the XXI Century", "The Competitive Economy", "The Healthy Nation", "The Accessible Housing", "The Energy Efficient Way of Life", "The Electronic Ukraine". These projects envisage the budget expenditures, as well as attracting the money resources of the domestic and foreign investors, the international organizations. Such resources will be intended for investments into people, for the improvement of living standards and the quality of life of the nation.

The conducted analysis enables to determine the stages of institutional transformations in Ukraine depicted in the form of the social– economic institutional matrix.

The tasks solved and set at these stages are connected not only with the creation of the institutional matrix but also with the simultaneous process of integration of Ukraine into the European community, the consolidation of its socially oriented structural-innovation way of development.

The first stage embraces 1990s. Its specific result was the creation and modernization of the basic economic institutes (ownership, taxation, currency system) which was carried out in the conditions of systemic crisis. This stage was characterized by haste, by absence of the calculated models of forecasting and the adequate theoretical substantiation.

The essence of the institutional transformations consists in the attempt to change the type of the institutional matrix of the social– economic system

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<sup>128</sup> Porter M. International competition. – Moscow: International relations, 2003. – P.50.

<sup>129</sup> National projects for Ukraine. – Kyiv: NISR, 2010. – P.33.

in Ukraine. The institutional matrix did not correspond to the material and technological environment, the market institutes at this stage were not able to ensure the efficient reforms.

The second stage (the years 2000-2002) is the completion of formation of the institutional basis for a new system by means of adjusting this basis according to the Ukrainian specific situation. This stage also involves the creating of the acting mechanisms of the market institutes which is the prerequisite for the socialization of the state system in Ukraine.

The third stage includes the years 2002 – 2004. This stage was characterized by preparation of the institutional programs for raising the competitiveness of the domestic industry, and by the creation of favorable conditions for the accumulation of investment resources, considerable expansion of the domestic demand and , on this basis, the consolidation of reliable stabilization and sustainable growth.

It should be noted that the extensive factors which provided the economic growth in the years 2000-2001 were exhausted to a great extent. Such factors included the use of the consequences of deep hryvnya devaluation in 1997-1999, the utilization of production capacities which were idle in the years of the economic crisis, and the favorable foreign economic conditions. In order to prevent a new production decline, the efficient policy of the state authorities (both the legislative and executive bodies) was necessary. Such policy would be aimed at the provision of the achieved annual growth rates of the GDR at 5-6 percent in 2002-2004, the growth of investments into the fixed capital by 10-12 per cent, retaining the inflation rates at 7-9 per cent, the growth of real incomes of the population by 6-7 per cent. In this period it was essential to complete the formation of the basic institutes of the market economy, the promotion of fair and efficient competitive environment. The major task of the social policy at this stage was the reduction of poverty and the decrease in income differentiation by means of such measures as the stimulation of priority rates of wage growth and the direct social support to certain groups of population. At the same time, even insignificant improvement of the people's well-being could become possible only due to the successful functioning and development of the real economy.

The fourth stage (since 2005 till the present time) is grounded on the comprehensive modernization of enterprises, the consolidation of the principles and mechanisms of the structural-innovation development model and the formation of the fundamentals of the social market economy. In this period it is necessary to achieve 6-6.5 per cent annual growth rates in the GDP. Also, a compulsory condition is high rates of growth of investment into the fixed capital (up to 10-12 per cent). The annual inflation rates should be reduced to 3-5 per cent. And a necessary condition is to retain high growth rates of the population's real income – in the range of 6.5 – 7 per cent a year.

The state authorities must perform the task of creating the social–economic institutional matrix in Ukraine. The formation of such system will enable the balanced development of basic and new institutes which, in its turn, will increase the economic system stability and will create the necessary prerequisites for raising the effectiveness of the government influence on the macroeconomic dynamics. That is why, there exists an objective necessity to strengthen the state and the government efficiency. At

the same time, the excessive interference of the government into other spheres should be excluded. The established market mechanism should not be ousted, on the contrary, such mechanisms should be supplemented, improved, consolidated, their efficiency must be increased – such logic must prevail in this direction.

At the new stage of development, the decisive task of the state, of the government is to create favorable institutional prerequisites for the implementation of the task in the European integration and for the establishment of the socially oriented structural-innovation model of progress.

Among especially significant tasks of the government is to contribute to maximal realization of the competitive advantages of the Ukrainian economy by means of all available tools, financial and organizational resources. Another important task is to encourage the consolidation and advance of the science-intensive branches which demonstrate the technological level and competitiveness today and, therefore, can become “the locomotives” of high technology growth. The country’s economic policy must concentrate on the backing of such production areas, on the creation of the maximally favorable conditions for the operation of the national companies in the open competitive environment.

The new strategy of economic and social development must be grounded on national priorities, indicative planning and forecasting. The government must prevent the spontaneous changes in the market conditions, provide a sufficient level of economic security, in particular the stability of money-and-finance environment, regulate the basic macroeconomic reproduction proportions.

The necessity to consolidate the regulation function of the government is also connected with the need of increasing its influence on the progress in the social sphere, overcoming a sharp differentiation in people’s incomes, and strengthening positions of the middle class. The state and the government must become a reliable guarantor of the citizens’ constitutional rights and freedoms.

The provision of ecological safety as a significant component of the national security in general belongs to the fundamentally important functions of the government. The main goal of the ecological policy must be the elaboration and implementation of the strategy of rational nature utilization and environmental protection in order to ensure the sustainable economic and social development.

The prospects of increasing the government’s regulation function must be evaluated from the viewpoint of another key task – the market transformation of the economy, the creation of the normative and legislative foundation and infrastructure required for such transformation, and the training of the personnel capable of working in the qualitatively new conditions, the overcoming of previous deformation. We mean the establishment of such market economy which would have the entrepreneurial interest as the basis of economic motivation, and where the entrepreneur, the business person would become its main driving force.

The starting point of any institutional transformation, that is the initial state is the institutional balance. The institutional balance involves such situation in which, under the existing correction of the forces of the participants and the available range of contract relations which realize the

economic exchange, no participant considers it beneficial to spend resources on agreement restructuring. In the terms of the concept of the institutional market this definition of the institutional balance characterizes the situation in which the value of demand for the services of the guarantor of certain rules of the game equals the value of their supply. The existence of the discussed effect of blocking of institutional changes gives grounds to assert the multiple character of the institutional balance. This means such situation when there are no incentives to reconsider the existing relations by the economic agents (entities).

There exist several possible variants of implementation of the institutional transformations in the market economy:

- extreme – connected with the transition to a new institutional structure during rather short period of time which causes a nonelastic reaction of the economic subjects;

- boundary – as certain additional transformations of the existing institutional structures;

- Pareto-efficient – directed at improvement of the institutional environment of some economic agents, with the fixed position of others;

- combined – which assume the multiple choice of alternatives and take into account the specific mechanisms of choice depending on the stable or unstable stage of development of the social– economic structures.

The choice of the specific direction in the implementation of the institutional changes is predetermined by the intensity of interactions between organizations, individuals and the state, the character and force of fluctuations arising from the external or internal environment. Other factors of the choice include the motivation of economic subjects (entities), the level of their knowledge about the available alternatives in the progress of the institutional reforms as well as the amount of the obtained, positive synergetic effects. From the positions of the economic synergy, the institutional changes are a complicated process of informational choice into the conditions of uncertainty which emerges under the influence of external and internal fluctuations and which brings the institutional system in the point of bifurcation and existence of several possible trajectories of its further development.

The implementation of institutional reforms at the present stage of the transition system development should be grounded on the transfer from “the political modernization” of the institutional system (based on the active proposal of institutes by the government) to the model of “the market modernization” (which is oriented at the demand on institutes by the very market participants). The formation of the model of the market modernization of institutes must be preceded by the legislatively adopted procedure of institute demand study from the side of all the subjects of the national market. At the same time the institutional transformations should be of a comprehensive, informative and adapted character. The model of the institute market modernization implies that not the government policy is subjected to reforms but the institutional model of policy, the rules of its implementation are reformed. This model requires that the government should master the principles of management as a dialog, as the management of activities of subjects at different levels. That is because the formation of the market institutional environment in the countries with the transition

economy demands the active interference of the government as the major subject in the institutional changes.

Thus, when creating the Ukrainian model of the economy, certain extremities should be avoided such as: a) the formation of the unique “national model” which does not exist anywhere in the world; b) the attempts of blind borrowing. The Ukrainian market must be controlled by means of a strong government policy which would guarantee a sufficient support to the socially unprotected groups of the population. This goal can be achieved only if we manage to successfully combine the advantages and the risks of the economic models which are the most identical to our country. The basis should be the model of the social market economy of the end of the XX century. The national market model elaborated on the foundation of such paradigm must unite the conditions for the advance of the competitive economy and the elements of rather tight regulation of the market, a strong government policy in the social sphere, the immunity and the comprehensive support of private ownership. It must be such a model which would envisage the establishment of the social market economy on the foundation of the national economy.

It is essential to determine the instruments of reorganization and regulation of the economy in the conditions of the free market. These instruments are:

- the finance and credit system with a “perfect” tax, emission and duty rate policy, with financing, crediting, strategy and tactics of interest rates;

- the mechanism of price formation with a certain correlation of firm and flexible, wholesale and retail prices;

- different marketing macroefforts which shape the economic demands of the population;

- the investment policy of the government, the volume and range of the goods produced, the forms of their purchase and sale, the production quotas, the export and import policies;

- certain admissible limits of extraordinary measures during the implementation of economic programs in the extreme conditions of the transition period and others.

We will not dwell deeply on the characteristics of each instrument, but we will pay attention to the significant realities of the present period concerning the abovementioned mechanisms of the market regulation.

Analyzing the finance and credit system, we should consider the state of the current tax system. The current tax system does not give any hopes to the domestic business people and for a high economic efficiency of their activity. The taxes must be lower and more flexible.

A loan is a very important instrument in the market economy. There are certain difficulties in this sphere of the financial relations but they must be overcome in nearest future. Firstly, it is necessary to promote long-term loans to the economy, the whole branches of the economy, and the government must contribute to this process. Secondly, it is necessary to reduce the rates for money loans at the banks for entrepreneurs (for instance, in Ukraine the interest rates are as high as 30 per cent, while in the West they do not exceed 6-8 per cent).

The marketing measures play a major role in Ukraine's economic development. And if such measures produce positive effect on the national scale they can become a powerful impulse in the formation of the country's economic image. Thus, the significant task is the increase of the scale in the implementation of these actions for the sake of support of the national producer.

A special role belongs to the government order of the produced commodities. The world experience demonstrates its efficiency, therefore the active government orders are an essential component of the Western economic systems. It turns out that the government policy in this direction does not in any way prevent the market mechanisms from functioning. Thus, the government acts as an active customer of different commodities from different producers. In such a way the government stimulates the general progress of the economy.

The export and import policy of Ukraine must be resolute and at the same time deliberate, considering national interests. National interests must be above all in spite of friendly political and other relations with some particular country. But the national exporters face enough problems. Nobody wants to yield in the competitive struggle, therefore there are so many dumping cases against the Ukrainian exporters in the courts of many countries.

It is exactly the regulation of the market that must occupy the lion's share of the activity of the Ukrainian government today. However, we should not have such situation when the government regulation will be directed at the state sector of the economy only while the private sector will remain by itself or it will be restricted by administrative economic obstacles. Except the enterprises – monopolists, the rules of the market game including economic regulations must be the same for all participants.

The social market model of Ukraine's economy demands coexistence of the strong government and the strong market. Therefore the establishment of market orientation and the consolidation of market tendencies in the economy must take place on the background of the corresponding consolidation of the government's role in the social sphere. In this model of the economy the government care is vital for the market society. So, the government must conduct an active and resolute policy of raising public welfare. The mentioned instruments of the economy regulation are the devices for achieving the desired situation – the growth of the population welfare. And the results of economic transformations in Ukraine will depend on the effective use of these mechanisms.

With the introduction of this model the attractive forms of Ukraine's economy are observed. First, it must be socially oriented market based on the production of social necessities. Second, the new model must envisage the coexistence of the public and private sectors of the economy which will have absolutely equal rights – without special benefits and exclusive privileges. Third, in the nearest future Ukraine's economy will be able to combine the mechanism of the government regulation of the economy and the mechanism of self-regulation. Fourth, the government must take special care of the social sphere. Exactly this direction must be the priority in the government policy concerning the country's development. Fifth, the government should stimulate the intensive development of the national market, the producers, by all possible instruments.

#### **1.4. The forms and principles of the interaction of the government, business and institutional structures**

In the modern conditions the government regulates the economic interests of the business structures, compelling them to build certain relations with the government. The results of economic activity and the possibilities of the business structures largely depend on the government's encouragement of their growth and the stimulation of interest in the development of business. In this case, the goal of economic activity consists in maximal profits and the expansion of operation at the commodity markets. At the same time, the significant tasks of the state and government bodies are the increase of tax payments to the budget, the expansion of social programs and the support of entrepreneurship on the national and regional levels.

The determination of main elements in the interaction of the government and business structures is the necessary condition for the formation of the interaction mechanism. This mechanism of interaction depends on the degree of interest from the side of the business structures and the government bodies to create the atmosphere of trust on the basis of mutual relations and mutual respect. The implementation of the economic mechanism of interaction between the business structures and the government is grounded on the idea that the state and government bodies must be closer to the real conditions of functioning of the organizations and also that the managers of the business structures must realize the need to solve social problems.<sup>130</sup>

The algorithm of interaction between the government bodies and the business structures predetermines the strategic aims of operation of the economic system on all its levels, with the consideration of the reverse interaction of the process results and the content of the process (see Fig. 1.4).

The government has rather big but limited resources. So the government strives to increase them by attracting additional resources in the process of realization of its goals and interests. The government also intends to encourage the efficient functioning of entrepreneurship with the help of effective motivation mechanism, by means of stimulation of entrepreneurship activity, and also by means of the legislative regulated instruments of performing social functions because entrepreneurs usually treat these functions with indifference.<sup>131</sup>

The optimal interrelations are the key factor of the interaction between the government and the business and reflect the objective demands of the state authorities and the interests of entrepreneurs. The system of interaction of the government and business structures must be open and must be able to adapt itself to the changing conditions of the environment and the market situation. And the effectiveness of such interaction depends on how the government and the business structures are prepared for the integration of the joint efforts in order to achieve economic growth, how these structures are interested in establishing the relations, the atmosphere of trust.

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<sup>130</sup> Kurbatova M. Deformalization of the rules of interaction of the authorities and the business// Problems of economics. – 2005. – №10. – P.119-129.

<sup>131</sup> Bagiyev G.L.. The organization of entrepreneurship: a textbook. – Saint Petersburg, 2001. – 231 p.

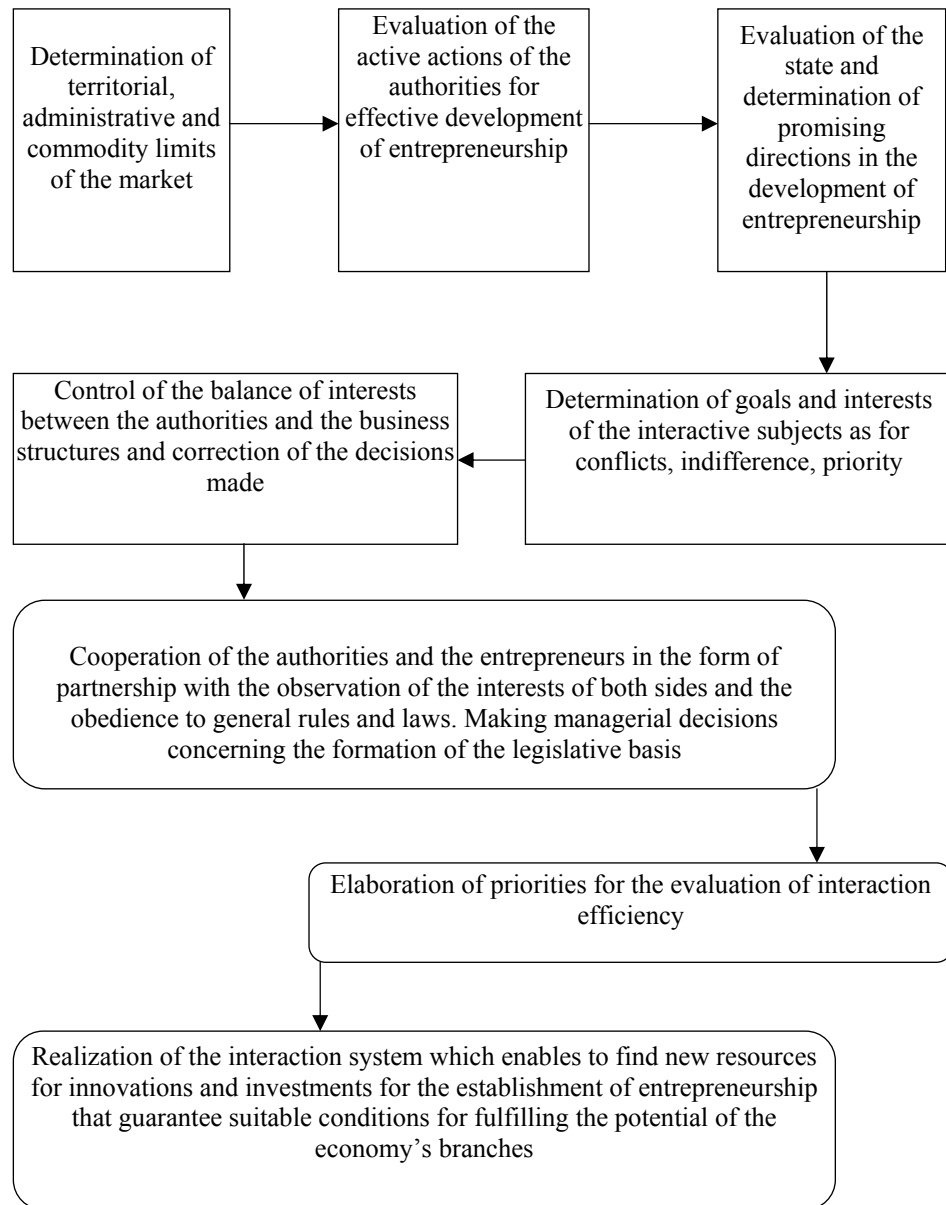


Fig. 1.4. The algorithm of interaction of the authorities and the business structures

Three groups of principles are the basis of the interaction between the government and the business:

1) the cooperation of the authorities with the economic subjects (ensuring the protection, openness, the sufficient financial basis, systems approach, flexibility; stability of communication, purpose orientation, timely links);

2) the formation of the activity of the state authorities (absence of contradictions, rational management decentralization, evolutionary character);

3) the activity of the entrepreneurship structures which affects the operation of the government bodies (observing the legislation, unity, social orientation, economical activity, responsibility, advance).

The first group of principles deserves special attention – the principles of cooperation between the business and the government structures:

- the principle of ensuring protection guarantees the protection from criminal influence;

- the principle of openness implies the absence or reduction of administrative and information obstacles between the economic subjects and the state authorities;

- the principle of sufficient economic basis envisages not only qualitative, but also quantitative dimension of financial resources;

- the principle of system approach means that it is necessary to take into account all elements affecting the activity of the economic subject and all the business network;

- the principle of flexibility envisages the ability of both business and government structures to adapt to the situation without changing the main direction of activity;

- the principle of stability of communication envisages the stable exchange of information between the government and business structures;

- the principle of timely activity is considered as the correspondence of the adopted decision to the existing situation;

- the principle of purpose orientation means the implementation of aims and tasks which would retain the positive tendencies as long as possible, which would reflect the real dynamics of process, the proportions of their development.<sup>132</sup>

Nowadays it is possible to distinguish the following techniques of interaction between the state authorities and the entrepreneurial structures:

- the economic techniques, in this case the interacting subjects act as employers, producers, catalysts of scientific and technological progress, taxpayers, agents of market relations;

- the adapted techniques (legislative acts and social functions): many people realize their creative potential through different forms of entrepreneurship; the business structures create many jobs, grounds for vocational training, the function of environmental protection by entrepreneurs is also essential.<sup>133</sup>

The interaction can be fulfilled in such case when the economic interest of one side is realized irrespective of the economic interest of the other, and also when the economic interest of one subject is realized at the expense of the other or is completely absorbed. If the entrepreneurial structures interact in unequal economic or legal conditions it leads to the subordination of economic interest of one subject to another subject. In such situation the desire to achieve considerable economic results decreases which slows down the progress of the entrepreneurship. Therefore, the government cannot rely on the planned results in the implementation of the business support programs as the priority in the realization of the state programs is also lost (see Fig. 1.5).

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<sup>132</sup> Bindichenko E.V. Entrepreneurship as the institute of national economy: the state, the mechanisms of development and support // Vestnic (Messenger) of Eastern economic-legal humanitarian academy. – 2009. – №2. – P.22.

<sup>133</sup> Ibid. – P.30.

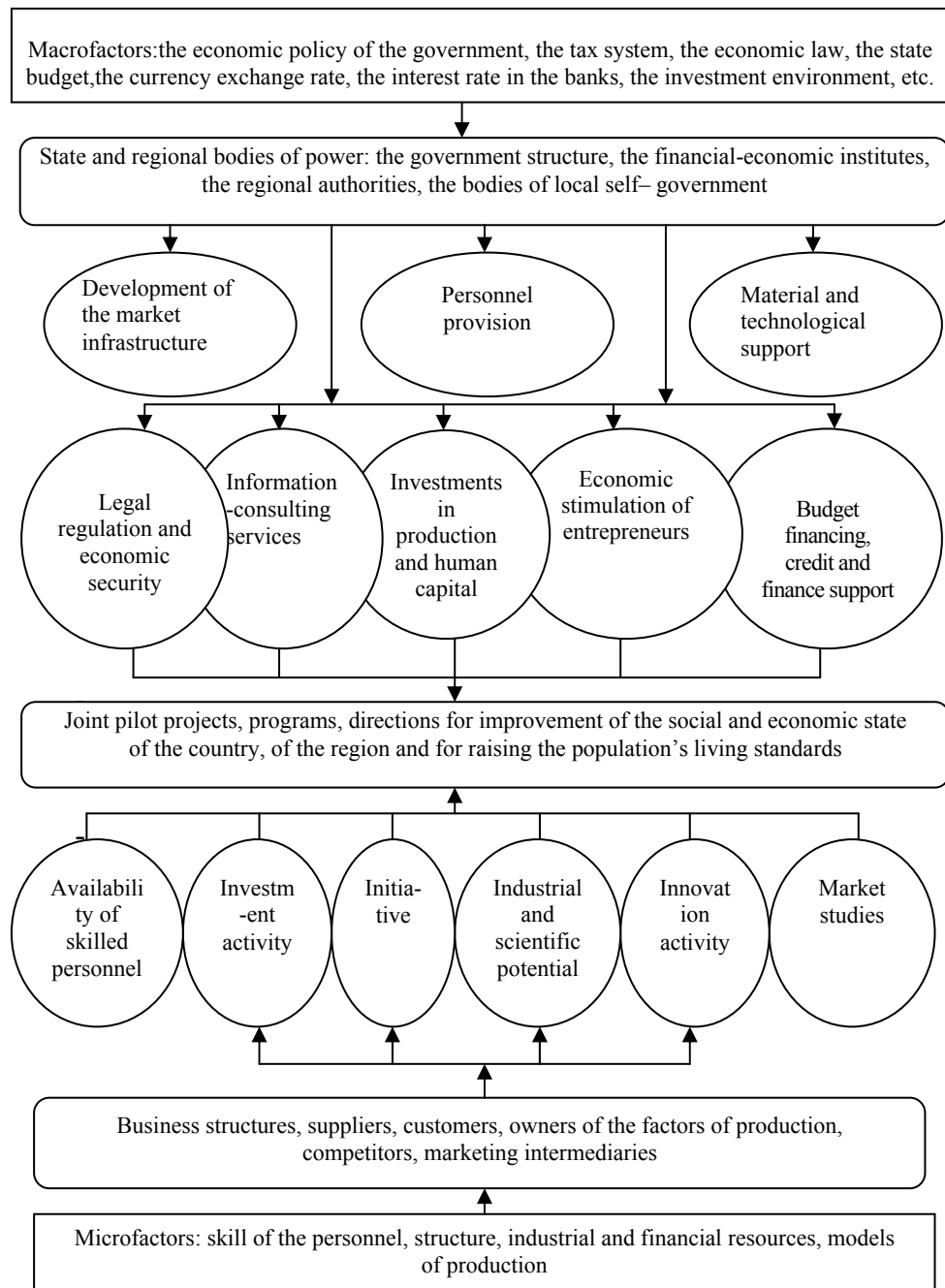


Fig. 1.5. Mechanism of interaction of government and business structures in the market environment

In case of bilateral connection and mutually beneficial economic relations between the subjects, favorable conditions are created for the entrepreneurial activity of each of them. In this situation the sides carry out mutual control of economic operations and the realization of interests, coordinate their actions in the resolution of contradictions, thus they achieve the coordinated functioning of interests.

In this connection, the following functions of the state and the government acquire greatest significance in case of the financial crisis:

- the goal-oriented support for innovation activity of the subjects of entrepreneurship;
- the creation of conditions for the formation and functioning of partnership agreements in the system of entrepreneurship;
- the economic and legal provision of the integration of big, medium-sized and small business;
- the provision of equal opportunities of social-economic development for the business structures in all regions.

The economy of Ukraine is characterized by the shortage of the built-in regulators which could perform the automatic anticrisis regulation and exercise the stabilizing influence on the foundation of the internal laws of the economic system – the action the so-called “invisible hand of the market”. Thus, the key role in the process of the market transformation is the role of the subject. The motivation of the subject’s actions goes beyond the limits of these internal laws as it has strategic orientation and is directed at the observation of national interests. Such subject is the government.

Without ensuring the necessary effectiveness of the government, the effect of the measures will be extremely small. These measures include the stimulation of economic growth and restructuring of the economy, the realization of competitive advantages and the provision of social orientation of the national economy. Unfortunately, the issue of the government effectiveness was paid appropriate attention only when the traditional instruments of the administrative government regulation were lost and it became clear that too much time would be needed for the formation of the corresponding environment of market regulator action. Thus, as a result of the withdrawal of the government from the direct regulation of the economy, a peculiar organizational vacuum is formed. This vacuum is not filled with the market instruments, but it is a favorable environment for the expansion of the “shadow”, corruption and criminal pseudomarket connection and other deformed types of “the power privatization” in the country.

The constructive character of the state authorities and the government consists in the ability to work out the directions and tasks of economic strategy as well as in the capability to implement the elaborated laws and the adopted decisions. The adequacy in the regulatory activity of the government is provided by the application of the corresponding techniques of evaluating and making decisions and the timely reception of information about the state of the social-economic system, the economic prerequisites and consequences of the regulatory decisions.

The compactness implies the minimal lag in making decisions connected with information processing and coordination of conclusions. Authority ensures the fulfillment of managerial decisions. Competence enables to avoid incorrect decisions in case of “pulling” into the current problems.

The attempts to introduce the distribution of power which encourages the formation of such subjects were made during the reforms in the administrative system and the improvement of relations between the central and local bodies of power.<sup>134</sup>

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<sup>134</sup> Holodnaya N.D. State-private partnership – a new type of relations in the Russian economy // Problems of the state and municipal management. – 2009. – №2. – P.42-56.

The notion of the government effectiveness is not limited to the capability of the state authority to solve specific current problems. And the policy of ensuring the government effectiveness is not reduced to the tasks of the administrative reform only. The prerequisites of the effectiveness and the operative character of the state and government strategy lie primarily in the economic sphere. They must ensure the capability of the government of setting and achieving the landmarks of development according to the national interests. Also, these prerequisites should provide the solution of the tasks connected with the influence on the social and economic processes and the neutralization of the possible threats to economic security with the help of the market economy tools.

The major distinction of the role and place of the government in transition economies is such feature that the institutional transformations compel the government to constantly prove the legitimacy of its existence and its policy. Because of this, the consolidation of interests of the most influential officials, the subjects of economic power gains special importance. These interests involve the way of distribution of the benefits obtained due to the economic growth, the consideration of personal economic intentions of every citizen in the general transformation processes, the stabilization of the economy and the increase of the national wealth.

The transition from the ideology of opposition between the authorities, the citizen and the business to the partnership relations on the basis of mutual benefit removes a number of restrictions concerning the government policy, according to the opinion of Joseph Stiglits. On the other hand, if the society remains fragmentary, the state and the government can be influenced by the interests of certain groups. Such situation can have destructive consequences, if the interests of other groups are ignored. Raising the effectiveness of the government which experiences the pressure from corporative interests of separate economic groups may lead to the aggravation of conflict of interests and a serious deformation of legal procedures in the economic sphere.

If the government system is weak (which is, evidently, the case in Ukraine), the only possibility to implement the adopted strategy is to coordinate the differently-oriented interests of social forces by minimizing their conflicts. This brings to the front line the system of institutes, first of all, the corresponding business unions on the level of the branches and the economy as a whole. They contribute to the formation of corporative interests of economic subjects, the transfer to the decision-making bodies and the provision of the feedback between the objects and subjects of the government's economic policy. Thus, it is a matter of the peculiar "balanced distribution" of power in the society according to the optimal effectiveness of the subjects of this power.

The establishment of capital formation as the leading priority in the country's economic strategy and the coordination of this priority with the necessity to ensure the sustainable social and economic development of the country as a whole makes it necessary to introduce the efficient mechanism for agreement of the activities of the authorities and the representatives of business. Though officially in the independent Ukraine nobody doubted about the leading principles of partnership with the business, still such principles are too general to build the lasting interaction. The exact mechanisms of such interaction are actually in embryo.

The consolidation of the new economic elite greatly anticipated the dynamics in the self-organization of the business groups interests in the branches and spheres of the economy. The most significant part of interrelations of the business with the government has moved to a narrow social space free from the institutional restrictions. In this space the central place belongs to the informal links on top level. This elite needs stability in the form of conservation of the current state of affairs. The stability is necessary both for keeping the privileged positions in the system of power and for preventing new economic and social disasters. The strengthening of objective restrictions, such as the international demands to Ukraine, the growth of fiscal deficit, the exhaustion of reserves for extensive development, is understood by this kind of elite as a reason to consolidation and to increasing pressure on the economic policy in order to avoid excessive imbalances.<sup>135</sup>

Such type of coordination could be called “oligarchic”. It can maintain the current stability, but, however, it does not ensure the necessary dynamics of the capital movement and it cannot become the foundation for the strategy of economic growth. The course for the strengthening of the role of the government and the weakening of the oligarchy will surely be supported by the public. At the same time, the fusion of business people and officials is perceived as a form of corruption, the manifestation of the government’s weakness, and it causes alarm for the fate of democratic institutes. Also, such corruption fusion creates the negative image of Ukraine for investors and international organizations. But the overcoming of such oligarchic model of coordination of interests must be performed not by the complete “separation” of the business from the government, but with the help of establishment of modern democratic forms of their cooperation. Such forms of cooperation could enable to minimize mutual conflicts in a constructive way.

One of the forms of interaction of the government and the business structures is the creation of the institute of partnership relations which includes the following interconnected elements:

- the aims and tasks which are determined and solved jointly by the government and the business structures;
- the spheres and fields of their common interests of activity;
- the forms of their cooperation;
- the joint responsibility for the observation of the established rules of the games and the measures against the violation of such responsibility;
- the trust of these subjects to each other in the context of the defined goals and tasks in the partnership interaction.

Depending on the level of realization the partnership relations are divided into the following types.

1. The agreements between the government bodies and the business structures which are the synthesis of measures of moral confidence and economic stimulation from the government structures.

2. The bilateral agreements between the partners in which the government acts as an organizer and an intermediary.

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<sup>135</sup> Holodnaya N.D. State-private partnership – a new type of relations in the Russian economy // Problems of the state and municipal management. – 2009. – №2. – P.42-56.

3. The trilateral agreements in which the government is an equal participant. In case of disagreement between the sides, the participation of the highest state authorities in the negotiations is envisaged.

4. The multilateral agreements in which the government is one of the equal partners. In such case the government directs the economic interests to the solution of the specific task.

The mechanism of interaction between the government bodies and the business structures envisages the solution of the following goals and tasks:

- the balance of private and public interests on the condition of common goals of both the authorities and the business structures;

- the activity of the authorities in the provision of access to infrastructural services, the creation of favorable climate in the region;

- the activity of the business structures including innovation, production, commercial, investment activity.

In the process of formation of the interaction mechanism for the government and business structures for each particular region the following conditions must be taken into consideration:

- the natural-demographic: the area, the geographic situation, the availability of natural resources, the climate;

- the social-psychological conditions: the national mentality, the totality of social conditions in the region, the traditions, the degree and level of religiousness, fashion.

In the interaction mechanism the authorities are regarded as a totality of the legislative, executive and judicial institutes of the state power. This mechanism envisages the interest of the government in higher effectiveness of management and helps to attract the business structures for serving the demands of the society on the partnership basis.

During the formation of the mechanism of interaction between the government and the business structures it is essential to single out the functions of the entrepreneurship which should be taken into account by the authorities in the process of coordination of the economic interests.

The alternative model is based on the institutionalization of relations between the government and the business according to which the central intermediaries are public organizations – unions and association of entrepreneurs. Such model is applied in the vast majority of the developed countries.

The public organizations of the entrepreneurs make it possible to give certain constructive framework to the conflicts which can certainly occur in the relations of business persons with the authorities, or between themselves, or with consumers, employees, etc. They also help to make the process of adopting political decisions more transparent and, therefore, the economic policy of the country more predictable. This aspect is very significant for rationalization of the behavior of the economic subjects, for avoiding destabilization and political shocks at the microlevel. Under the conditions of the decreasing presence of the government in the economy such institutes of public self-organization can take some functions which previously belonged to the government.

The main advantage of the institutional model consists in the fact that it enables to overcome the trends of the capital “politicalization” and to build the relations of the government with the business on democratic

grounds. At the same time, this model possesses certain drawbacks, in particular small flexibility and a highly bureaucratic character of the mentioned unions. This drawback seriously decreases their effectiveness.

The progressive development of the state in all spheres of social relations assumes the application of not only unique, national experience but also the consideration of the global political and economic tendencies, the possibility of critical use of foreign mechanisms, tools and technologies for achieving the aims of the government policy. One of such mechanisms applied in the developed countries is the interaction between the state authorities and the business. Nowadays this interaction is regarded as the necessary condition for the advance of the efficient market economy. In the process of its institutionalization such interaction manifests itself as the partnership of the government and the private entrepreneurs.

The theoretical concept of the mechanism of the partnership between the government and the business (the government-private partnership, GPP) assumes its interpretation as the totality of forms of middle – and long-term interaction between the sides for the solution of the socially significant tasks on mutually beneficial conditions. V.Varnavsky suggests an extended definition of the government-private partnership mechanism. He considers that in the modern sense the GPP is the institutional and organizational alliance between the government and the business with the goal of implementation of national and international, large-scale and local, but always socially significant projects in the wide range of activities.<sup>136</sup>

In the economic interpretation, the GPP is compared with indirect privatization. It means the redistribution of authority between the state bodies (the government) and the business in strategic branches which cannot be privatized but for which the government does not possess the resources for their development. Such branches include housing and communal spheres, social sphere, transport, provision of amenities in cities, towns and villages, objects of cultural heritage. The important prerequisite of efficiency of the government-state partnership is the degree of participation of the business structures in the realized project and the preservation of the government's considerable degree of economic activity and some ownership rights. If the government does not retain its rights, then the realization of the GPP mechanism can lead to the partial or complete privatization of the partnership objects by the business structures.

In the Ukrainian economic literature the term “the government-private partnership” (GPP) is also accepted. The GPP is oriented at the implementation of projects in various spheres – from the development of the strategic branches of the economy to the provision of social service on the national scale or in some regions. The rapid advance of different forms of the GPP in all parts of the world, their expansion in different branches of the economy make it possible to treat this form of interaction of the government and the business as a characteristic feature of the modern mixed economy.<sup>137</sup>

As distinct from the traditional administrative relation, this partnership creates its basic models of financing, property relations and management

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<sup>136</sup> Atkov O.Yu. The variants of cooperation of the business and the government for the development and perfection of social infrastructure. – Moscow: Nauka, 2008. – 240 p.

<sup>137</sup> Varnavsky V.G. Private-government partnership//Expert channel “Open economy” // Electronic resource. – Access mode: [http://www.opec.ru/article – doc. asp?d\\_no=50578](http://www.opec.ru/article – doc. asp?d_no=50578).

techniques. In this context, an essentially important complex of issues arises connected with the redistribution of property rights. Such issues inevitably emerge in the process of transformation of the predominantly administrative relations between the state bodies and the business structures into the partnership relations which are legalized in the corresponding agreements between the sides. The more so, some generally accepted forms of partnership, for instance concessions, are often regarded as a kind of indirect privatization or its adequate alternative. That is they are regarded as the interference into the ownership relations. In the exact meaning, partnerships really transform the spheres of activity which are traditionally related to the government concern but they do not move them completely beyond the framework of the government's activity.

Correspondingly, the division of property rights between the government and the private sectors of economy in the framework of partnership is related not to the whole complex of rights (into which the sovereign right of the title owner is decomposed in the economic turnover), but some rights. It concerns such key rights as the right to control the use of assets, the right to income, the right to management, as well as the right to the change of capital value of the objects of agreements, and the right to grant some property authority to other persons.

The basis of such understanding of the GPP was the experience of the developed economies where the private companies who implemented the projects jointly with the government were given wide rights for ownership, operation, financing, construction and others.

The government-private partnership can also be regarded as adequate replacement of the privatization programs. Such partnership enables to realize the potential of private entrepreneurship, on the one hand, and to retain the controlling functions of the government in the socially significant sectors of the economy, on the other hand. At the same time the government does not lose its rights of the owner and can attract the business resources to the solution of a wide range of problems. It should be noted that the participation of the business structures in the implementation of projects demands the legalization of the partnership as a special type of interaction between the government and the business. This leads to essential institutional changes inside the system "the authorities – the business" which make it possible to expand the participation of entrepreneurs, of business people in the performance of some part of economic, organizational, managerial and other functions.

According to the approach related to the state policy and management, the government – private partnership exists on the borderline of relations of the government and the business. The partnership is neither an institute of privatization, nor the institute of nationalization. It is only the form of optimization of the government's performance of its obligations to the society, i.e. the continuous provision of the population with public wealth.

The mechanism of the GPP is aimed at the provision of implementation of the socially important projects in the shortest possible time, such projects that are not very attractive for traditional forms of the private financing. Besides, the mechanism of the partnership of the government and the business can raise the efficiency of the projects due to the participation of the private business structures. Such participation is usually more effective at the market than the government institutes. Also,

the partnership mechanism is able to ensure the reduction of load on the budget at the expense of attraction of private costs and shifting some share of costs on the customers (commercial services), to hire better managerial personnel, to use advanced technology and techniques and to raise the quality of service for end users. Finally, the aforesaid mechanism enables to concentrate the attention of the government bodies on their most characteristic functions and to reduce the national risks due to the distribution of these functions between the private structures and the authorities.

If we consider the types of interaction between the business and the government, we can approximately single out different models of organization, financing and cooperation. The formulated types of the GPP are ideal and convenient only for theoretical comprehension because in practice the partnerships use the forms combining several models.

The great experience in the realization of the projects with the use of the GPP mechanisms enables to single out the basic models of partnership with a specific correlation of the forms of organization, financing and cooperation (table 1.3).<sup>138</sup>

Table 1.3

The generalized models of the government-private partnership

<b>Model</b>	<b>Ownership</b>	<b>Management</b>	<b>Financing</b>
Operator	Private/government	Private	Private
Cooperator	Private/government	Private/government	Private/government
Concession	Government	Private/government	Private/government
Agreement	Private/government	Private	Private
Leasing	Private	Private/government	Private/government

The selection of one model is conducted depending on the spheres in which the agreement is realized. If we examine the world experience in the implementation of the partnership projects we can state that certain models have greatest effectiveness in specific branches.

*The model of operator* is widely used in the processing of waste. This model is characterized by a clear division of responsibility between the private partner and the government while retaining the controlling function of the government.

*The model of cooperation* is used where the exact services are not clearly singled out and determined, therefore it is difficult to make them separate objects of taxation and amortization deductions. In such case the partnership is realized through the joint project company of the government and the private investor.

*The model of concession* operates in the branches with a long term of project realization, and also in such cases when the transfer of the ownership rights from the government to the private partner is excluded because of political or legal reasons.

*The model of agreement* is applied in the power engineering in which the investments are primarily directed at the reduction of current costs. In

<sup>138</sup> Private-government partnership: the state and the prospects of development in Russia: analyt. report. – Moscow: Institute of economics of the Russian Academy of Sciences, 2006. -114 p.

this case the economic effect from the reduction of costs sometimes exceeds the investment expenditures.

*The model of leasing* is the most suitable for the construction of social buildings. The world experience of the leasing forms of the partnership by the local self-government with the private business.<sup>139</sup>

The models and the structure of the GPP are varied, but there exists certain characteristic features which enable to single out partnership as a separate economic category. This category emerges as the formalized cooperation of the government and private structures specially created for the achievement of certain goals and is grounded on the corresponding arrangements of the sides. Proceeding from the experience of the countries with the developed market economy, the following features of the government-private partnership could be formulated. These features distinguish the GPP from other forms of relations between the state authorities and the private business. Such features are:

- the determined, often lasting terms of the partnership agreements (from 10-15 to 20 and more years, in case of the concession – up to 50 years). The projects are normally created for a particular object (a port, roads, an object of social infrastructure) which must be completed in the established term;

- the specific forms of the project financing: by means of private investments, supplemented by the government financial resources, or the joint investment by several participants;

- the obligatory availability of the competitive environment when there is a struggle for each project or concession between several possible participants;

- the specific forms of division of responsibility between the partners: the government determines the aims of the projects from the viewpoint of public interests and establishes the parameters of value and quality, monitors the project realization, while the private partner undertakes to carry out the operative activity at different stages of the project: elaboration, financing, construction and operation, management, practical provision of services to the customers;

- the division of risks between the participants on the basis of the corresponding agreements between the sides.<sup>140</sup>

Depending on the character of the specific tasks there exist a large number of available and emerging forms of partnerships in the framework of the GPP. These forms of partnership can be subdivided into separate types (models). According to the aims of the GPP there are organization models, models of financing and cooperation. In many cases of partnerships the forms based on the advantages of various models and their combinations are used.<sup>141</sup>

In case of the organizational models a deep intervention in ownership relations does not take place, as a rule, and the cooperation of the public and private partners is performed by attracting third organizations, the transfer

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<sup>139</sup> Sharinger L. A new model of the investment partnership of the government and the private sector // The world of changes. – 2004. – №2. – P.13.

<sup>140</sup> Ibid.

<sup>141</sup> Garmatin V.A. The government-private partnership in the transformed economy // Vestnik (Messenger) of Chelyabinsk State University. – 2011. – №31. – P.62-64.

of separate functions and contract obligations as well as the use of possibility to transfer the objects into the external management. The most widespread type of the GPP today is also related to the organizational model. The models of financing can include such forms as commercial renting, tenancy, all kind of leasing, preliminary and integrated project financing. The model of cooperation represents various forms and methods of uniting the efforts of the partners who are responsible for separate stages in the general process of creating new consumer value as public wealth. Such cooperation often requires complex structures, including holding structures, for the construction and operation of objects, particularly in the sphere of production and social infrastructure.

The classifications of the GPP accepted in the world practice usually involve its following forms.<sup>142</sup>

The contracts as an administrative agreement which are concluded with the government (or the body of local self-government) and a private firm are intended for performing certain socially necessary and useful kind of activity. The most widespread types of the GPP are the contracts for conducting some jobs, rendering public services, management, supplying products for the country's needs, providing technical assistance. In the administrative contract relations the ownership rights are not transferred to the private partner, the government bears the expenses and the risks. The interest of the private partner in the share of income, profit or the collected payments for which the private partner lies is entitled according to the agreement. As a rule, the contracts with the government or communal body are rather attractive business for the private entrepreneur. The reason is that, beside the prestige, the private businessperson is ensured the stable market and income, as well as some possible benefits and preferences.

The tenancy exists in its traditional form – tenancy agreement – and in form of leasing. The peculiarity of tenancy relations between the authorities and the private business lies in the fact that the public or municipal property is transferred to the private partner for temporary use and certain payment according to some conditions. The traditional tenancy agreements assume of the object of tenancy relations, moreover that the right to manage the property is reserved to the owner and is not transferred to the private partner. In some specified cases, the tenancy relations can be completed by the redemption of the property. In case of the leasing agreement the leaseholder has the right to redeem the public or municipal property.

The concession (the concession agreement) is a specific form of relations between the government and the private partner which is becoming more widespread. Its peculiarity lies in the fact that the government (the municipal formation) in the framework of the partnership relations authorizes the private partner to perform certain functions during certain term. These functions are specified in the agreement. At the same time, the government remains the full-bodied owner of the property which is the object of the concession agreement. The government (the municipal authorities) assigns the private partner with the corresponding rights which are necessary for the provision of regular functioning of the object of

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<sup>142</sup> Derabina M. The government-private partnership: theory and practice // Problems of economics. – 2008. – №8. – P.61-77.

concession. The concessionaire gives the payment for utilization of the public or municipal property on the conditions specified in the concession agreement. At the same time the property right to the production manufactured according to the concession is transferred to the concessionaire.

It is possible to single out a number of characteristic features of the concession:

- its subject is always the public (municipal) ownership as well as the monopolistic kinds of activity of the government or the municipal formation;
- one of the subjects in the concession agreement is the government or the municipal body;
- the aim of the concession is to satisfy the public needs;
- the concession is always based on the agreement (the concession agreement);
- the concession is grounded on the subject of the agreement which is transferred to the private partner for the payment specified in the agreement.

While in the case of contracts, of the civil law and for their efficient operation the norms of the Civil Code are sufficient, in the concession framework the government is primarily the body of public power. In this function the government not only assigns a share of its rights as an owner to the partners, but also delegates some share of its administrative functions (exclusive sovereign rights) to the partners. It can be done only on the basis of the corresponding administrative act of the state authorities.<sup>143</sup>

Thus, the source of exclusive rights given according to the concession agreement is not the status of the government as the owner but its prerogatives as the body of public power. The exclusive (sovereign) character of the rights assigned by the government to the concessionaire (the private partner) consists in the fact that, in the framework of the territory or the kind of activity for which the partner obtains the exclusive right, no analogous activity of any third person(s) and even the government itself is permitted.

The public-legal features of the concession agreements include the recording of public interests.<sup>144</sup> These interests are expressed and represented by the government. According to the concession agreement, the private partner (the concessionaire) is obliged to obey demands of public interests, that is he/she must ensure the continuous provision of services, nondiscrimination of customers, the general availability of services and the equal configuration of the ownership relations between the government and the private partner. As it was already mentioned, in the concessions all produced goods belong to the concessionaire according to the property rights, while in the agreements on the production distribution the private partner can possess only a share of the production. The terms and the order of the production distribution are stated in a special agreement. In the world

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<sup>143</sup> Sharinger L. A new model of the investment partnership of the government and the private sector // The world of changes. – 2004. – №2. – P.10-15.

<sup>144</sup> Sosna S.A. Concession agreement – a new type of agreement in the Russian law // Journal of Russian Law. Electronic resource. – Access mode: [www.concession.ru](http://www.concession.ru).

experience, such agreements are especially often used in the sphere of oil extraction.

Similar to the case of concession the government assigns its exclusive rights for the use of natural resources to the private investor. The rights are assigned on the compensation basis for certain period. The access of the private partners (including the foreign ones) to the exclusive rights is carried out for attracting investments into the capital-intensive branches. There are various models of the production distribution, for instance on two parts at once or after the deduction of the expenses to the investor. The accounting of the taxation peculiarities is also significant.

Joint ventures are a widespread form of the partnership between the government and the private business. Depending on the structure and character of the joint capital, they may be joint-stock companies or joint ventures with the participation of the sides on share basis. The state (government) bodies and the private investors may act as shareholders in a company. The possibilities of the private partner in making independent administrative and economic decisions are, as a rule, determined by their share in the stock capital. The risks of the sides are also divided according to the share in the joint capital. An essential feature of joint ventures of any type is the constant participation of the government in the current industrial, administrative and economic, investment activities.<sup>145</sup>

The independence of the private partner in making decisions in joint ventures is more restricted than in concessions. It is important that the change of joint-stock capital structure in favor of one side assumes only the redistribution of shares between the investors but it does not lead to the increase of general amount of the capital (and, correspondingly, of capital assets and the number of jobs). In case of the nationalization of the joint-stock company with the government participation, the redemption of stock is realized at the current rate and does not depend on the volume of capital invested by the private partner. It should be noted that, according to the world practice, when the concessional enterprise is nationalized, the country's authorities are obliged to compensate the value of the invested capital to the concessionaire and also to pay off the compensation for the lost profit.

During the recent years the applications of various forms of the GPP are rapidly developing, the forms of partnership are also progressing. For instance, while the concession agreements were initially used in the construction of motorways, car parkings, the provision of central heating, nowadays they are widespread in such fields as national defense, education, cable television, some kinds of city public transport. In some countries the private business designs and builds hospitals, school, other public objects, and then manages these objects.<sup>146</sup>

Different mechanisms of cooperation between the government structures and the private businesses are applied during the realization of the GPP projects. They are differentiated depending on the volume of the

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<sup>145</sup> Sachek A.N. The government-private partnership in housing and communal sphere: the foreign experience for the interests of Belarus // Vestnik (Messenger) of Grodno State University. Series 5. Economics. Sociology. Biology. – 2011. – №2. – P.42-54.

<sup>146</sup> Vorotnikov A.M. The evaluation of the state of the government-private partnership in the regions (the results of monitoring). – Moscow: Publishing House of the State University – Higher School of Economics, 2009. – 28 p.

ownership rights transferred to the private partner, the investment obligations of the sides, the principles of risk distribution between the partners, the responsibility for conducting various operations.

The most widespread are the following mechanisms of partnership: BOT, BOOT, BTO, BOO, BOMT, DBOOT.

BOT (Build, Operate, Transfer). This mechanism is applied mainly in the concessions. The infrastructural object is created at the expense of the concessionaire who obtains the right of operation after the construction of the object. The right to operation is provided for a term sufficient for the recoupment of investments. After the end of the period the object is transferred to the government. The concessionaire obtains the right to use but not to own the object whose owner is the government.

BOOT (Build, Own, Operate, Transfer). In this case the private partner obtains the right not only to use, but also to own the object during the term of the agreement. After that it is transferred to the government (municipal) body.

BTO (Build, Transfer, Operate). This mechanism assumes the transfer of the object to the government just after the completion of the construction. After that it is transferred for utilization by the private partner, but without the right to ownership.

BOO (Build, Own, Operate). In this case the completed object is not transferred to the authorities after the end of the agreement period but remains in the investor's ownership.

BOMT (Build, Operate, Maintain, Transfer). The peculiarity of this type of agreements consists in the responsibility of the private partner not only for the building of the infrastructural object, but also for its design.

In case of agreements like DBFO (Design, Build, Finance, Operate) the responsibility of the private partner for the financing of construction of the infrastructural object is exactly specified.<sup>147</sup>

The public organizations of entrepreneurs provide constant monitoring of the government policy. The goal of monitoring is to reveal the points of lack of coordination of the government policy with the task of advance of the national capital and the national business. In this way the public organizations "demonopolize" the process of making political decisions. Therefore, more active efforts of the public organizations of entrepreneurs will help to increase the effectiveness of the government policy. Based on the support of these bodies, the country's authorities will be able to obtain operative information about the state of the national economy and the needs of the economic subjects. Also, the government bodies will be able to delegate to these organization certain rights to realize the measures of the country's economic policy and the authority to make the economic examination of the investment projects, the economic-legal analysis of the draft laws and resolutions of the government, the elaboration of the draft decisions of the bodies of power on the corresponding issues and so on. If the public organizations take part in the implementation of the government functions it will reduce the way of passing managerial decisions in the

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<sup>147</sup> Shapovalova I.M. The government-private partnership as a component of the financial mechanism for the government regulation of the socio-economic regional development // Innovation economics. – 2010. – №3. – P.317-320.

government hierarchy as well as decrease the corresponding expenditures of the state budget.

In our opinion, the following factors will promote the formation of the civilized mechanisms for the influence of public institutes on the government decisions and the coordination of interests. First, the skills of the public society participants who should be able to correctly evaluate the prospects of policy suggested by the government. Second, the deep consideration of positions of the direct influence groups. In order that the desired measures could be realized they must be objectively admissible, they must take into account the regularities of the current macroeconomic situation, and they must be expressed in the terms and categories that reflect the current political course of the country.

As distinct from other means of support for business and entrepreneurship development which demand direct budget investments or which lead to the loss of the potential budget revenue, the improvement of the institutional environment does not, as a rule, require such expenses. At the same time, due to the improvement of the organizational structure of interaction between enterprises and businesses, this environment enables to considerably raise the effectiveness of their activity, the resistance to various negative factors and thus to strengthen the national economy as a whole and to increase the level of its stability.

Therefore, the country's institutional strategy in this sphere faces such significant tasks.

1. It is necessary to form the efficient mechanism of public control by the associations of entrepreneurs over the elaboration, adoption and fulfillment of the decisions of the state authorities at all levels. The executive and legislative bodies should attract the associations of entrepreneurs to making decisions on the systematic basis, such decisions which are within their competence. In this case, the list of associations must be as wide as possible and the process of joint operations should take place as openly as possible. Such measures will help to raise the image of the decisions adopted and will contribute to the understanding of the complex and ambiguous character of the problems during the transformation period.

2. The organizational and information sources should be used to support an open social dialog on the current social and economic problems. This dialog conducted by public associations should concern the problems which demand urgent solution and the strategy of social development.

3. It is necessary to introduce tax benefits and other benefits for rendering business services by business associations of the entrepreneurs as well as to stimulate the range of such services and the circle of their customers.

4. In order to mobilize the organizational factor of economic development it is essential to provide the comprehensive development of self-organization of small, medium-size and big businesses which include such forms as business associations, trade chambers, societies and so on. Such associations can render a wide range of business services to their members, ensure the coordinated actions, simplify the economic relations between their members, protect their interests before third companies and the government, influence efficiently the regulatory policy of the country. In many countries of the world such services are actually rendered.

5. In order to stimulate the progress of business associations it is

desirable to provide certain part of the government support, in particular to small business, innovation business, through the sectoral and regional associations. The latter can act as guarantors for the reception of loans and give recommendations to businesses, as subjects of certification or licensing. The role of such associations greatly rises in case of rendering support under the strictly controlled business plan and different obligations. The authority and skills of the association are additional instruments for obtaining the necessary aid.

The use of the experience of uniting small and medium-sized enterprises into the business networks, in particular the creation of regional clusters appears to be rather positive. Such clusters are concentrated in the geographic region of the interconnected business enterprises and institutions in the limits of a separate branch of industry. The advantages of the cluster model of interactions are the possibility of joint use of cooperative capital and the acceleration of innovations and the joint utilization of resources (correspondingly, their bigger utilization and smaller costs). Other advantages include more efficient specialization of enterprises; the coordinated market division and the avoidance of nonproductive competition; the obtained effect of a large scale and the overcoming of drawbacks proceeding from small sizes of enterprises. We can also add such benefits as the reduction and division of risks; the increased stability of separate businesses and the network as a whole; the establishment of long-term links according to a reproducible chain, including the links between the producer and the consumer.<sup>148</sup>

The institutionalization of mutual relations in the cluster framework can be achieved by means of conclusion of long-term subcontract agreements, other cooperation agreements, and also entrance to the organization which plays a coordination and regulatory role. Such role in the formation of clusters can also be played by nongovernmental organizations. One of the examples of such model in Ukraine is the nongovernmental organization – the cluster basis “Podillya Pershyi” (“Podillya the First”). The coordinating organizations can be a regional or a sectoral association, a regional development agency, a government body or a specialized consulting company – “a network broker”.

Thus, the government regulation of different forms concerning the institutional coordination of corporative interests and the relations between the authorities and the business is an important component of the general strategy. Such strategy is aimed at the fullest consideration of interests of the leading political– economic groups in the choice of strategic priorities in the country’s economic policy. The transition from the oligarchic to the institutional model of influence of corporative interests on the choice of strategic priorities is an obligatory condition in the transition to the economic growth policy.

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<sup>148</sup> Neikova I.S. The government-state partnership as a component of investment mechanism of innovative development // Scientific Messenger (Visnyk) of the National University of the State Taxation Service of Ukraine (Economics, law). – 2010. – №1. – P.152-160.

## **CHAPTER 2**

### **THE NATURE AND PLACE OF CLUSTERS IN INSTITUTIONAL ECONOMY**

#### **2.1. The evolution of the concept of "cluster" as an institutional category**

The intensification of the influence of global integration processes on the development of the national economy causes the necessity of the revision of the place and role of individual subjects of micro-, meso- and macro-economic networks in the formation of national competitive environment and the creation of the national innovation system. In the conditions of reducing of the impact of resource factors when determining the competitive strategy of the company and the increase of the importance of the innovation component of the economic development there is a need to find new forms of organization of the territorial economy. Of course, the research of specialization of some regions as open socio-economic systems is connected with the study of the nature of relations between its individual subjects in order to develop a joint strategy of protection of the regional market and to increase the competitiveness of its participants. Under these conditions, cooperation of the enterprises with the local authorities and the institutions of the region is becoming the additional source of increase of their innovation ability and competitive strength.

The change of priorities in the study of the factors of economic growth of the region – from the study of the area resource base to the analysis of productivity of the participants relations of business networks – causes the necessity to ground the criteria for their evaluation and to ensure comparability. The departure from the traditional system of indicators requires the use of new instruments of economic policy. In particular, in recent years in the study of the components of economic growth in some regions of Ukraine and the economy of Ukraine as a whole there is an increased interest to the use of the theory of institutionalism among the domestic researchers. In our opinion, this is due to two main factors.

Firstly, the increasing role of infrastructure in the formation of competitive advantages of the territory. The increasing role of individual institutions in the development of the region as an open socio-economic system, the formation of the components of the territorial economic growth on their basis, the creation of new institutional elements, depending on the needs and strategies for regional economic development leads to the conscious formation of competitive advantages of the area. Establishing relationships between the subjects of the regional business network contributes to a fuller use of the advantages of specialization of the economic system.

Secondly, in conditions of innovative development of the region the role of the territorial organizational resource is increasing. Without underestimation of the importance of resource supply factors for economic growth, the use of new methods of running business, forms of intranetwork interaction of different levels of management enables to obtain complementary synergetic effect from activities of the economic subject.

The comprehensive interaction of two factors leads to the

deformation of the role of institutions in Ukraine's economy, the emergence of new infrastructure elements of the economy, causing a change in their impact on the nature of economic reforms and the competitive behavior of the participants of market interactions. The investigation of the role of institutions in different trends and theories of institutionalism provides an opportunity to clearly trace the relationship between economic development strategies and the behavior of some individuals in the market. For example, A.A. Hrytsenko and V.M. Sobolev consider the institutes in the context of the research of market infrastructure and divide them into two groups: institutes-establishments (organizations) and institutes as the behavior that meets the standards and rules.<sup>149</sup> According to V.D. Bazylevych, the institutions set the totality of the dominant framework restrictions that determine the type of economic system.<sup>150</sup>

We agree with O.M. Yastremska, that the process of institutionalization of social and economic relations in the general sense and in the context of investment is gaining spread and sustainability. At the macro-and mesolevels it has a distinct generalized organizational character and is used to form the legal framework, the emergence and functioning of regulatory organizational structures, the transformation of forms of ownership and management practices which is an external regulator of economic activity of enterprises. At the microlevel institutionalization is manifested through interpersonal role relationships, the change of the character of relationships between business entities that are on the same level of the hierarchy, i.e. economic consciousness, which is the internal regulator of economic activity of the processes of market reforms.<sup>151</sup>

The characteristic features of the institutionalization of social and economic relations are distinguished also in the works of M.A. Yohna. The author believes the information nature to be uniting for all allegedly disparate things, phenomena and processes, which are called institutions. Thus the researcher defines the institution phase stages as following:

- norms and rules (formal and informal, simple and complex) – as information in its pure form;
- mental models and stereotypes, habits of thinking – as information learnt by people and which took the form of knowledge;
- collective actions, relationships and material systems (organization, market, industry, financial and credit system, etc.) as objectivized information.<sup>152</sup>

A number of scholars, including V. Kasper and Y.V. Haidai, note that the determination of common features of identification of the object belonging to the institution significantly reduces the nature of the institutional approach and therefore they offer to use a number of

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<sup>149</sup> Hrytsenko A. Market institutes and infrastructure // *Economic theory*. – 2008. – №3. P.57.

<sup>150</sup> Bazylevych V.D. *History of economic theories: textbook*. – Kyiv: Znannya, 2008. – P.1264.

<sup>151</sup> Yastremska O.M. Institutional models of interaction of economic agents in the investment process // *Scientific papers of Donetsk National Technical University. Series: Economics*. – 2006. – №103-1. – P.144-150.

<sup>152</sup> Yohna M.A. On certain approaches to the definition of institutions // *Institutional models of interaction of economic agents in the investment process // Scientific papers of Donetsk National Technical University. Series: Economics*. – 2006. – №103-1. – P.144-150. *Scientific papers of Donetsk National Technical University. Series: economic*. – Issue 31-1(117). – 2007. – P.128.

classification features to identify institutions and determine their role in the formation of a competitive and innovative business environment. So, V. Kasper singles out such classification features for identifying institutions:

- institutions that are formed voluntarily or under compulsion;
- those that have been created by evolution (spontaneously) or artificially, on a contractual basis;
- sanctions that are applied spontaneously, taking into account the social norms of behavior (the so-called feedback of the society), or intentionally, guided by the officially approved procedures within certain groups, such as professional code of conduct.<sup>153</sup>

Y. Haidai distinguishes four main approaches to understanding why and on the basis of what criteria the institutes of some countries are functioning more effectively than the institutes of others: 1) in terms of the effectiveness of institutes, 2) from the standpoint of ideology, 3) an approach to institutes as a result of certain unforeseen events, and 4) in terms of social conflict.<sup>154</sup>

The first approach is based on the assumption that the countries choose economic institutes according to the basic needs of society. The validity of this view is based on the theorem of R. Coase, who asserted that in the case of one particular group of subjects winning and the simultaneous increase of expenses in other group these groups may resort to negotiations in order to reduce transaction costs by changing institutes. As a result, additional resources are released that can be shared among stakeholders.

The second approach to the efficiency of economic institutes implies their choice by the countries relying on the desire and rational views of their heads as to what is good for society. According to this approach, there are a number of uncertainties concerning the correct and efficient institutes as the fulfillment of taken obligations and understanding of the benefit for the people, which the political leaders of different countries understand in different ways.

The third approach, according to Y.V. Haidai, defines the institutional effectiveness as an unforeseen result of certain events. To determine the effectiveness of economic institutes that are required for the optimal development of the society, the social costs and benefits from the use of the economic institutes are compared. The institutes are the result of citizens' choice. Another approach that is practiced within this concept is to reduce the role of choice, and instead, focusing on the formation of economic and political institutes, as the result of certain social relations and historical events.

The fourth approach is considered in terms of the social conflict. Thus, under this approach, the choice of economic and political institutes is carried out not by the society as a whole but by some of its politically influential groups whose interests often do not coincide with the majority of the population. These groups are choosing such institutes which maximize their own rents, and as a consequence the total surplus, income, and other benefits of the majority of citizens do not increase.

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<sup>153</sup> Kasper W. Economic Freedom&Development. An Essay about Property Rights, Competition, and Prosperity / W.Kasper. – New Delhi, Centre for Civil Society, 2002. – P.37.

<sup>154</sup> Gayday Yu. V. The formation of classification features and approaches to the definition of the category “institute” // Foreign trade: economics and law. – 2007. – №3 (32). – P.24-36.

The studies carried out suggest that whatever approach is used by the domestic and foreign scholars to explore the potential of institutionalization of economic relations, they are united in the assertion of the existence of a close relationship between the level of economic development and the nature of institutional changes in a certain territory. The determining factor, in our opinion, to be taken into account is the degree of integrative interaction between the participants of social and economic relations.

Surely, the association of enterprises based on the cluster technologies, which have been widely used in both developed countries and developing countries is a manifestation of institutional relations. The procedure for assigning a cluster to institutions of socio-economic direction is due, in our opinion, to the dual nature of the formation of voluntary territorial and sectoral associations. The dual nature of the cluster formation is manifested in the fact that, on the one hand, the emergence of a cluster in certain territory should be preceded by a number of socio-economic prerequisites that contribute to integration of enterprises into the business network and to establishing relationships with the governmental institutions in the region. On the other hand – the emergence of the clusters in certain territory leads to a change of the economic behavior of market participants, determines the need for the creation of new infrastructure elements, helps to identify "the points of the economic growth of the territory" and, ultimately, to bring the regional economy to a qualitatively new level.

The study of clusters as an institutional category allows a new way of reconsidering the role of each participant of territorial and sectoral association in the formation of aggregate potential of the regional economy as an open socio-economic system. The role of the authorities as one of the participants of the cluster is regarded not only as a regulator of the behavior of economic subjects in certain territory, but also as an active participant of market relations; the formation of various forms of public-private partnership and cooperation allows to determine the most appropriate instruments of indirect support for the regional economy. The study of the business sector under the condition of participation in the cluster and other forms of business networks is not limited only by the search for the reserves of increasing the level of its profitability; it is important to study the sources of manifestation of integration and synergetic relationships while maintaining and increasing the competitive advantages of each participant. The institutions in the region are no longer considered only as an element of the market infrastructure and become an important part of the innovation potential of social and economic system.

It should be noted that the study of clusters from the standpoint of their institutional nature is not new in the domestic scientific literature. According to Y.O. Ulianchenko, the cluster concept as an institute of post-industrial information economy has to become an instrument of the management of innovative economy on the basis of localization and integration necessary for the effective use of the advantages of globalization and informatization. The institutional understanding of integration is especially important for the cluster concept. Intersectoral and interregional integration rather than only sectoral, technological and co-operative division of labor determine the competitiveness of the economic system in the modern conditions. The author also points out that the concept of the cluster as a social and economic institute should be based on coordination of

interests and cooperation of different agents and not only on their competition. The cluster as a social and economic institute compensates the growing level of uncertainty of social processes under conditions of globalization, creates the specific information space that forms economic subjects with new motivations, develops the multidimensionality of economic space. Therefore, the purpose of its creation should be not to maximize the profit of its participants, but to create the conditions and preconditions, organizational and social opportunities for sustainable regional development, the coordination of the interests of the participants of the cluster.<sup>155</sup>

Like any other institutional category, the cluster has several features typical only to it, that at the same time allow to identify it as an institutional concept. The determination of these features requires consideration of the following important points.

– The cluster is manifested through the interaction of human capital. It is human resource that is the basis which provides the search of common interests and the development of various forms of cooperation among the governmental institutions of the region, enterprises and other institutions. The interest in the implementation of constructive dialogue and the need to create additional competitive advantages encourage the participants of regional economic cooperation to the formation of clusters.

– The cluster implements its potential through the use of the advantages of organizational resources. The establishment of horizontal and vertical schemes of cooperation among the small and medium businesses and market infrastructure elements in a certain territory enables, on the one hand, to build the effective channels of creation of the added value, on the other hand – to retain the motivational mechanisms among the participants of intersubject interaction and increase their competitive advantages.

– The cluster is a part of the regional innovation system; correspondingly, the strategy of territorial and sectoral association should be mutually agreed with innovative priorities of social and economic system.

Different combinations of examined provisions and consideration of their institutional nature have enabled the domestic scholars to substantiate the emergence of new institutes in the economy of the region, which have different forms of intersubject interaction. For example, O.A. Chorna considers the institutional mechanism as the priority way of management of the development of human resources in modern conditions which operates through the creation and regulation of the internal institutional environment of the enterprise, and at the same time takes into account the influence of the external institutional environment.<sup>156</sup> L.I. Fedulova, I.G. Yanenkova investigate the organizational resource of the public-private partnership,<sup>157</sup> M.V. Odrekivsky considers the methodological aspects of the

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<sup>155</sup> Ulianchenko Y.O. The institutional factors of innovative development of regions on the basis of the cluster approach // Electronic resource. – Access mode: [www.nbu.gov.ua/portal/soc-gum/Puburp/2010/2010-2/.../06.pdf](http://www.nbu.gov.ua/portal/soc-gum/Puburp/2010/2010-2/.../06.pdf).

<sup>156</sup> Chorna O.A. The institutional mechanism of development of human capital of enterprises // Scientific messenger (visnyk) of 2010. – №1(6E). – P.428-434.

<sup>157</sup> Fedulova L.I., Yanenkova I.G. The organizational resource of the government-private partnership in the conditions of overcoming the consequences of the crisis // Scientific papers. 2009. Volume 109. Issue 96. – P.57-60.

organizational design of innovative enterprises.<sup>158</sup>

In our opinion, the defined provisions are also closely connected with the concept of "5I" – the necessary conditions for the emergence of the cluster that at the same time are the signs of territorial and sectoral association from the standpoint of its institutional nature:

– "initiative", "interest" and "information" are the forms of manifestation of the interaction of human capital;

– "integration" is provided through the use of the benefits of the organizational resource of the cluster;

– the nature of "innovation" should meet the strategy of innovative development of the region.<sup>159</sup>

The increased interest in the institutional nature of the cluster can be seen in the works of I.A. Chykarenko and T.M. Kachala. In particular, I.A. Chykarenko when studying the principles of the formation of the national innovation system notes that the clusters are an effective institutional mechanism for implementing the strategic priorities of innovation activity of Ukraine. The author sees the primary goal of the creation of a cluster as an infrastructural element of the national innovation system in the implementation of the selective innovative and investment strategy that should be implemented in the large long-run national (regional, municipal) investment programs and projects that cover all stages of a certain technological cycle (project).<sup>160</sup> In the opinion of T.M. Kachala, the institutional cluster can be a new, effective form of successful management of the institutions, which is the association of similar interconnected complementary institutions on certain territory. Such associations are intended to ensure the improvement of economic competitiveness on certain territory, and the country as a whole on the basis of innovation development. The creation of the institutional clusters, according to the author, is intended to ensure the consistency, complexity and systemic character of the strategy of institutional and economic reforms, which, along with the economic changes, will ensure the social, political, legal and other transformations based on the changes in individual and social consciousness, psychology, ethics, and morality.<sup>161</sup>

An important part of the study of the institutional nature of the clusters is the need to assess the prerequisites of the emergence and spread in the economic system. The variety of approaches to the determination of the structure of participants of territorial and sectoral association is one of the main reasons of existing differences in determining the prerequisites of the emergence of clusters in the economy and the need to use the instruments of institutional economics for their designation. In addition, the variability of the range of cluster instruments and technologies makes it impossible to use one of the approaches as the main one. In our opinion,

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<sup>158</sup> Odrekhivsky M.V. The methodological aspects of organizational designing of innovative enterprises // *Regional economy*. – 2000. – №3. – P.88-93.

<sup>159</sup> Voynarenko M.P. Clusters as poles of the regional competitiveness growth // *Economist*. – 2008. – №10. – P.27-30.

<sup>160</sup> Chykarenko I.A. Theoretical legal foundations of the formation of the national innovation system in Ukraine // *Public administration: theory and practice*. – 2010. – №2 (4). – 19 p.

<sup>161</sup> Kachala T.M. Contemporary problems of institutional development of Ukraine // *Visnyk (Messenger) of economic science of Ukraine*. – 2009. – №2. – P.48-49.

more reasonable is the study of the existing experience on the prerequisites of the clusters formation in the economic system.

The analysis of the prerequisites of the emergence of the clusters in the economy shows that in foreign and domestic practice there are two main approaches to the formation of territorial and sectoral associations. The supporters of the first approach identify a number of factors that determine the cluster-forming potential of the territory as a whole, regardless of the type of association and without regard for the specific conditions of its operation. For example, the “Methodological fundamentals of the cluster economic development of the Kirgiz Republic” offer all prerequisites of the formation of clusters to divide into three groups: economic, resource and organizational.<sup>162</sup> In the study of the experience of the creation and development of clusters in France P. Geffroy and V. Nikitayev consider that the conditions of their successful operation include: the availability of the appropriate infrastructure; the presence of the established organizational and communication structure that performs selfgovernment functions and provides the formation of innovation society as a subject of the development of the territory, acts in partnership with business, central and local authorities; the cluster effect within industrial and regional policies; the use of new management techniques.<sup>163</sup>

According to O.S. Kiro, the prerequisites of the emergence of clusters on certain territory can be, primarily, the historical circumstances, such as the presence of unique raw materials, specialized knowledge in the research institutions, the specific needs of certain (geographically limited) group of clients or firms and the location of firms producing new technologies. Also, the author notes that, in addition to economic factors, the study of the clustering process should take into account social and cultural factors.<sup>164</sup>

We think the approach of M.A. Yagolnitsner and L.S. Markov to be of great importance for the purpose of the research, who, in studying the prerequisites of the clusters creation in the regions of the Siberian Federal District, came to the conclusion that the implementation of the cluster policy measures should be carried out both on the macroeconomic (national, federal) and meso-and microeconomic (sub-national, regional, interregional, municipal) levels. To the objectives of cluster policy on the macrolevel, the researchers attributed the creation of the most common structural legal, socio-cultural, infrastructural and other conditions.

The objectives of the cluster policy at the regional level are more exact, and in addition to some measures of direct regulation and management of the processes of clustering, they include a set of mechanisms of indirect stimulation of the development. M.A. Yagolnitsner and L.S. Markov see the results of the interaction of two levels in a variety of strategies and techniques of the cluster policy in different countries and

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<sup>162</sup> Methodological foundations of cluster development of the economy in the Kirgiz Republic//Electronic resource. – Access mode: [http://www.agroprod.kg/themes/%5Csp3%5Cimages%5CMapKR\\_Oblasti%5Cosnovi.doc](http://www.agroprod.kg/themes/%5Csp3%5Cimages%5CMapKR_Oblasti%5Cosnovi.doc). – P.25.

<sup>163</sup> Geffroy Philippe. The experience of creating and development of technical textile cluster in France//Electronic resource. – Access mode: <http://www.rustm.net/catalog/article/1564.html>.

<sup>164</sup> Kiro O.S. The functioning of regional clusters in modern conditions of “new economy” // Theoretical and practical aspects of economics and intellectual property. – 2011. – P.230.

regions.<sup>165</sup>

Finally, Y.O. Ulianchenko in the study of the institutional factors of innovation development of the region based on the use of the cluster approach notes that an important condition for the formation of clusters is the entrepreneurial initiative and the possibility or need in joint use by many economic subjects of one or more connecting factors, such as basic technology, the channels of marketing product promotion, the system of personnel training, the system of know-how generation, etc.<sup>166</sup>

In general, the conducted analysis of the approaches to the formation of clusters in the economic system allows us to make two important conclusions that will determine the direction of further research:

- in the study of the preconditions of the emergence of territorial and sectoral associations it is necessary to take into account the factors of both macro– and microeconomic promotion for the formation of new forms of business associations;

- the cluster policy is an integral part of the regional economic policy, and through the use of the instruments of industrial, innovation and investment policies it enables to form a new set of competitive advantages of the territory.

Proceeding from the specified, we offer to conduct the study of the prerequisites of the emergence of clusters in the first direction to carry out in the context of four groups of factors: macroeconomic, mesoeconomic, those that determine the nature of intersubject interaction; that form the behavior of each participant of the association.

It should be noted that the first two groups of factors determine the external environment of the formation of the cluster, while the third and fourth – directly affect the order of relations inside the association. Macroeconomic preconditions of the formation of clusters in the economic system are connected with the behavior of the state concerning the stimulation of the development of clusters, and include the instruments of legal and regulatory, information and advisory, and infrastructure support in its structure. As the cluster policy integrates a set of techniques and technologies of the industrial, innovation and investment development, macro-economic prerequisites of the formation of territorial and sectoral associations can be incorporated as the constituents to each of the policies of the state development. Undoubtedly, one of the most important prerequisites of the formation of clusters at the international and national level is the system of legislative support of the stimulation of the development of clusters. Demonstrative in this respect is the experience of the European countries. In particular, the importance of the development of clusters for the European economy is demonstrated by the fact that in July 2006 the Cluster Manifesto was approved, and in January 21, 2008 in Stockholm within European Presidential Conference on Innovation and Clusters "The European Cluster Memorandum " was adopted. As a result, today almost all EU countries are engaged in the implementation of national or regional programs of clustering according to the decision of the Lisbon Summit of

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<sup>165</sup> Yagolnitsers M.A. The preconditions of cluster formation in the regions of the Siberian federal district // Regional economy: theory and practice. – 2007. – №18. – P.32-39.

<sup>166</sup> Ulianchenko Y.O. The institutional factors of innovative development of regions on the basis of the cluster approach // Electronic resource. – Access mode: [www.nbu.gov.ua/portal/soc-gum/Puburp/2010/2010-2/.../06.pdf](http://www.nbu.gov.ua/portal/soc-gum/Puburp/2010/2010-2/.../06.pdf)

the EU, which took place in 2000 and aim of which was implementation of the economy of knowledge in EU member countries, that is capable on the basis of innovation clusters to provide a high level of competitiveness of national economies.<sup>167</sup>

The study of macroeconomic prerequisites of clusters in the CIS countries shows that at the national level in most states the regulations are adopted that serve as a basis of innovative reforms and stimulate the manifestation of cluster initiatives. For example, the achievement of the maximum growth of added value in industry based on its technological innovation and the creation of cluster structures was determined as one of the main tasks of the State Program of Innovative Development of Belarus for 2011-2015. In addition, it was determined by the regulatory document that when forming the institutional environment favorable for innovation and technological development in the country, the change of the model of the state management of industry and the transition to the formation of state structural and industrial policy on the basis of cluster approach are provided.<sup>168</sup> In general, this state innovation development program declared the formation of a new cluster in the field of nano and biotechnology and pharmaceutical industry by creating scientific and technological park. This park has the status and legal regime similar to high technologies park, and further development of six innovation and industrial clusters on the basis of the state-owned enterprises: the chemical cluster (Grodno), the petrochemical (Novopolytsk), the agricultural and engineering (Gomel), the car and tractor building (Minsk), the chemical and textile (Mogilyov) and IT cluster (Minsk).

In the "Methodological fundamentals of cluster economic development of the Kirgiz Republic" a new economic regionalization was defined as the main methodological approach of the state regional policy and the prerequisite of the creation and implementation of the cluster development, that is, setting tasks of regional development at all levels of both the administrative-territorial division and economic regionalization.<sup>169</sup>

Initiated by the government in the Republic of Kazakhstan the project "Economic diversification of Kazakhstan through the development of clusters in non-mining branches of the economy" started in 2004. During the first phase of the project 55 thousand companies in 46 industries in 12 regions were examined. Today, in the country there are seven most prepared industries for clustering, including tourism, transport and logistics services, petroleum engineering, building materials, food and textile industry, metallurgy.<sup>170</sup> In order to improve the competitiveness of the Republic of Kazakhstan the work on the project – Kazakhstan cluster initiative

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<sup>167</sup> Clusters and the innovative development of Ukraine // The official site of the Ukrainian fund of support to entrepreneurship. – Electronic resource. – Access mode: [ufpp.gov.ua/ckfinder/userfiles/lib\\_bissnes/klasterS.pdf](http://ufpp.gov.ua/ckfinder/userfiles/lib_bissnes/klasterS.pdf) – P.4.

<sup>168</sup> The state program of the innovative development of the Republic of Belarus for 2011-2015 // The official site of the Council of Ministers of the Republic of Belarus. – Electronic resource. – Access mode: <http://www.government.by/upload/docs/file5a5cae06fafa4b28.PDF>.

<sup>169</sup> Methodological foundations of cluster development of the Kirgiz Republic // Electronic resource. – Access mode: [http://www.agroprod.kg/themes%5Csp-3%5Cimages%5CMapKR\\_Oblasti%5Cosnovi.doc](http://www.agroprod.kg/themes%5Csp-3%5Cimages%5CMapKR_Oblasti%5Cosnovi.doc).

<sup>170</sup> The diversification of Kazakhstan economy by means of development of cluster in the non-mining branches of the economy // Electronic resource. – Access mode: <http://rudocs.exdat.com/docs/index-388475.html>.

(hereinafter – Project KCI) is carried out. It is emphasized during the implementation of the KCI project that in the country there are many clusters that can achieve prosperity. The selection of the 23 clusters for analytical studies and seven – for the development and implementation of KCI is based on the use of the criterion of the probability that the selected territorial and sectoral associations have good potential for success and benefit. However, the initiators of the KCI project emphasize that the clusters selected for the study are not the favorites, so there is no guarantee of their successful operation in the future. This means that the clusters selected for the study and development should be considered as pilot projects for improving the competitiveness of the territory. It should be also noted that for 7 pilot clusters selected in the KCI project the plans of development were developed and adopted, approved by the Government of the Republic of Kazakhstan № 633 of 26.06.2005.<sup>171</sup>

The Methodical recommendations for the implementation of cluster policy in the subjects of the Russian Federation to the main directions of the promotion of clusters that are implemented by state and local governments refer:

1. The assistance to the institutional development of clusters, which includes, in particular, the initiation and support of the creation of a specialized organization of the development of the clusters, establishing the effective information interaction between the participants of the cluster and stimulating the cooperation strengthening between them.

2. The development of support mechanisms of the projects aimed at improving the competitiveness of the enterprises and promoting the efficiency of their interaction. In particular, it is assumed that granting support to relevant projects should be provided regardless of affiliation of enterprises participating in their implementation to a particular cluster. The main tasks of the cluster projects are:

– improving the quality of management at the enterprises of the cluster, strengthening the competitiveness and quality in supplying enterprises and the development of mechanisms of subcontracting;

– encouraging the innovations and the development of mechanisms of the technologies commercialization, the support of cooperation between the research groups and companies;

– promoting the marketing of products (goods and services), which are produced by the enterprises participating in the cluster and the involvement of direct investment.

3. Ensuring the development of favorable conditions for the development of the clusters, including:

– improving the efficiency of the system of vocational education, promotion of cooperation between the enterprises and educational institutions;

– providing targeted investments in the development of engineering and transport infrastructure, housing construction sector that is implemented taking into account the objectives of the cluster development;

– granting tax exemptions in accordance with current legislation;

– reducing the administrative barriers.

The recommendations state that each of the directions of the promotion of clusters, considering the peculiarities of delimitation of

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<sup>171</sup> The guidebook for the cluster development in Kazakhstan // Electronic resource. – Access mode: <http://www.docme.ru/doc/2673/cluster-kazahstan>. – P.27.

powers, is implemented at both federal and regional levels.<sup>172</sup>

Overall, the analysis of macroeconomic prerequisites of the emergence of the clusters in the economy showed that the creation of favorable conditions for the formation of territorial and sectoral associations provides a solution by the state, primarily of, the tasks of institutional support and normative and legal regulation of the clusters.

Depending on the chosen techniques and technologies of the emergence of the clusters at the macroeconomic level the instruments of regional support of the creation of territorial and sectoral associations are formed. According to G.A. Yasheva, the regional level is optimal to regulate cluster initiatives by the authorities that is caused by the following objective reasons:

- firstly, in terms of synergy, the government, being the result of self-organization of the society, should create the conditions for continuous self-organization at the regional and microlevels of management;

- secondly, along with the intensification of the globalization process, the current economic development is characterized by the increasing level of regionalization, in which the proximity of the creators of "intellectual capital", "technological resources" and business plays a crucial importance for success in the innovation area;

- thirdly, in developed countries the tendency to deepening of the industrial and trade specialization is becoming more common, resulting in an effort to concentrate certain types of production in the regions that have comparative advantages;

- fourthly, the local authorities are quite competent and experienced in partnership relations with the private sector, they can significantly influence the relevant programs and costs, having the local budget funds at their disposal;

- fifth, the local authorities are more mobile and closer to economic subjects compared to the state authorities.<sup>173</sup>

Without a doubt, the meso-economic prerequisites for the emergence of clusters in the economy depend on the macroeconomic factors. In addition, we take into account the specific conditions of the territory viability. We agree with the opinion of L.I. Fedulova who, when evaluating technological clusters, identifies the following advantages of the cluster approach at the regional level:

- firstly, the regional technological clusters are based on a stable system of dissemination of new technologies, knowledge, production, the so-called technological network that relies on common scientific base;

- secondly, the enterprises of the cluster have additional competitive advantages due to the possibility to realize the internal specialization and standardization, to minimize expenses for the implementation of innovations;

- thirdly, the peculiarity of this type of clusters is the presence of flexible business structures in the composition – small businesses, which

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<sup>172</sup> Methodological recommendations on implementation of the cluster policy in the subjects of the Russian Federation // Electronic resource. Access mode: [http://www.ir-pep.ru/analytics/innov/detail/?item\\_id=218](http://www.ir-pep.ru/analytics/innov/detail/?item_id=218). – P.4-5.

<sup>173</sup> Yasheva G.A. The formation of the cluster strategy of regional development//Russia: trends and prospects of development: annual book. – Moskow: INION of the RAS, 2011. – Issue 6, part 2. – P.595-600.

enable to form innovation points of economic growth in the region;

– fourthly, the regional technological clusters are extremely important for the development of small businesses: they provide small firms with a high level of specialization in servicing a particular business niche as this facilitates the access to capital of the industrial enterprises, and there is an active exchange of ideas and the transfer of knowledge from scientists to entrepreneurs.<sup>174</sup>

The regional cluster programs are the tool of implementation of public-private partnerships. They are based on the integration of the resources of the government and business, coordination of the commitments within the framework of joint projects and delimitation of the correspondence of the parties, interconnection of the goals, joint governance. The distinguishing feature of the public-private partnership is a broad involvement of programming of the regional social and economic development in the process of the representatives of public organizations, businesses, scientists and experts at all stages of planning, which increases its objectivity, cost-effectiveness and achievement of final results.

The development of programs of the creation and implementation of clusters should ensure the choice of the most effective ways of the achievement of high final results, greater focus on solving social problems, the rational combination of sectoral and territorial development, improving inter- and intrasectoral proportions, ensuring a balanced growth of the regional economy, improvement of the quality of operation of the enterprises and associations. The programs of the cluster approach of the development of the regional economy and the country as a whole should have a clearly defined targeted character, strictly focus on solution of the raised problem, should be characterized by the defined final results. For example, the criteria of selection of the problems to be included in the target program of creation and implementation of clusters according to the Methodological fundamentals of cluster economic development of the Kirgiz Republic are:

– the special need in their solution for the qualitative growth of the economy of the area, region of the country in defined terms, intersectoral and multitype nature of the problems;

– the principal novelty of technical, organizational and other decisions necessary for the implementation of the problem;

– the readiness of the economic area, region to solve this problem, i.e. the presence of scientific, technical and industrial, resource potentials and other criteria.<sup>175</sup>

The investigation of the impact of macro-economic preconditions of formation of clusters on the factors promoting their development at the mesolevel allowed G.A. Yasheva to determine the main instruments of regional cluster policy:

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<sup>174</sup> Fedulova L.I. The cluster policy in the system of provision of the regional technological development // Economic sciences. Series: Regional economy. – 2010. – Issue 7, P.5. – Electronic resource. – Access mode: [http://www.nbu.gov.ua/portal/soc\\_gum/en\\_re/2010\\_7\\_5/20.pdf](http://www.nbu.gov.ua/portal/soc_gum/en_re/2010_7_5/20.pdf).

<sup>175</sup> Methodological foundations of cluster development of the Kirgiz Republic// Electronic resource. – Access mode: [http://www.agroprod.kg/themes%5Csp-3%5Ciimages%5CMapKR\\_Oblasti%5Cosnovi.doc](http://www.agroprod.kg/themes%5Csp-3%5Ciimages%5CMapKR_Oblasti%5Cosnovi.doc).

– economic stimulation of clusters (the government policy should be focused on indirect methods of support of the forms of network cooperation, rather than direct subsidizing certain industries or particular enterprises);

– organizational stimulation of clusters (the government should not intervene directly in the processes of clusterization, and create organizational conditions for the development of network cooperation and public-private partnerships);

– support of promising clusters (appropriate use of economic incentives – benefits, loans, grants, etc. to support promising clusters).<sup>176</sup>

The third group of factors that determine the general preconditions of the emergence of clusters in the economy is connected with the study of the forms of manifestation of intersubject interaction of its participants. According to A. A. Leontyev, the management of cluster interactions is based on systemic approach of organization of -cluster interactions becomes important when a cluster project interconnections between the participants of the innovation process. The basis of constructing models of management by intra- and inter-cluster interactions is the thesis that the participants in clusters will interact with the most competent partners in the presence of a high level of motivation.<sup>177</sup>

The management of interprovides a symbiosis of technological solutions in different areas of specialization of the participants to achieve the overall goal of the association. The management of inter-cluster interactions includes: establishing intangible relationships between clusters; planning the level and frequency of interactions between the participants of different clusters; identifying the key performance indicators of the association; organizing cluster innovation and brokerage activities that contribute to the conclusion of memoranda on cooperation (interaction) between the leaders of the association; support and controlling of interactions; motivation of interactions.

The management of intra-cluster interactions has its own specifics in contrast to managing inter-cluster interactions. The coordination inside the cluster, according to V.V. Semenchuk should, on the one hand, be provided by the cluster development strategy as an integral part of strategies of regional development, on the other hand, it should consider the basic management tasks that require coordination within the association, to determine the criteria and methods for measuring the performance of the cluster and its individual participants.<sup>178</sup>

A.E. Zhabenko considers that intersubject interaction in the industrial cluster is a system of relationships between the participants of the industrial cluster that is realized through the various forms within a stable organizational structure, taking into account the importance of the subject in the economic process.<sup>179</sup> As the interactions are performed within a single cluster, the nature

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<sup>176</sup> Yasheva G.A. The formation of the cluster strategy of regional development // Russia: trends and prospects of development: annual book. – Moscow: INION of the RAS, 2011. – Issue 6, part 2. – P.595-600.

<sup>177</sup> Leontyev A.A. The development of innovative entrepreneurship on the basis of the cluster approach // Creative economy. – 2008. – №8. – P.45-47.

<sup>178</sup> Semenchuk V.V. The formation of regional clusters of innovative development // Management and economics in modern system: Proceedings of the All-Russian scientific conference 21 March 2008. – Volgograd: LTD “zGlobus”, 2008. – P.1. – P.105-109.

<sup>179</sup> Zhabenko A.E. The classification of types of intersubject interaction on the cluster formations // Current economic-legal problems of the modern Russian economy. Issue4. – Moscow: INION RAS, 2009.

of specialization will be the same for all participants. However, each participant has special features that fulfill tasks in the cluster project.

L.L. Kalinichenko considers that the most common forms of inter-cluster interactions in the cluster are economic, logistical, informational, legal and organizational interactions.<sup>180</sup> The essence of economic cooperation is to conduct joint production activities aimed at getting financial income from the use of the available resources of the industrial cluster by all participants of interaction. In this case economic interaction can be realized both through the system of technological cooperation, and through joint implementation of development projects.

The main direction of the institutional environment improvement of logistics interaction of the participants of the industrial cluster is the implementation of a program of internal logistics convergence between the participants of integration interaction. Information interaction in the association is aimed at placing information by the participants of the industrial cluster, regulation of the access to it, regardless of the location of the participants and ensuring the full cycle of intersubject information exchange of the participants of the industrial cluster.

The essence of the legal interaction is the joint development and adoption of the documents, limiting the scope of responsibilities and describing ethical standards of the behavior of the participants of the cluster in production activities, as well as specifying the form and procedure of financial relations between them. Organizational interaction represents different forms of participation of each of the participants in the management bodies of other participants.

The management of intra-cluster interactions includes:

- forming the package of innovative solutions for the cluster leaders (the selection of innovative companies that are developing technologies to be implemented in the leading company, etc.), which involves the initiation of cooperation between various participants of the association with the leading company inside the cluster;

- planning of performance indicators of joint innovation activities of the participants inside the cluster;

- organizing meetings to establish partnerships of the businessmen and top managers of innovative organizations in the cluster;

- planning, support and controlling of the innovative projects implemented by the participants of the cluster.

Regardless of the nature of the business strategies used, each of the subjects interacting in the cluster is only one of the parties of the process of interaction, and its interests are different from those of other subjects of the association. The design of intra-cluster interaction, according to V.M. Korabelnikov and D.V. Kostiukevych, is determined by the content of the principles to be followed by the members of the association (Table 2.1).<sup>181</sup>

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<sup>180</sup> Kalinichenko L.L. The aspects of interaction of the industrial cluster subjects // Development of economic and managements techniques in the transport. – 2011.– №34. – Electronic resource. – Access mode: [http://nbv.gov.ua/portal/Soc-Gum/Rmugt/2011\\_34/Files/3409.pdf](http://nbv.gov.ua/portal/Soc-Gum/Rmugt/2011_34/Files/3409.pdf).

<sup>181</sup> Korabelnikov V.M. The classification of interaction of the business structures in the composition of the regional cluster // Current problems of economics, politics and law: collection of scientific papers. – Murmansk: Murmansk Academy of economics and management, 2008. – P.72-82.

Table 2.1

## The principles of intra-cluster interactions

<b>Principle</b>	<b>The content of the principle</b>
Exchange of results of activity	The ability to share the results of the activity provides for the participants of interactions the opportunity to jointly overcome resource constraints
Competitiveness	Sharing with other business subjects the limited resources, each participant of interactions becomes a competitor
Compromise	Satisfying their needs in limited resources by sharing the results of activity, the enterprises face the need to consider the interests of other economic subjects
Uncertainty	In the regional cluster, there is a diversity of business activities, none of which can be fully initially planned due to the need for continuous provision of freedom of choice by all participants of cluster interactions
Associativity	The effectiveness of the business activities of the subjects of cluster interactions is influenced by their ability to realize the business principles, business interests, structure of business objects and potential partners in operations
Rationality	As subjects of cluster interactions make decisions under risk, every decision taken should be as deliberate, thoughtful, reasonable and rational as possible
Limited resources	Limitation of material benefits of the participants of cluster interactions determines the need of interaction between subjects of business
Cost	By means of cost estimation of the benefits the subjects of cluster interaction can compare their own expenses with incomes and evaluate the effectiveness of participation in interaction
Responsibility	The choices which each of the subjects of interaction makes, requires responsibility to fulfill the conditions of the accepted commitments and is a necessary condition for sustainable development of the system of cluster interactions
Synthesis	The implementation of the economic interests of the participants of cluster interactions leads to the synthesis of the private (selfish) and the public in the interests of interacting subjects and in their actions
Concentration of resources	The development of cluster interactions is manifested in constant development of all resources by the subjects of cluster interactions
Creativity or innovation	Creativity is revealed by the development of new technologies for creating products, provision of services, fulfilment of work, consumption of goods and other forms of activity of the subjects of cluster interactions
Systemic integration	The system integration of the subjects of cluster interactions, their business interests and their goals and actions contributes to the transformation of the conflicts of interest into the the internal source of self-development of the regional cluster in which these relationships exist
Systemic self-organization	Systemic self-organization of business and management at the micro- and macrolevels is a prerequisite for sustainable development of cluster interactions as the basis of the development of the regional cluster

An important part of the study of intra-cluster interaction of the participants of territorial and sectoral association is the assessment of the effectiveness of the information and consultation, and supply and marketing channels. L.L. Kalinichenko offers the assessment of the effectiveness of inter-subject interaction to be carried out on the basis of two approaches: first, through the indicators evaluation that enables focusing the management efforts on the particular areas of the activity of the cluster, and secondly, through a comprehensive analysis of the effectiveness based on integral indicators.

According to the researcher, for further use of indicators in developing and calculating the integrated index, mainly relative indicators should be used which include: the proportion of expenditures on management in the consolidated costs of the cluster; the share of the fulfillment of the investment program; the ratio of revenue from external consumers and revenue within a cluster; the dynamics of the volume of services provided by the participants of the cluster to each other; the proportion of economic subjects that have adopted common corporate rules and standards; the proportion of their own logistics services.<sup>182</sup>

The last group of factors that determine the overall preconditions of the emergence of clusters in the economy are those that form the behavior of each participant of the association. Of course, before making a decision about joining the business network, the economic subject should carry out an assessment of potential losses and benefits of such membership, and in case of obtaining the comparative advantages, take on corresponding responsibilities. In the works of domestic and foreign scientists a detailed analysis is given of types of benefits that enterprises receive from the membership in the cluster. In particular, the most obvious benefits included maintaining the position in the regional market, information exchange, facilitating access to the sources of raw materials, expanding sales channels, increasing competitive advantages, increasing access to the innovative resources. At the same time, in our opinion, the works of domestic scientists almost never assess the benefits of the membership in the cluster for the local authorities and institutions of the region, although these market subjects at low manifestation of cluster initiatives among the enterprises occupy an active position in the creation and development of territorial and sectoral associations. Considering the role of the local authorities in the formation of clusters in the regions, we believe that the benefits of their membership appear in positive effects received by socio-economic system as a whole from the appearance of such kind of formations on its territory. In this case, we will discuss the need to study the interaction chain "cluster" – "economy of the territory" project, and the main thing is that the strategy of territorial and sectoral associations should be coordinated with the priority directions of economic development in the region.

As for the benefits of the institutions of the region from the membership in the cluster, they, on the one hand, are taking on complementary functions on forming favorable institutional environment for

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<sup>182</sup> Kalinichenko L.L. The aspects of interaction of the industrial cluster subjects // Development of economic and managements techniques in the transport. – 2011. – №34. – Electronic resource. – Access mode: [http://nbv.gov.ua/portal/Soc-Gum/Rmugt/2011\\_34/Files/3409.pdf](http://nbv.gov.ua/portal/Soc-Gum/Rmugt/2011_34/Files/3409.pdf).

development for the members of association, on the other hand – the emergence of a new participant of the market relationship determines reconsidering the functions they perform to ensure the sustainable development of socio-economic system.

Besides the general prerequisites of emergence of clusters in the economy, among scientists the discussions are held on determining specific factors that contribute to the formation of certain types of territorial and sectoral associations. In this regard, M.V. Vinokurova proposes to consider the concept "potential of clusterization", which is defined as the presence of competitive advantages in the industries, enterprises and infrastructure organizations located in the region, the possibility of combining the advantages and their use to enhance the competitiveness of the region.<sup>183</sup> We believe, that to assess the potential of clusterization and allocation of specific features of cluster formation it is advisable to assess the specialization of socio-economic system that allows to reveal "the economic growth points" of the territory and to form a tool of cluster support according to them. In the scientific literature, this problem is a particularly important research for the innovation clusters. Thus, A. Pavlova notes that the degree of innovation of the cluster should be manifested in the qualitative and quantitative characteristics, reflecting the degree of integration of the cluster structure centers generating scientific knowledge, centers generating business ideas, training centers for skilled professionals; share of production of innovative and high technology products in general production volume and characteristics of the sales markets of these products.<sup>184</sup>

Proceeding from these points, A. Pavlova and V. Maracha<sup>185</sup> formed the prerequisites of the formation of the innovation cluster, which include:

- availability of scientific potential, i.e., the existence of large research centers, university and factory (production) science;

- availability of institutional prerequisites that can stand out in the Science City status, support from the regional budget and the various funds and innovative development of the economy based on the cluster approach – the regional support of the idea of the formation of the innovation cluster, perhaps within the limits of the most priority area;

- availability of political preconditions, manifested in the committed leadership to develop innovative activity as one of the strategic priorities for the development;

- availability of industrial preconditions such as the level of innovativeness of the industry in the region as a whole and separate enterprises which are included in the cluster. In this case the requirements to the level of innovation of the production of all enterprises in the cluster as a necessary condition for achieving eventually "the pole of competitiveness", should appear.

In general, our study of the evolution of the concept of "cluster" as

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<sup>183</sup> Vinokurova M.V. Methodological approaches to increasing the region's competitiveness // *Izvestiya (News) of Irkutsk State Economic Academy*. – 2006. – №4 (49). – P.29-31.

<sup>184</sup> Pavlova A.V. The concept of formation of the innovative cluster // *Electronic resource*. – Access mode: <http://delovoyimir.biz/ru/columns/120/>.

<sup>185</sup> Maracha V. The formation of clusters as a mechanism of the territorial self-organization and partnership for the realization of the innovative strategy of increasing competitiveness // *High technologies – strategy of the XXI century: proceedings of the 10<sup>th</sup> International forum, 21-24 April 2009*. – Moscow: "MaVR", 2009. – P.507-512.

an institutional category shows that under the growing influence of global integration processes on the development of the regional economy the territorial and sectoral associations become important institutions of social and economic systems. The entry to the regional innovation system, the use of the benefits of human capital and organizational resources enable the association to form a set of comparative competitive advantages that are revealed during the implementation of the principle of intersubject interaction. The study of the prerequisites of emergence of clusters from the standpoint of their institutional nature showed again that only consideration of macro– and mesoeconomic conditions of functioning enables to determine the nature of inter-subject relations within the association and creating a set of actions of each participant.

## **2.2. Clusters as institutions or institutes of the market economy**

In the conditions of integration and globalization a key role in the growth of the competitiveness of the national economy is played by modern organizational formations such as scientific and technological parks, technopolises, innovation and scientific-technological centers, business incubators, clusters. Because economic globalization considerably weakens national barriers, promotes business unification and in this situation the regional-territorial systems are the main economic subjects in the framework of one country and in the global environment.

In order to successfully solve the tasks of ensuring the sustainable development of the economy and introduction of the model of innovation development it is necessary to ensure the use of progressive approaches in the management of national and regional development. Such approaches are based on high technologies and the latest scientific achievements. We must solve the problem of the absence of efficient institutional mechanisms for the implementation of strategic priority directions. These directions are connected with ensuring innovation-oriented and sustainable development of the country's economy. The most rational variant of solving this problem is the optimal combination of abilities and efforts of the corresponding government institutions, educational and scientific establishments, production and market structures, that is the formation of special associations which are interested in final results of their activity. In the economic literature such associations are identified as clusters which are often called the poles (points) of growth. In this context we should note that the cluster-based economy corresponds to the model of the investment-attractive, competitive economy. The functioning of such economy provides high quality of life and living standards of the population. The key goal of the cluster functioning consists in raising the competitiveness of its members (on the national territory, the international level) by means of commercial and noncommercial cooperation, scientific investigations, innovations, education, and realization of the common measures of support policy.

The study of economic literature shows that there are a large number of approaches to the definition of clusters. Let us consider in details the economic essence of the notion "cluster". For this goal we will conduct the comparative analysis of definitions of this category suggested by the domestic and foreign economists (Table 2.2).

We will also try to analyze the proposed scientific opinions from the viewpoint of the institutional economy. As we pointed out in the subchapter 1.1, the economic scientists do not have common ideas about the interpretation of the definitions of "institute" and "institution". Also, there is no unambiguous interpretation of clusters as institutions or institutes of the market economy.

Such ambiguous explanation and application of notions of the cluster theory complicate the use of theoretical definitions in the methodology of science, in the legal and economic fields of scientific investigations as well as their use in practical economy.

Table 2.2

Foreign and domestic approaches to the definition  
of the economic essence of the notion of “cluster”

Author, source	Definition of the economic essence of the notion “cluster”
M. Porter	Cluster is a system of suppliers, producers, consumers, elements of industrial infrastructure, research institutes which interact in the process of creating added value. <sup>186</sup>
M. Porter	Clusters are geographic concentrations of interconnected companies, specialized suppliers, service providers, firms in related industries, and associated institutions (for example, universities, standards agencies, and trade associations) in particular fields that compete but also cooperate. <sup>187</sup>
M. Voynarenko	Cluster is a sectoral-territorial voluntary association of enterprises which closely cooperate with scientific institutions and local authorities with the aim of increasing competitiveness of their production and the region’s economic growth. <sup>188</sup>
W. Price	Cluster is the combination of enterprises and institutions which cooperate for ensuring bigger profit to enterprises, in comparison with profit they could obtain operating independently. <sup>189</sup>
Ye. Bezvushko	Cluster is the association of the territorially similar, interconnected, mutually supplementing enterprises which makes it possible for every enterprise to win from the scale effect in the same way as in a formal association, but the already produced flexibility of separate enterprises is retained. <sup>190</sup>
V. Chevganova, I. Bryzhan	Cluster is one of the forms of association for similar, interconnected enterprises and organizations which supplement each other, which cooperate with the aim of mutual support and coordination, which in everyday life transform into such notions as “social capital” and “trust”. <sup>191</sup>
G. Semenov, O. Bogma	Cluster is the voluntary association of the operating enterprises in any branch of the economy connected by common goals, which can attract scientific institutions, bodies of power, social organizations to cooperation, and which is directed at the production of interconnected goods and services that supplement or condition each other with the goal of increasing profit and obtaining the synergetic effect due to the intercompany division of labor and deepened specialization with the compulsory organization of lasting relations on the planned basis. <sup>192</sup>

<sup>186</sup> Parter M. Competition. – Moscow: Williams, 2001. – 495p.

<sup>187</sup> Ibid. – 495 p.

<sup>188</sup> Voynarenko M.P. The concept of cluster is the way to the rebirth of production on the regional level // Economist. – 2000. – №1. – P.29-33.

<sup>189</sup> Price W. Human behavior: the factor in applied economics // Promising investigations. – 1999. – №2. – P.3-16.

<sup>190</sup> Bezvuchko Ye. Clusters and their role in the rebirth of the Podillya’s economy // Promising investigations. – 1999. – №2. – P.17-23.

<sup>191</sup> Chevganova V. Clusters and their economic importance // Economy of Ukraine. – 2002. – №11. – P.35-41.

<sup>192</sup> Semenov G.A. National cluster is a new way to accelerate economic and innovation of Ukraine // Visnyk of the economic science of Ukraine. – 2006. – №1. – P.127-133.

Continued Table 2.2

Author, source	Definition of the economic essence of the notion “cluster”
S. Osadchuk	Cluster is the network of suppliers, customers, elements of the industrial infrastructure, research institutes interconnected in the process of the creation of added value. <sup>193</sup>
A. Gusakov	Cluster is the group of geographically neighboring interconnected companies and related organizations which operate in certain sphere of activity and supplement each other. <sup>194</sup>
S. Sokolenko	Cluster is the voluntary association of firms in certain sphere of entrepreneurship, interconnected technologically and, as a rule, geographically. <sup>195</sup>
S. Sokolenko	Cluster is an efficient way and system of interaction, constant business communication of the territorially and economically related participants of the production process for obtaining the total synergetic commercial effect by each participant. <sup>196</sup>
A. Pavlyuk	Cluster is the territorial-production form of integration of economic subjects in the determined branch or sphere, which are characterized by common activity and which mutually supplement each other, as well as associated organizations and establishments, educational and scientific institutions, bodies of power. <sup>197</sup>
L. Fedulova	Cluster is the group of interdependent companies (suppliers, producers, etc) which are territorially close, and associated organizations (educational establishments, bodies of state power, infrastructural companies) which operate in the determined sphere and mutually assist each other. <sup>198</sup>
“The Concept of cluster creation in Ukraine”	Cluster is the group of geographically localized interconnected companies, suppliers of equipment, components, specialized production services, infrastructure, research centers, higher educational institutions, and other organizations mutually supplementing each other for achieving particular economic effect and increasing the competitive achievements of separate companies and, correspondingly, the cluster as a whole. <sup>199</sup>
A. Voronov	Cluster is the localized component of the branch which is territorially limited and which is ordered, having a relatively stable totality of the specialized enterprises which produce competitive commodities, he stresses that the most significant component of clusters is research and educational institutions. <sup>200</sup>

<sup>193</sup> Osadchuk S.V. New technologies of management of the regional economic development // Visnyk (Messenger) of the economic science in Ukraine. – 2005. – №1. – P.92-95.

<sup>194</sup> Gusakov A. Clusters of enterprises as a means of raising competitiveness of the regional economy // Managements today. – 2004. – №2. – P.46-51.

<sup>195</sup> Sokolenko S.I. Clusters in the global economy. – Kyiv:Logos, 2004. – 848 p.

<sup>196</sup> Sokolenko S.I. Production systems of globalization: Networks. Alliances. Partnerships. Clusters: Ukrainian context. – Kyiv: Logos, 2002. – 646 p.

<sup>197</sup> Pavlyuk A.P. The cluster model of the regional economy: theoretical and methodological foundations // Production forces of Ukraine. – 2009. – №1(005). – P.105-113.

<sup>198</sup> Fedulova L.I. The conceptual foundations of the state’s regional industrial policy in the conditions of innovative development // Strategic priorities. – 2008. – №1(6). – P.112-119.

<sup>199</sup> The Draft concept of the cluster creation in Ukraine // Electronic resource. – Access mode: [http://biznes.od.ua/index.php?option=com\\_content&tash=view&id=499&itemid=33](http://biznes.od.ua/index.php?option=com_content&tash=view&id=499&itemid=33)

<sup>200</sup> Voronov A. Clusters are a new form of industrial self-organization in the conditions of competition // Marketing. – 2002. – №5. – P.37-43.

Continued Table 2.2

Author, source	Definition of the economic essence of the notion “cluster”
O. Yudanov	Cluster is the unity of firms from the closely connected branches which mutually contribute to the growth of competitiveness of each other. <sup>201</sup>
Zh.Mingalyova, S. Tkachova	Cluster is an industrial complex formed on the basis of territorial concentration of networks of specialized suppliers, major producers and customers, connected by the technological chain. <sup>202</sup>
O.Pozdnyakova	Cluster is a special kind of the organizational-economic association, most often territorially localized, in which cooperation and competition between the participants of different forms of property are combined, with the goal of obtaining maximal positive social-economic effect. <sup>203</sup>
G. Kleiner, R. Kachalov, N. Nagrudnaya	Cluster is an example of the clearly expressed multifunctional and multiaspect economic system which contains the features of all four kinds of systems: as object, as process, as environment and as project. <sup>204</sup>
A. Asaul	Cluster - the integration of a number of entities that have homogeneous industrial competence of business processes in order to create the final industry product. <sup>205</sup>
V. Tarasenko	Clusters are complicated self-organizing social structures oriented, on the one hand, at the regional potential, and, on the other hand, -at the formation of the branch of the region and the mechanisms of social-economic development of regional branches. <sup>206</sup>
V. Shastytko	Cluster is a popular term which is associated in economics with competitiveness and the government policy, also with innovations, high technologies, and which is blended into many forms of economic organization that are the objects of economic analysis. <sup>207</sup>

As we can observe from the given table, the notion of cluster is characterized by quite a large number of approaches to understanding its essence, economic content and explanation from the viewpoint of institutional theory. Some authors consider cluster as “efficient way and

<sup>201</sup> Yudanov A.Yu. Competition: theory and practice. – Moscow: Association of authors and editors “Tandem”. GNOM-PRESS, 1998. – 384p.

<sup>202</sup> Mingaleva Zh. Clusters and the formation of the region’s structure // World economy and international relations. – 2000. – №5. – P.97-102.

<sup>203</sup> Poznyakova O.I. Clusters as the result of property transformation in the system of innovative structures // Visnyk (Messenger) of the National University Lviv Polytechnic. – 2010. – №8(668). – P.135-141.

<sup>204</sup> Kleyner G.B. The synthesis of the cluster strategy on the basis of the system-integration theory // Sectoral markets. – 2008. – №5-6(18). – P.14-19.

<sup>205</sup> Asaul A. N. Construction Cluster - New Regional Production System // Construction Economics. – 2004. – №6. – P.16-25.

<sup>206</sup> Tarasenko V. The strategies of development of territorial clusters // Economic strategies. – 2011. – №11. – P.82-92.

<sup>207</sup> Shastytko A.E. Clusters as the dis structural alternative to the management of transactions // Scientific investigations of the economic faculty of Moskow State University Electronic journal. – 2009. – №1. – Volume 1. – P.26-43.

system of interaction, constant business communication of territorially and economically related participants” (M. Porter), “unity of cooperating enterprises and institutions” (W. Price), “efficient way and system of interaction, constant business communication of territorially and economically related participants” (S. Sokolenko), “localized component of the branch which is limited territorially” (A. Voronov) “unity of firms of closely connected branches which mutually contribute to the growth of competitiveness” (O. Yudanov), “the integration of a number of entities that have homogeneous industrial competence of business processes” (A. Asaul), “complicated self-organizing social structures, oriented ... at potential and brand of the region” (V. Tarasenko), “term which is associated in economics with competitiveness and government policy, and also with innovations, high technologies” (V. Shastytko).

In this case cluster is defined mainly as an institution: through the interaction of human capital, the search for common interests, various forms of cooperation, that is through the rules of behavior and constructive dialog which, finally, can bring additional competitive advantages. Besides, in the abovementioned definitions we can notice important factors of institutions. These factors are: the use of advantages of the organizational resource, the plans of cooperation among the business and the elements of market infrastructure, the motivation mechanisms of interaction of the cluster participants, and the formation of the rules and regulations concerning the establishment of territorial-sectoral associations with innovation priorities of the regional development as a socio-economic system.

A number of other researchers define clusters mainly as associations, i.e. organizations or, more exactly, new institutes of economic system which began to emerge under the influence of institutional changes in the economy, the formation of new elements of the institutional environment, the development of global competition. In these definitions the basic feature of clusters is the incorporation of separate elements (components) into a single whole in order to realize certain function or defined goal with orientation at consumers. For instance, clusters are regarded as “geographic concentrations of interconnected companies” (M. Porter), “sectoral and territorial voluntary association of enterprises which closely cooperate with scientific institutions and local authorities” (M. Voynarenko), “voluntary association of firms in certain sphere of entrepreneurship” (S. Sokolenko), “association of territorially similar, interconnected, mutually supplementing enterprises” (Y. Bezvushko), “voluntary association of the already operating enterprises in any branch of the economy connected by common goals” (G. Semenov), “group of interdependent companies which are territorially close and associated organizations” (L. Fedulova), “industrial complex formed on the basis of the territorial concentration of networks” (Zh. Mingalyova), “special kind of the organizational-economic association, most often territorially localized” (O. Pozdnyakova) and other.

Thus, the essence of interpretation of such notion as clusters lies simultaneously in two planes of the institutional theory. On the one hand, clusters can exist as certain influential institutions which determine the rules of interaction and cooperation of the representatives of the business structures, the authorities and separate institutional structures of the market economy mainly at the regional level. On the other hand, they can operate as new institutional formations (groups, corporations, associations, other

unities) which, naturally or artificially, appear or are created in order to solve specific tasks of making competitive innovative production for the formation of centers of economic growth in certain region or even in the whole country.

After considering the economic essence of clusters it will be appropriate to investigate the peculiarities of the emergence and the evolutionary way of cluster development which can be summarized as six main stages.<sup>208</sup>

1. As a rule, the birth of the cluster is determined by such situation as the availability of raw materials, of special knowledge in the research organizations or traditional know-how, special or current demands of certain group, customers or firms, and the location of firms or enterprises which reflect important innovations in technologies that stimulate the growth of many others. At the first stage of the cluster development new enterprises are often created what becomes the prerequisite for geographic concentration of the economic subjects which are mainly at the same production stage.

2. With the beginning of agglomeration the enterprises begin obtaining more benefits (advantages) caused by external factors and accumulate these benefits. The first external economic factor is the creation of the group of specialized suppliers and service enterprises which are often created after the vertical disintegration of companies, and also the creation of the specialized labor market.

3. The formation of new organizations providing services to several enterprises in a cluster which grows (expands), such as scientific and research institutes, specialized educational establishments and business associations.

4. The development of external economic factors and the formation of new local organizations promote the growth of significance, prestige and attractiveness of clusters. As a rule, such situation helps many firms and highly skilled employees to join the cluster. This contributes to the growth of its attractiveness and the creation of optimal favorable prerequisites for the emergence of new enterprises.

5. The formation of intangible assets in the form of interrelations promotes free exchange of information, knowledge through, for example, informal cooperation and helps to coordinate the economic activity. That is why mature regional clusters can involve the combination of special, differentiated, localized relations between individuals and organizations which are coordinated by daily cooperation or rules. As a rule, these rules function only in case of neighborly relations.

6. The cluster can be successful for decades or it can become a component of a new cluster. Many regional clusters have the stage of decline, early or late. As a rule, the main reason of decline in clusters is the change of business behavior of the enterprises-participants because this change in technological, institutional, social and cultural aspects becomes more internally oriented.

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<sup>208</sup> The definition of methodological approaches concerning the identification, formation and support of transborder clusters // Electronic resource. – Access mode: <http://eep.org.ua/files/methodological-approaches-definition.doc>.

In this context we should note that some economists single out only four stages in the cluster development: 1) birth (embryonic stage); 2) development; 3) maturity; 4) disintegration.<sup>209</sup>

The examples of the world famous associations of enterprises which have achieved considerable results in certain branch of industry are based on the combination of advantages arising from the cooperation of producers, the achievements of science and the support of the authorities in particular territories. Such achievements are due to the formation of clusters – “Silicon Valley” (California), “Plastic Valley” (the city of Tarnuv, Poland), Massachusetts multimedia cluster, Californian winemaking cluster, Italian footwear cluster, “Daedook” (South Korea), “Sophie and Grenoble” (France), “Luben” (Belgium) and others. Besides, the central authorities actively promote the spreading clusters by ensuring the adoption of the corresponding normative-legal acts. Such acts stimulate the creation and advance of sectoral associations. For example, the Law “On technopolises” in Japan (1983) establishes maximal credit rates on their creation at 7 per cent, as distinct from 20-30 per cent on loan rates in general. The Bayh-Dole Act allows to transfer exclusive rights on the use and commercialization of patents to companies and universities. The Stevenson – Wylder Technology Act strengthens the role of the government in the advance innovations and initiates a goal-oriented transfer of the results of technical from laboratories into industry (USA).<sup>210</sup>

It should be noted that clusters differ essentially from various concerns and joint-stock companies. For instance, the enterprises united into clusters are characterized by the following features: 1) they do not lose their legal and economic independence; 2) the economic subjects are united on the basis of self-financing principle; 3) the clusters are a peculiar product of the territorial marketing because in order to ensure successful development of the cluster structures it is necessary to apply marketing approaches in one time according to the following components: the business, the authorities, the organizations of public sector and science. Clusters play the part of the innovation centers of growth both at domestic and international markets.<sup>211</sup>

As distinct from the classical forms of cooperative economic interaction, the cluster systems are distinguished by the following key peculiarities:

- the existence of a big enterprise-leader which combines long-term economic, innovative and other strategies of the whole system;
- the territorial localization of all participants of the cluster system;
- the stable economic ties between the enterprises which are the cluster participants and the dominant role of these ties for most participants;

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<sup>209</sup> Cluster policy in Europe / A brief summary of cluster policies in 31 European countries. – Europe Innovation Cluster Mapping Project. – Oxford Research AS, January. – 2008. – 34p.

<sup>210</sup> Andersen V. Regional competition as the factor of social-economic development of Ukraine in the conditions of globalization // “Ukraine in modern world”. The conference of graduates of scientific programs in the USA. - Kyiv: Stylos, 2003. – 348 p.

<sup>211</sup> Gumenyuk O.I. Clusters as the organizational structure of the innovative-investment model of the industry development // Current problems of the economy. – 2007. – №2. – P.9-19.

- the long-term coordination of the interaction of the cluster system participants in the framework of its production programs, innovation processes, major management systems, quality control;
- the export orientation or the import substitution orientation of the cluster production;
- the existence of modern corporative systems of management, of business process control, of collective economic monitoring, etc.

Let us note that the world experience proves the fact that modern high-technology production can be grounded only on the processes of integration of scientific, innovative, manufacturing enterprises of various types that is on the formation and effective functioning of clusters.

Two groups can be singled out among the main cluster participants:

- the key participants (producers; banks and other credit organizations; venture funds; exchanges; service companies; engineering and consulting companies; research organizations; higher educational establishments; suppliers);
- other participants, among them authorities, public organizations, trade unions.<sup>212</sup>

Nowadays clusters are considered as the object of industrial policy of new type that is “cluster policy”, the main goal of which is raising the competitiveness of the country or a separate region. The main idea of the cluster policy is the understanding of the fact that though stable political legal, social institutes and consistent macroeconomic policy are important prerequisites of the national (regional) sustainable development, but actually the capacity is formed on the microeconomic level on the basis of the ability of enterprises to produce innovative goods (services) which are characterized by the stable demand and investment attractiveness. The following types of the national cluster policy are distinguished:

- mediation (promotion of stronger cooperation between the cluster participants);
- stimulation of demand (government order);
- stimulation of external ties (realization of infrastructural and investment projects, elimination of trade barriers, production of intellectual property rights, ets.);
- creation of favorable structural conditions (institutional, macroeconomic).

It must be noted that the cluster policy combines the elements of the regional policy, the industrial policy, the policy of support for the small and medium-size businesses, the policy of attracting foreign investments, the innovation policy, the scientific and technological policy, etc. Therefore the implementation of the cluster policy is characterized by many vectors. This policy envisages mainly the regulatory measures, the major purpose of which is to eliminate obstacles in the exchange of knowledge, innovations and others. So, the role of the government in the cluster policy realization is hard to underestimate, especially at the stages of emergence of new clusters

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<sup>212</sup> Fedorenko V.G. Clusters are the systemic instrument of increasing the competitiveness of the economy // Economy and the state. – 2007. – №9. – P.6-9.

or the improvement of the existing ones.<sup>213</sup> Sometimes clusters are regarded as industrial complexes formed on the basis of the territorial concentration of the networks of special suppliers, main consumers united by a technological chain. This is an alternative to the sectoral approach.<sup>214</sup>

An important feature distinguishing the cluster from the formal association of enterprises is the presence of a complete chain for the added value formation (from suppliers to end users) on the condition that the cluster participants are provided with services, specialized resources, infrastructure.<sup>215</sup> Besides, competitive relations between the cluster enterprises are retained because they do not lose their economic and legal independence while their interconnection is grounded on the common use of available competitive advantages. This factor essentially distinguishes the cluster structures from the cartels, the financial-industrial groups in which the basis of connections is primarily the common owner. Also, clusters are distinguished from the cooperative-type associations of enterprises by the absence of ties which are based on the cross participation of enterprises in each other's capital, as well as the absence of property ties, and the absence of control from the central company (as it is in the holdings). It is well known that such associations as holdings, trusts and concerns are characterized by a clumsy structure of management. Such structure does not enable to flexibly and clearly react to the changes of the market environment. As distinct from the discussed types of the organizational cluster structures, the cluster form of business organizations is deprived of the mentioned disadvantages, because clusters are distinguished by concentration (the growth of the volume of homogeneous production) and cooperation (the production ties of enterprises). It is exactly this peculiarity of clusters that distinguishes these structures from the unsystematic mechanical totality of enterprises in the framework of the region.<sup>216</sup>

We should also mention the existence of essential differences between the cluster and technopark formations. Technoparks are also effective modern organizational forms of integration of science and production. But these formations have different functions and tasks for functioning. For instance, as distinct from technoparks, the tasks of clusters consists in ensuring the production of competitive goods of high quality by joint efforts, with the help of the latest developments, technologies and achievements of scientific and technological progress.<sup>217</sup>

Thus, in the conditions of the market economy the key feature which is at the same time the advantage of the cluster approach involves the optimal combination of cooperation and competition in the framework of clusters. Such combination ensures a qualitatively new level of economic development for all participants of the association.

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<sup>213</sup> Kryzyska R.Yu. Regional investment – innovative clusters: the current problems of introduction in Ukraine // Electronic resource. – Access mode: [http://www.nbu.gov.ua/portal/Soc\\_Gum/Dtr\\_du/2011\\_2\\_file/DU211\\_26pdf](http://www.nbu.gov.ua/portal/Soc_Gum/Dtr_du/2011_2_file/DU211_26pdf).

<sup>214</sup> Hove N., Van den Roelandt T., Grosfeld T. Cluster Specialization Patterns and Innovation Styles – Den Haag: Ministry of Economic Affairs, 1998. – 151p.

<sup>215</sup> Voronov A. Clusters are a new form of industry self-organization in the conditions of competition // Marketing. – 2002. – №5. – P.37-43.

<sup>216</sup> Ibid. – P.37-43.

<sup>217</sup> Semenov G.A., Bogma O.S. The creation of cluster associations in the conditions of new economy. – Zaporizhya: KPU, 2008. – 244p.

The network structures of coordination which guarantee the cluster operation can create conditions for formation and implementation of innovation competences by means of incorporation of the market elements, hierarchical and network logic. The values authorized by the network are perceived by the cluster participants and then are internalized. At the same time, each participant suggests certain personal values which emerge as a result of confrontation of their needs, hopes and goals with more general goals of the network.

There are different approaches in network economy as regards the determination of the network logic rules. In our opinion, the approach to the realization of the concept suggested by P. Romer, P. Krugman and other scholars and grounded by K. Kelly for the institutional approach is rather interesting. For instance, in the framework for this method, the values connected with the network function as stimulators:

- the perception of the desired behavior creates the basis for forming the network and attracting new participants;
- the contribution into overcoming the resistance to quick changes and the propagation of innovation behavior.

The given values described in the form of rules reflect the logic of the particular network. These values also characterize the key foundations of functioning of clusters as significant institutions of the market economy. The main values are: decentralization, synergy, unity, free access, care of network values, maximization of innovations, multidimensional space, absence of gaps, correlation of technologies, expansion of the space of innovation possibilities.<sup>218</sup>

Each economic system, including cluster, can be presented as independent but interconnected subsystems which comprehensively reflect the peculiarities of the structure and the functioning of these systems, including clusters, in the business environment.<sup>219</sup> Let us consider the peculiarities of the cluster structural composition in greater detail.<sup>220</sup>

1. Each cluster subsystem is “production”, i.e. it creates certain “product” in the form of a commodity or a service and is used both in the cluster framework and beyond its boundaries. For instance, the mental subsystem forms the modification of thinking of the cluster participants (enterprises and organizations) peculiar for this object. The cultural subsystem forms cultural example and values, forms the cultural environment. The institutional subsystem generates new institutes and other changes in the institutional system. The cognitive subsystem forms the totality of knowledge, skills. The result of the comprehensive use of technologies, means and objects of labor is the commodity production. The historical and imitation subsystems create a stock of knowledge, information and emotional impressions about the given enterprise (the historical subsystem) and other enterprises (the imitation subsystem).

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<sup>218</sup> Bal-Vozhnyak T. Economic networks as efficient mechanism of innovation activity coordination // Electronic resource. – Access mode: <http://www.nbuv.gov.ua> (portal) Soc – Gum /Mep/2011\_12-B/6%20Bal – Vpzhnyak.pdf.

<sup>219</sup> Kleiner G.B. Kachalov R.M. Nagrudnaya N.B. The synthesis of cluster strategy on the basis of the system-integration theory // Electronic resource. – Access mode: <http://www.kleiner.ru/arpab/klaster.html>.

<sup>220</sup> Kornai Ja. Systemic paradigm // Problems of economy. – 2002. – №5. – P.32-41.

2. Each subsystem takes part in “the production” process of the upper link by providing the results of its activity as the corresponding means of production. In particular, the mental capital is the factor of formation of cultural environment. The cultural capital affects the formation of institutes which, in its turn, in combination with the aforesaid factors, predetermine the peculiarities of cognitive mechanisms and socio-economic genotype. The cognitive mechanisms make it possible to evaluate other people’s experience which is necessary for analyzing the personal way of development.

3. Every link (except the lowest) participates in the process of reproduction of a lower link. In particular, the socio-economic genome enables to reproduce the basis of the national institutional system. In this case, the results of influence of upper links on the operation of lower ones are, as a rule, reflected as a cumulative lag process with the extension of the lag during the transition from higher to lower levels.

Thus, we can observe that the interaction of the subsystems creates a peculiar reproduction cycle in which the actions of every component (link) are directed from up to bottom and from bottom to up.

As the institutional structure of the market economy, clusters are one variety of the hybrid institutional agreements. Such agreements exist in the format of bilateral and multilateral contracts between the companies which, due to their close location and sectoral connection, are more likely to participate in the repeated economic exchanges than the enterprises which do not belong to the same branch and are located at a big distance. However, in the given situation it is important to explain the factor of specific character of the resources and to indicate what specific type exactly dominates in the particular cluster.

The competition between the enterprises-participants of the cluster takes place for the resources, firstly for the skilled work force. It is such work force which possesses specific skills and knowledge and which can be efficiently used at several enterprises. In its turn, this factor predetermines the necessity of formation of the corresponding standards in the personnel policy so that the competition for resources should not end in trivial “price war”. Only this war can be for increase as distinct from the product market. Such type of competition could seriously undermine the financial system and the economic stability of enterprises.

Another aspect which is essential in considering clusters as institutions of the market economy consists in the existence of special advantages or threats in the location of the resources. One more aspect includes the relations with the regional and local authorities which can create favorable conditions for the cluster development or, on the contrary, impede the progress. That depends on the incentives created by the institutional environment (i.e. the state of impossibility of incorporation between the authorities and the business). This aspect is significant in the context of investigating the competition in the location of the economic subject.<sup>221</sup>

It must be noted that the enterprises-participants of the cluster can use the so-called external economy under the conditions that the production

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<sup>221</sup> Shastitko A. Ye. The competitiveness of the region: content, factors, policy // Baltic region. – 2009. – №1. – P.11-31.

expenses on the given territory are lower than on other “bound” cluster territories. This makes it possible to save money and resources on the scale, specialization, and not only on technological, production but also on organizational and transaction expenses (as a result of more intensive innovations).

Such savings envisage rather strong incentives for experimenting. In the majority of cases, the most intensive flow of cumulative innovations can be observed exactly in the cluster.

In the context of investigations of institutional agreements the classification of clusters is considered according to the criterion of mechanisms of their formation and development.<sup>222</sup>

1. The development of clusters “from zero” envisages that at the place of the cluster localization in the previous period there was no clearly expressed predecessor. The variant acquires the meaning of artifact, this is the endogenic development of the cluster which is quite real in the situation when the cluster developed as a result of the measures of economic policy.

2. The formation of clusters as a result of modification or development of the hybrid organizations (the network structures). In this situation different, independent, but interconnected by simple (bilateral) contracts enterprises gradually complicate the format of cooperation. This is done by means of expanding the range of activities, by appearance of new enterprises-participants (due to comparatively low barriers for entry), in particular by inclusion of scientific and educational institutions, the bodies of the local self-government and the authorities, as well as financial institutes and the institutes that promote cooperation.<sup>223</sup>

3. The transformation of market ties as possible plan of the cluster development envisages that firstly the relations between the companies existed in the format of structuring by using the price mechanism. However, as the frequency of transactions increases and their complexity raises and as it is necessary and possible to use specific resources, all these factors stimulate the enterprises to apply the mechanisms of closer cooperation between the sides and the solution of the problems connected with the internalization of external effects. Such problems emerge as a result of the localization of ties between the interested sides.

In this context we should note that the increase of flexibility on the level of separate links of the hierarchy can lead to partial disintegration of enterprises and their associations. This means that while interdependence is retained, the incentives of particular participants are reinforced. In this case the complexity of the cluster identification lies in the fact that its considerable part may look like a separate enterprise. At the same time, if a small business (enterprise) as a competitor can separate from a big enterprise it becomes one of the ways of the cluster development because a small firm has more opportunities to find the necessary work force and to form the customers’ base.

Thus, the discussed variants of formation and progress of clusters in the context of peculiarities of institutional agreements are ideal types which are expedient to consider for analytical purposes but are hard to reveal in

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<sup>222</sup> Shastitko A.Ye. Clusters as the form of spatial organization of the economic activity: theory of the problem and empirical observations // Baltic region. – 2009. – №2. – P.9-32.

<sup>223</sup> Solvell O., Lundkvist G., Ketels Ch. The cluster initiative book. – Boston, 2003. – 580p.

practical activity. Therefore, it is necessary to note the existence of the combined variant which involves different combinations of components of the three abovementioned variants.

Investigating clusters from the viewpoint of the institutional theory, it should be mentioned that two basic approaches to the clusterization are singled out: endogenous and exogenous.<sup>224</sup>

The endogenous approach to the clusterization envisages that the cluster formation takes place without the purpose-oriented support by the country's authorities. According to this variant, the formation of clusters proceeds as the secondary result of the repeated economic exchanges between economic agents which are localized on the defined territory. Besides, no agent can influence the obtained result and has ex-ante intention which corresponds to the obtained result – the cluster.

However, in present conditions it is actually unreal to reveal even one cluster which would develop independently from the measures of the country's economic policy. Though these instruments are characterized by different levels of efficiency of the government intervention into the system of economic exchanges, but there are reasons to state the exogenous nature of the cluster formation and development as an important institution of the market economy, even if the government chooses the “observation” variant of the cluster policy.<sup>225</sup> It should be noted that external factors are rather significant for providing the sustainable development of clusters.

Two basic variants of participation of the authorities in the development of clusters are singled out: 1) full cycle; 2) fragmentary support.

The full cycle variant envisages that the government has a long-term plan for the development of the area with the consideration of sectoral specialization and the mechanisms of correction of the initial plan depending on *ex post* circumstances. In this case it is significant to create conditions for the companies that are potential leaders, “generators” of the cluster development.

In case of the fragmentary support we can observe episodic influence of the authorities on the advance of the cluster as a whole but not on separate companies or cluster segments on the sectoral, territorial or other principle.

The full cycle variant characterizes the launching of the cluster project, in particular through the formation and promotion of the cluster initiative, with further decrease of attention to the cluster development.

The fragmentary support variant actually implies the support of the established cluster and the correction of direction of its development with the help of various instruments of the economic policy.

It is necessary to note that sometimes the development of clusters can be a comprehensive and more stable process if the coordination of the policy of the authorities in several regions simultaneously is observed, or even in several regions from different countries. The latter case is related to the formation and progress of transnational clusters when the trade relations between the neighboring countries, in particular the border trade, are

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<sup>224</sup> Shastitko A. Ye. The competitiveness of the region: content, factors, policy // Baltic region. – 2009. – №1. – P.11-31.

<sup>225</sup> Sheresheva M.Yu. Intercompany networks. – Moscow: Teis, 2006. – 375p.

transformed in more advanced relations of production cooperation. Such relations envisage not only active exchange of information, experience, but also joint planning and integration of resources to solve general economic issues.

Clusters as institutional systems are based on the models of coordination of innovation activity and technologically oriented modern economy. In many highly developed countries clusters have become the ground for formation and realization of new opportunities for economic progress.<sup>226</sup>

Clusters achieve critical mass, that is the minimal amount of firms and institutional structures, which is necessary for creating the effect of agglomeration and obtaining considerable competitive advantages in particular spheres of activity. Such clusters are the driving force of practically every national, regional economy and even a big city's economy, mainly in economically developed countries.<sup>227</sup>

Among the main elements providing for the efficient cluster functioning such factors are considered: 1) closeness to markets, which is the key characteristics of the operating markets; 2) accessibility of specific natural resources; 3) provision with the specialized work force; 4) possibility of full access to information, low value of operations; 5) possibility of attracting the enterprises to cooperation – the enterprises allocated by the region's territory; 6) cooperation and interaction which stimulate the search for new methods of production organization and management; 7) orientation of the cluster activity at the provision of innovation operations; 8) active development of different kinds of partnership.<sup>228</sup>

It should be noted that the formation of network structures, such as clusters, does not block the innovation process. On the contrary, clusters ensure the appearance of new type of creation in the market structures. The orientation of clusters at innovations promotes the development of such competences as flexibility, creativity, constructive dissatisfaction, communicativeness, readiness to risks. The advantage of the network as the system of action coordination compared with the rules of traditional structures consists in the functional logic of the network which unites the benefits of separate structural components of clusters with the benefits of the network. Thus the network coordination structures satisfy the demands in long-term prospects for making and implementing managerial relations concerning the cluster survival. They are an important ground for cooperation of people with innovation values. And their research activity is one of the ways of introduction of innovation projects in the framework of common efforts of different economic entities which operate in the interests of the cluster creative development together with customers.

As a result, clusters play a very significant part at the microlevel and macrolevel. The reason is they are an essential impulse, such impulse which is deficient today for raising the financial performance, the investment

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<sup>226</sup> Furman J.L. The determinants of national innovative capacity / Jeffrey L. Furman, Michael E. Porter, Scott Stern // *Research Policy*. – 2002. – Vol.31. – P.899-933.

<sup>227</sup> Michael E. Porter. *The Competitive Advantage of Nations*. With a New Introduction. – PALGRAVE, New York, 1998. – 495p.

<sup>228</sup> Lyakh I.I. The regulation of integration processes in the industry on basis of knowledge transfer // *Electronic resource*. – Access mode: [http://www.nbu.gov.ua/portal/soc-gum/prvs/2011\\_2/tom2/177.pdf](http://www.nbu.gov.ua/portal/soc-gum/prvs/2011_2/tom2/177.pdf).

attractiveness and competitiveness of the regions, for the country's innovative advance. Using the cluster approach makes it possible to achieve a number of advantages:<sup>229</sup>

- clusters are based on the progressive system of dissemination of new technologies and knowledge which contribute to a free transfer of ideas, skills and experience, thus decreasing the expenses on Research and Development and attaining technological leadership in the sphere of the cluster competence;

- the formation of the cluster promotes the development of small business, the growth of its flexibility and stability as a positive result of the cooperation with large industrial enterprises (for example, on the basis of subcontract, outsourcing);

- the model “small business + large enterprises” enables to maximally combine competitive strategies for efficient specialization and economy of scale which helps to ensure the growth of labor productivity and the decrease of production costs;

- on the basis of clusters the country's centers of innovation development are created which stimulate the formation of new business, facilitates the forecasting of technological trends, forms the conditions for appearance of new skills and promotes the innovation activity.

It must be noted that the enterprises united into clusters obtain considerable competitive advantages from joint activity and interaction while retaining their independence. Let us consider the advantages of the cluster operation, as institutional structures of the market economy, in greater detail (see table 2.3), separately for business, for public, for the state authorities, for education and science, as its key participants.<sup>230</sup>

The world experience of the cluster operation demonstrates that the functioning of these structures enables the enterprises-participants to use the capital more effectively, to use the resources more economically, to control the goal orientation and to ensure strategic direction of using investments. Also, clusters make it possible to raise the quality of production, to expand the assortment, to create new enterprises, to accelerate the introduction of new technological processes, to minimize surplus production capacity, and to optimally distribute the profits among the cluster members. For instance, the important competitive advantages of the cluster systems are achieved at the expense of minimization of losses, compared with separate operating enterprises. Such enterprises often do not withstand competition at the local and national markets from the stronger business units or foreign companies, and therefore they are obliged to stop their operations.<sup>231</sup>

The formation of clusters helps to ensure not only a number of strategic advantages for their participants but also contributes to the realization of various effects reflecting the main results of the cluster system operation.

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<sup>229</sup> Baranov A.M. New information algorithms of the economy clusterization: the prospects for Russia and Belarus // Electronic resource. – Access mode: <http://rudocs.exdat.com/does/index-205647.html>.

<sup>230</sup> Gorblyuk R.V. Clusters: theoretical foundation and prospects of development // Regional economy. – 2010. – №13. – P.222-229.

<sup>231</sup> Danylyshyn O.Ye. Clusters as the form of strategic associations // Visnyk (Messenger) of Khmelnytsky national university. – 2007. – №5, Volume 2. – P.223-229.

The investigation of the cluster activity makes it possible to single out the following types of effects of their functioning.

1. The provision of strategic development which involves the achievement of the main goal of economic subjects; the formation and growth of strategic financing of the enterprise; the increase of profit due to the reduction of the risk level; the optimal competitive status of enterprises; the growth of market value of the cluster structure, and the provision of its sustainable development.

2. The financial and economic effect is manifested in the reduction of expenses, the growth of business activity and profitability; the increase of the market share; the decrease of the amount of competitors.

3. The innovation effect is characterized by wide and accessible opportunities for education, the comprehensive improvement of technologies; obtaining the patents; the access to valuable information.

4. Other effects from the functioning of clusters (managerial, budgetary, social, ecological effects and others).<sup>232</sup>

5. Synergetic effect is created in the cluster due to the joint use of main factors of production. This effect is manifested in the reduction of expenses, the expansion of innovation opportunities; the possible exchange of specific kinds of assets. The synergetic effect of the cluster system functioning can also be reflected in the following types of effects: information effect (envisages the formation of the single information space in the related sectors of the branch), technological (it is characterized by the joint use of basic technologies, the diffusion of technological news, the transfer of know-how); the resource effect (the joint use of main kinds of resources at reduced rates); the infrastructural effect consists in the joint use of the elements of the infrastructure on favorable terms (banking, insurance, consulting services), such elements are necessary for all enterprises-participants.

Thus, the general effect of the cluster operation consists in the improvement of some economic indicators, in particular, the profitability of industrial and innovation activity which is conditioned by the rational choice of innovation projects. This choice is grounded on the comprehensive orientation at exact needs of customers and on the prospective progress of clusters. Besides, due to the well-grounded distribution of intensity of the innovation activity in time and its adaptation to financial conditions, the role of financial stability and competitiveness increases which contributes to the sustainable economic development of the cluster participants.

In this context it is expedient to study the place and role of the government in the processes of formation and progress of clusters as the institutions of the market economy. The role of the government in these processes consists in the situation that the government is one of three equal sides, each side performing its special functions. The given approach in the foreign economic literature is referred to as “triple helix” concept. The economic essence of this approach consists in the principle that the most efficient innovation development can be ensured by the joint activity of the government, the business and the scientific and educational institutions.

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<sup>232</sup> Ganyschak-Yefimenko L.M. The evaluation of efficiency of managing the innovative development potential of the enterprises united into the cluster // Current problems of the economy. – 2009. – №9(99). – P.86-95.

Table 2.3

Major advantages of functioning of clusters as institutional structures of the market economy for its participants

<b>For business</b>	<b>For public</b>	<b>For science and education</b>	<b>For authorities</b>
Opportunity for joint use of infrastructure	Growth of employment, decrease of unemployment	Graduates of educational institutions are provided with jobs	Formation and increase of taxation basis due to the concentration of enterprises in the region
Opportunity for joint marketing	Growth of salary and wage	Correction of amount of applicants for specialties necessary for the cluster	Instrument for cooperation with business, scientists, public organizations
Organization of distribution of production of the cluster participants	Opportunity for free education and retraining for the cluster employees	Opportunity for practical training of undergraduate students	Expansion of opportunities for attracting investments into the region, raising its investment attractiveness
Development and promotion of regional trends	Improved work conditions	Possible participation of scientists in practical activity	Development of the region's infrastructure
Participation in joint research developments	Reducing social tension in the region	Advanced material and technical basis for research	Raising the regional competitiveness
Access to new technologies, knowledge, modern techniques of management	Development of region's infrastructure	Growth of amount of skilled specialists	Improvement of the regional image (business reputation)
Reduction of transaction costs	Progress of the region's economy	Raising the personnel skills	
Growth of competitiveness of production	Improvement of living conditions	Participation of employees from practical sphere in educational process	
Possibility of entering international markets	Reduction of unemployment rate		
Reduction of expenses for search of personnel			

In practical activity, the relations in the sphere of creating or using innovations can be identified, as a rule, with the “double helix”, that is: the government – the science, the business – the science, the government – the business. However, the increased intensification and the complexity of innovation processes in the society has resulted in the situation that bilateral relations are losing their efficiency<sup>233</sup>.

The government’s role in the provision of the cluster progress consists in active mediation and, as a result, in the elimination of a number of drawbacks of the market<sup>234</sup>. Let us remember that the major reason of drawbacks of the market is the disparity between private and social expenses and profits. From the cluster viewpoint, it is expedient to state the networking failures of the enterprises that are the cluster participants. So, some separate subjects by means of interaction in the cluster(s) create positive externals for other cluster subjects. However, as these positive external factors do not bring them direct benefit (or they do not realize this benefit), they do not form ties with other localized subjects<sup>235</sup>.

One of the main reasons of weak ties between the cluster participants is a high level of transaction costs which are caused by the fact that a human being cannot be absolutely (ideally) rational. Therefore, firstly information is distributed unevenly. For example, a shop-assistant, as a rule, knows about the quality of a good better than a customer. As a result of the mentioned information asymmetry the cluster enterprises miss many opportunities of mutually beneficial cooperation. But, striving for rationality, the economic subject consumes and analyzes the information which, in its turn is connected with expenses that (maybe subjectively) may exceed the expected benefits of cooperation.

In this situation the government fulfils the part of the intermediary and contributes to the reduction of information asymmetry and consequently, to the decrease of transaction costs. This can be done by forming the basic platforms for interaction and acting in some cases as a guarantor of performing obligations, by assuming some part of the risks, and by directly participating in the projects. Let us note that such government measures make it possible for the cluster participants (commercial and noncommercial) to raise the intensity of their interaction and to more fully and efficiently use the potential of positive externals<sup>236</sup>.

Thus, the role of the government, of the country’s authorities in the processes of formation and ensuring the advance of clusters, especially local (regional) clusters, is undoubtedly the key one. Clusters as institution maximally take into consideration the market mechanism. Their functioning will be effective only in case that the formation took place at the initiative “from below”, that is if the enterprises understood and implemented the

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<sup>233</sup> Dezhina I., Kiselyova V. “The triple helix” in the innovation system of Russia. – Electronic resources. – Access mode: <http://institutions.com/innovations/265-g-g.html>.

<sup>234</sup> Skorobogatov A.S. Institutions economics: a course of lectures. – Snt–Petersburg. State University – Higher School of Economics, 2006. – 93p.

<sup>235</sup> Sölvell Ö. Clusters – Balancing Evolutionary and Constructive Forces. - Access mode: <http://www.cluster-research.org/redbook.htm>.

<sup>236</sup> Kutsenko Ye.S. Clusters in the economy: fundamentals of the state cluster policy // Electronic resource. – Access mode: <http://www.promcluster.ru/index.php/component/content/article/34-clstehpub/62-clsineco2.html>.

necessity of incorporation into clusters in order to increase their competitiveness.

In the conditions of the market economy the cluster structures are quite closely connected with the regional industrial policy which is oriented at the industrial restructuring of the regional economy. Actually, industrial policy is the strategic mechanism for raising the level of the region's competitive advantages and clusters are a real tool for providing its efficient implementation on certain territory. Thus, the regional industrial policy must be directed at the provision of growth of the regional competitive advantages while the cluster policy is an important instrument of implementation of the region's strategic goals and its innovation development.

It should be noted that the cluster approach essentially affects the formation of the national industrial policy. That is why the government's efforts should be oriented not at the support of separate enterprises or branches, but at the development of interrelations between suppliers and customers; end customers and producers, producers and government institutes and so on. It is evident that this approach will affect the principles of the national industrial policy because it requires some restructuring of the country's administration personnel, the change of mentality of the local authorities, another format of providing information about the state of the economy – not about the separate branches, but on the level of separate markets and companies.<sup>237</sup>

In our time clusters are considered as an object of a new type of industrial policy, that is “the cluster policy”, the main goal of which is to raise the country's competitiveness or the competitiveness of a separate region. The dominant idea of the cluster policy is the understanding of the fact that though the stable political and legal, social institutes as well as the consistent macroeconomic policy are important prerequisites of the national (regional) sustainable development, but actually the capacity is formed on the microeconomic level. It is based on the ability of enterprises to produce innovative goods (services) which enjoy stable demand and are attractive for investments. The following kinds of the national cluster policy are distinguished:<sup>238</sup>

- mediation (promotion of growth of cooperation between the cluster participants);
- stimulation of demand (government order);
- stimulation of external ties (realization of infrastructural and investment projects, elimination of trade barriers, protection of intellectual property rights and so on);
- creating favorable structural conditions (institutional, macroeconomic).

Let us note that the cluster policy combines the elements of the regional policy, the industrial policy, the policy of support for small and

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<sup>237</sup> Lykh I.I. The regulation of integration processes in the industry on the basis of knowledge transfer // Electronic resource. – Access mode: [http://www.bnubv.ua/portal/soc\\_gum/prvs/2011\\_2/tom2/177pdf](http://www.bnubv.ua/portal/soc_gum/prvs/2011_2/tom2/177pdf).

<sup>238</sup> Kryzaska R.Yu. The regional investment-innovative clusters: the current problems of introduction in Ukraine//Electronic resource. – Access mode: [http://www.nbu.gov.ua/portal/Soc\\_Gum/Dtr\\_du/2011\\_2/files/DU211\\_26pdf](http://www.nbu.gov.ua/portal/Soc_Gum/Dtr_du/2011_2/files/DU211_26pdf).

medium-sized business, the policy of attracting foreign investments, the innovation policy, the scientific and technological policy and so on. Therefore the implementation of the cluster policy is characterized by many vectors and envisages mainly the measures of regulatory type whose main goal is to eliminate the obstacles to the exchange of knowledge, innovations and others. Consequently, the role of the government in the realization of the cluster policy is hard to overestimate, especially at the stages of the birth of new clusters or the improvement of the existing ones.

The key directions of the government support for the formation and development of clusters are:<sup>239</sup>

- revealing the vertical or horizontal structures in the science intensive sectors of industry;
- planning the investigations of the cluster mapping, determining the regions, the directions of activity, technologies that will obtain benefits from the cluster operation; their incorporation into the general strategy of social-economic development;
- identifying the peculiarities of interaction of the central and regional initiatives;
- creating legislative initiatives in the sphere of establishment and functioning clusters and arranging strategic information about clusters;
- joint marketing research;
- determining the main barriers and the impeding factors in the cluster progress and providing permanent corrections of the industrial policy measures;
- providing complete information to the interested sides about the potential benefits of the cluster formation and functioning;
- creating the mechanism for ensuring the government support of the operating clusters.

Therefore, the idea of the cluster formation must be taken as the basis for the formation of new industrial policy in Ukraine. The significance of elaboration and realization of this policy is supported by even the representatives of the liberal economic concepts. The more so, the leading independent experts agree in the opinion that the traditional industrial policy concentrated on the promotion of advance of the biggest enterprises and branches has completely reached its limit. Because of this, the task of formation and provision of the successful industrial policy based on clusters becomes especially important. Such policy requires applying a comprehensive and effective approach in order to successfully solve this task for the provision of the sustainable economic development of Ukraine.

We consider that the national program of clusterization must be grounded on the combination of territorial and sectoral consolidation because the expediency of such approach is confirmed by the foreign experience. Moreover, the leading factor for the sectoral selection of enterprises in the cluster development is the biggest percentage of added value (profitability) in the ready-made production.

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<sup>239</sup> Kryzaska R.Yu. The regional investment-innovative clusters: the current problems of introduction in Ukraine // Electronic resource. – Access mode: [http://www.nbu.gov.ua/portal/Soc\\_Gum/Dtr\\_du/2011\\_2/files/DU211\\_26pdf](http://www.nbu.gov.ua/portal/Soc_Gum/Dtr_du/2011_2/files/DU211_26pdf).

The national comprehensive program of clusterization should become a significant and integral part of the strategy for social-economic development of regions in Ukraine. Among the major tasks of the national cluster policy the following objectives should be singled out:<sup>240</sup>

1. It is necessary to accelerate the adoption of the draft Concept of the cluster creation in Ukraine in order to guarantee the normative definition of the notion “cluster” as well as to create the corresponding institutional environment for the introduction of the cluster model in the country.

2. The executive bodies should carry out the monitoring of the social and economic state of the regions with the aim of determining the potential cluster structures. These bodies must also elaborate the corresponding program of the formation and functioning of clusters with the consideration of the regional peculiarities.

3. The conditions are to be created for the implementation of the initiatives of business structures and authorities concerning the advance of clusters by means of attracting representatives of science, small and medium-size business, public organizations to the participation in the innovation projects. Also, it is essential to ensure the efficient use of the model of the government-private partnership in order to increase the competitiveness of the country's regions.

4. The economic and production activity of the national economic subjects should be increased by introducing the program of tax stimulation of the cluster cooperation.

5. The permanent investigation and monitoring of the cluster formation on the regional level is to be conducted. Exactly, it is necessary to determine the optimal cluster structure, the territorial localization of its separate links, the joint financing of the analytical research of the prospects, the competitiveness of clusters at external markets, and the effect of clusters on the social sphere.

6. It is necessary to form the communication platform for the potential cluster participants, in particular, by means of their integration into the process of elaboration and discussion of the regional development strategies, the promotion of exchange of experience between the regions concerning the cluster policy.

7. It is essential to consolidate the cluster participants (through the associated forms as well), to promote the entry into foreign (external) markets by the enterprises participants of clusters; to conduct joint marketing research and advertising, to implement the educational policy coordinated with the main representatives of the prospective cluster, to ensure the communication and cooperation of enterprises and educational institutions.

8. The institutional environment and the information-communication infrastructure for the cluster development should be formed.

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<sup>240</sup> Gryshova I.Yu. Clusters in the agroindustrial complex: problems and prospects of development // *Economy of the APC.* – 2011. – №4. – P.142-146.

Prysyazhnyuk A. The innovative transborder cluster: problems and prospects of development // *Visnyk (Messenger) of Ternopil National Economic University.* – 2010. – №5-1. – P.334-340.

Fedorenko V.G. Clusters are a systemic tool of increasing the competitiveness of the economy // *Economy and the state.* – 2007. – №9. – P.6-9.

Thus, the formation and provision of progress of clusters are the priority directions of ensuring the sustainable development of the national economy. Because clusterization is a powerful impulse for the innovation-oriented country's economic growth. The formation of clusters makes it possible to concentrate and to optimally combine science, technologies, education, making innovations and investments, export promotion, attracting foreign investments – these factors are significant prerequisites for raising the competitiveness of Ukraine.

### 2.3. The place of cluster policy in the modern paradigm of regional development

The changes in approaches to the formation of the territorial production organization predetermine the revision of the components in the social and economic development of the regions. These changes involve the transition from the investigation of trends in the advance of separate enterprises to the analysis of the business network and the institutional environment of their formation. The emergence of clusters, their transformation into significant institutions of the regional social-economic system has led to the necessity of investigating the content of the cluster policy in the modern paradigm of regional development.

In the domestic and foreign economic literature we can observe several approaches to the definition of the category “cluster policy”, in particular in the works of V.I. Zaharchenko, V.N. Osipov,<sup>241</sup> I.V. Pylypenko,<sup>242</sup> D.A. Valitsky.<sup>243</sup> However, they have common opinion that the cluster policy should include the system of government measures and mechanisms for the cluster support. Such measures and mechanisms could ensure the sustainable and balanced economic progress of the regions and the country as a whole, contribute to the preservation and increase of competitive advantages of the transactors as well as to the introduction of innovations.

The complexity of planning the tasks for the cluster creation, of the choice of the most suitable tools for the territorial cluster development has caused the existence of various practical approaches concerning the formation of the cluster policy. The Western analysts keep to the opinion that the cluster policy as such does not exist, at any rate as a set of economic tools (as, for instance, the investment policy, the policy of innovative development, etc.). The cluster strategies and programs make use of a variable set of different approaches and tools and usually involve the combination of analytical devices and political techniques which are never repeated and which are borrowed from other fields of politics. In this connection it is essential to understand how the cluster policy borrows key aspects from other spheres of economic development, such as industrial policy, innovation and technological policy, regional development policy and others. A. Koloshyn, the supporter of this approach, considers that the cluster policy borrows the concentration on separate sectors of the economy and the measures specific for these sectors, i.e. the technological orientation, from industrial policy. As for the policy of regional development, the cluster policy takes from it the comprehension that the economic growth depends on the interaction of the business, scientific and educational institutes and a wider business environment (the labor market and the infrastructure), that is the network orientation. And, finally, the cluster policy borrows from the

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<sup>241</sup>Zaharchenko V.I., Osipov V.N. The cluster form the territorial-industrial organization. – Part 2.: Increasing the regional competitiveness on the basis of the cluster approach. – Odessa: Favorit-Printing house, 2010. – 236 p.

<sup>242</sup> Pilipenko I.V. Conducting the cluster policy in Russia // Electronic resource. – Access mode: [http://www.biblio-globus.ru/docs/Annex\\_6.pdf](http://www.biblio-globus.ru/docs/Annex_6.pdf).

<sup>243</sup> Valitsky D.A. The formation of the cluster policy as the mechanism of economic development of industrial branches in Russia // Vestnik (Messenger) of Moscow state regional university. Series “Economics”. – 2010. – №1. – P.50-56.

policy of the small and medium-sized business support – it borrows the ideas of significance of the small business development, i.e. the aspects which are related to the specific activity of the small businesses. Combining the role of technological development, the relations of the interconnected economic sectors and the growth of the private business, as well as other tools connected with each sphere of economic development, the followers of the first approach regard that the competitive advantages are grounded on the combination of advantages of different policies in the economic development.<sup>244</sup>

The supporter of the opposite approach S. Kutsenko is sure that the major feature of the cluster policy directed at the development of all clusters in the region (country) consists in the fact that such policy is not an additional instrument in the state management but rather a new approach to the use of the available instruments.<sup>245</sup> Correspondingly, the question of encouraging and advance of clusters lies not in the shortage of new original measures, but in the low effectiveness of the existing instruments. As the cluster approach is integrated into different spheres of the country's economic development, it redirects them with the consideration of the need to activate the creation and progress of clusters. The exact measures for the cluster formation are determined, proceeding from the place and role of the cluster policy in the government management of regional development. To prove his thought, Yevheniy Kutsenko compares the industrial and the cluster policies from the viewpoint of their substitutional and complementary nature. He singles out three features of the cluster policy which enable to practically distinguish this policy from the industrial policy:

- the existence of even an approximate plan of the interaction between the key subjects of the business network;
- the directions of admitting new members to the cluster must be specified, firstly, the small and medium-sized businesses, the scientific and educational institutions;
- besides the authorities and the business, the emphasis must be made on the creation of the innovative infrastructure such as: the centers for joint use of equipment, the centers of technological transfer, the technoparks, the business incubators, ect.<sup>246</sup>

Oleksiy Tulikov notes that the peculiarity of the cluster policy in comparison with the industrial policy consists in the orientation at only competitive kinds of activity in the region or in the country. Correspondingly, the instruments of the cluster policy are of wider range than the set of the industrial policy instruments. The instruments of the cluster policy include the support of not only industrial activity but also the service sphere, the scientific and educational complex, the scientific and educational complex, the unique competences and traditions of the local community. While the industrial policy makes use of instruments of the

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<sup>244</sup> Koloshin A. The analysis of foreign experience in increasing sectoral, regional and national competitiveness on the basis of the cluster development // Electronic resource. – Access mode: [http://www.politana42.ru/articles\\_695.html](http://www.politana42.ru/articles_695.html). – P.2.

<sup>245</sup> Kutsenko Ye.S. Clusters in the economy: fundamentals of the state cluster policy // Electronic resource. – Access mode: <http://www.promcluster.ru/index.php/component/content/article/34-clstehpub/62-clsineco2.html>.

<sup>246</sup> Ibid.

customs policy, the technical regulation, the government investment policy, the policy of cluster is connected with the application of indirect set of instruments of support which are mainly aimed at the development of cooperation, of the innovative potential of the cluster participants.<sup>247</sup>

In the opinion of Olena Ageyeva, the cluster policy combines the industrial and the regional policies, the policy of the small business backing, the policy of attracting foreign and domestic investments, the innovation policy, the scientific-technological, the educational and other policies. The implementation of the cluster policy envisages a complex of measures, of predominantly regulatory character, which are aimed at avoiding the obstacles that prevent the establishment of interaction and interconnection between different members of the cluster.<sup>248</sup>

We consider that the cluster policy must be realized with the consideration of the specific area organization of Ukraine's economy and only in the interconnection with other approaches which were previously elaborated and successfully applied in the domestic economy before. Besides, it should be remembered that the cluster policy is only one out of several approaches to raising the competitiveness of the economy. The most positive effect from the realization of this policy could be achieved by its coordination with the complex of other measures. As Lyubov Fedulova stresses, the cluster policy has become the basis for increasing the regional competitiveness in nearly all successful economies of the world. The reasons are:

- the cluster policy is dynamically built into the regional development policy and the improvement of the region's competitiveness;

- this policy enables to form the system-based communication platforms which promote a more active dialog between the main cluster participants (the regional administration, the representatives of the business and the higher school, the regional elite) for achieving general goals and the elaboration of the plan of actions for all interested sides;

- the cluster policy makes it possible to smooth away or even to eliminate the contradictions between productivity and employment due to the specialization and outsourcing of the non-profile kinds of activity, as well as due to the integration of new transactors, i.e. economic entities, which operate in the adjacent and mutually complementing branches of the national economy;

- this policy encourages the international scientific and technological ties and enables to attract investors by promoting territorial competences.<sup>249</sup>

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<sup>247</sup> Tulikov A.V. The state support of innovation clusters: the problems of legal regulation // Electronic resource. – Access mode: [www.patentovedam.narod.ru/.../tulikov.doc](http://www.patentovedam.narod.ru/.../tulikov.doc).

<sup>248</sup> Ageyeva Ye.G. The problems of realization of the cluster policy in Russia // Electronic resource. – Access mode: <https://cyberleninka.ru/article/n/problemy-realizatsii-klasternoy-politiki-v-rossii>.

<sup>249</sup> Fedulova L.I. The cluster policy in the system of provision of the regional technological development // Economic sciences. Series “Regional economy”. – 2010. Issue 7(27), part 5. – Economic resource. – Access mode: <https://cyberleninka.ru/article/n/klasternyy-podhod-k-innovatsionnotekhnologicheskomu-razvitiyu-rossii-i-ukrainy-metodicheskie-i-organizatsionnye-voprosy>.

The analysis of theoretical developments and the issue of achieving the national and regional competitiveness in Russia enabled Ihor Pylypenko to make several conclusions which specify the need to introduce the cluster policy and its regional orientation. Firstly, all researchers have common opinion that the competitive advantages are created and mainly used at the regional level. Secondly, they emphasize the leading role of the transactors, economic entities, operating in the regions as the major elements of raising the territorial competitiveness, i.e. the scientists apply the institutional approach to the solution of the problem. Thirdly, the investigations of different economic schools show that such forms of the production organization as various types of industrial regions, the regional and local clusters which develop at the regional level and are interconnected in the process of creation of the added value chain are the indicators of the competitiveness of the national economy as a whole.<sup>250</sup> Fourthly, the main objects of the policy in the direction of competitiveness must be the regions which form the innovation systems of the territory by establishing the competitive clusters.

Taking into consideration many differences in the cluster policy between Russia and other countries, it was suggested to adapt this policy to the specific clusters, not to make a standard policy. The Methodological Recommendations for the implementation of the cluster policy in the subjects of the Russian Federation were adopted. According to these recommendations, the main aim of the cluster policy was to ensure the high rates of economic growth and the diversification of the economy. It could be achieved by means of raising the competitiveness of enterprises, the suppliers of the equipment, components, specialized industrial and everyday services, research and educational organizations which form the territorial-industrial clusters.<sup>251</sup> Therefore the major tasks of the cluster policy are:

1. The formation of conditions for the effective organizational development of clusters including the necessity to reveal the cluster participants, to work out the strategy of cluster progress which ensures the elimination of drawbacks and restrictions that undermine the production competitiveness; the production is manufactured in the framework of chain for creating the added value, also, this production ensures the growth of the competitive advantages of the participants;

2. The provision of effective support of the projects, such support being aimed at raising the competitiveness of the cluster participants by means of focusing and coordination, and the priorities of cluster development and the measures of the economic policy should be taken into consideration, according to the following directions:

- the support for the advance of the small and medium-sized business;
- the innovation and technological policy;
- the educational policy;
- the policy of attracting investments;

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<sup>250</sup> Pilipenko I.V. The cluster policy in Russia // Electronic resource. – Access mode: [http://www.biblio-globus.ru/docs/Annex\\_6.pdf](http://www.biblio-globus.ru/docs/Annex_6.pdf) (P.5-6).

<sup>251</sup> Methodological recommendations on realization of the cluster policy in the subjects of the Russian Federation // Economic resource. – Access mode: <http://procluster.ru/index.php/about-zak-cls/48-2010-05-12-07-57-03.html>.

- the policy of export development;
- the development of the transport and the power engineering infrastructure;

- the development of the branches of the economy;

3. The provision of the effective methodological, information-consulting and educational support for the realization of the cluster policy at the regional and sectoral levels.<sup>252</sup>

Besides, talking into account the differences in approaches to the formation of instruments for revealing and encouraging the cluster development in different regions of the Russian Federation, the Methodological Recommendations for the implementation of the cluster policy in the northern regions of the Russian Federation were adopted.<sup>253</sup> In the Recommendations six priority sectors of the economy were designated. These sectors are considered to be suitable for the implementation of the cluster technologies: fuel and power engineering complex, timber industry, logistics, ecology and tourism, biotechnologies, the agricultural-industrial complex. Also, the draft concept of the cluster policy for Moscow has been worked out in the sphere of small and medium-sized business.<sup>254</sup> This concept specifies the mechanism of realization, the resource provision system and the methods of the cluster policy mechanism.

We consider that the value of the elaborated normative and legal documents is enhanced by the unified approach to the definition of clusters and the set of features for its identification. But also the importance of these documents consists in the introduction of the notion “protocluster” into the scientific and practical usage. The notion of “protocluster” means the association of enterprises (businesses) which possess several features of cluster and which can become a full-fledged cluster in case of the government support. The draft Concept of the cluster policy for the city of Moscow determines such widespread kinds of protoclusters in the Russian economy:

- the protocluster of small and medium-sized enterprises which have the necessary level of innovation and interaction but do not possess the necessary critical mass;

- the protocluster formed as a result of direct foreign investments (this protocluster does not possess, as a rule, the necessary level of integration with the local transactors, scientific and educational establishments, entrepreneurs' unions, associations and so on);

- the protocluster of industrial outsourcing which provides the realization of the mass production function, with insufficient development

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<sup>252</sup> Methodological recommendations on realization of the cluster policy in the subjects of the Russian Federation // Economic resource. – Access mode: <http://procluster.ru/index.php/about-zak-cls/48-2010-05-12-07-57-03.html>.

<sup>253</sup> Methodological recommendations on realization of the cluster policy in the subjects of the Russian Federation // Economic resource. – Access mode: <http://procluster.ru/index.php/about-zak-cls/47-metreksever.-rfo.html>.

<sup>254</sup> The concept of the cluster policy of the city of Moscow in the sphere of small and medium-size business (draft) // Electronic resource. – Access mode: <http://promcluster.ru/index.php/about-zak-cls/140-kontsepsia-Klasternoy-politiki.html>.

of the innovation function and the competition of the participants; the characteristic examples are the territorial-production complexes (TPC).<sup>255</sup>

In the process of formation of the mechanisms for the realization of the cluster policy it is necessary to take into account that the competition between the regions differs greatly from the competition between the countries. While the countries compete on the basis of comparative advantages and a low threshold of competitiveness for them is actually absent, the regions compete on the basis of absolute advantages because of the increased mobility of most factors of production.<sup>256</sup> That is why the goals and instruments of the cluster policy at the national and regional levels are essentially different. Besides, it is important to note that the complex of tasks related to the introduction of the cluster concept at the national level, in the works of the foreign and domestic scientists is more or less similar, but the proposed measures at the regional level differ considerably. We do agree that the major assignment of promoting the development of clusters at the national level consists in the arrangement of the system for the normative-legal regulation of the emergence and functioning of the territorial-sectoral associations. Such system is reflected in the adoption of particular documents on propagating the ideas of clusterization as well as in the inclusion of separate elements of the country's cluster policy into the regulatory acts on the issues of innovation activity, the backing for the small and medium-sized business and so on.

At the same time we should stress that the system of the legislative support for the cluster development cannot be fully implemented at the national level only. In this connection Olexiy Tulikov justly maintains that for different clusters the efficient mechanisms which could be specified in the legislation are different. They vary for monosectoral and polysectoral clusters; for the clusters formed by the subjects of the small and medium-sized businesses and the clusters created around the enterprises-leaders. Correspondingly, the question of application of certain measures for the government support and the legal regulation must be solved locally, separately for every cluster.<sup>257</sup> For instance, it is recommended to use such instruments of the cluster policy for the innovation clusters as: the promotion of the cluster innovation networks, the organization of the cluster information support and the encouragement of technology transfer between the cluster participants. If the tasks of technology transfer in the territorial-sectoral association are implemented, then the principal instruments of the cluster policy are: the organization of expert assessment of the innovative projects, the improvement of patent processes in the cluster, the auditing and inventory of the intellectual property, the formation of the intellectual property database.

Olexiy Tulikov stresses that the discussed instruments of the cluster policy are mainly connected with the implementation of the government order by the regional executive bodies. That is, the legal regulation in this

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<sup>255</sup> The concept of the cluster policy of Moscow in the sphere of small and medium – size business (draft) // Electronic resources. – Access mode: <http://promclister.ru/index.php/about-zak-cls//140-konseptsia-klasternog-politiki.html>.

<sup>256</sup> Production clusters and the region's competitiveness: monograph. – Vologda: Institute of social-economic development of territories of the RAS, 2010. – P.6.

<sup>257</sup> Tulikov A.V. The state support of innovation clusters: the problems of legal regulation// Electronic resource. – Access mode: [www.patentovedam.narod.ru/.../tulikov.doc](http://www.patentovedam.narod.ru/.../tulikov.doc).

case is minimal and is limited to the elaboration and adoption of strategies and plans for the cluster development, the regional goal-oriented cluster programs, the regulations about the coordination councils. But even with the use of such limited legal opportunities, a systemic approach is necessary which could be ensured only by laws. That is, the system of the instruments of the government support for clusters should be legalized in the legislative acts in order to create the conditions for the efficient application of such instruments. The researcher considers that the laws of the regions in the Russian Federation on the innovation activity possess considerable potential to become the basic source for the legal regulation of the cluster policy.<sup>258</sup>

We consider that the tasks of the regional cluster policy are revealed most fully in the work of Yekateryna Luneva. She suggests to include the following tasks:

5. The theoretical assessment of potential for the economic growth and the investment attractiveness of the region, the correspondence of the infrastructure and economic factors to the sustainable regional development strategy, the possibilities of the local and the attracted capital;
6. The analysis of the region's investment potential and the measures for attracting direct investments into the promising business projects which would promote the economic growth in the region in future;
7. The creation of necessary conditions for the formation or “completion” of the region's economy cluster which would contribute to the general competitiveness, in particular:

– to work out the main directions of the cluster policy, taking into account the specific features of the region (the financial and investment potential, the receptiveness to economic factors, the institutional development, the force of interaction of innovation and general economic sides in the region); such policy should be directed at the determination of the regional cluster which could become the points of intensive economic growth in the region and of the increase in the interconnections between the enterprises that form the promising clusters;

– to make use of the opportunities to attract financial aid according to the country's goal-oriented programs, with the aim to renovate the main industrial facilities of the promising clusters, and to expand the innovative activity at the enterprises and businesses which belong to the promising cluster formations.<sup>259</sup>

According to Yevheniy Kutsenko, the specific features of establishment and application of the cluster policy consist in the fact that the government, one of three sides in the cluster formation and development, operates beyond the boundaries of each particular cluster. The government performs wider functions, defines the direction of development of all economic subjects (transactors).<sup>260</sup> Correspondingly, the measures aimed at

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<sup>258</sup> Ibid.

<sup>259</sup> Linyova Ye.A. The cluster approach to the regional management of Murmansk region // Vestnik (Messenger) of Murmansk state technical university. Series “Social-economic sciences”. – 2011. – Volume 15, issue 1.

<sup>260</sup> Kutsenko Ye.S. Clusters in the economy: fundamentals of the state cluster policy // Electronic resource. – Access mode: <http://www.promcluster.ru/index.php/component/content/article/34-clstehpub/62-clsineco2.html>.

activation and advance of all clusters involve the formation of favorable conditions for the clusterization of the economy as a whole.

In our opinion, in its potential and structure the cluster policy is exactly such complex of measures which can promote the solution of the major task: to increase the competitiveness of the domestic economy. To raise the competitiveness it is necessary to develop the competitive markets, to raise the innovative level of different branches of the economy, to accelerate the development of small and medium-size businesses, to stimulate the local initiative and to promote the interaction between the government, the business and the scientific community. The principal issue for the cluster creation is the model of the cluster policy applied in different countries. Actually, in the experience of different countries two models of the cluster policy have been formed: the liberal and the dirigism models. The differences between these models are presented in Table 2.4.<sup>261</sup>

Table 2.4

The comparative analysis of the models of the cluster policy

<b>Indication</b>	<b>Liberal model</b>	<b>Dirigism model</b>
The object of influence	Develops the existing clusters which were earlier formed by the market	The sectoral and regional priorities are selected at the national and regional levels, also the clusters to be developed are selected
The role of the regional bodies of power in the formation of cluster infrastructure	The authorities seldom take part in the creation of infrastructure for clusters	The infrastructure for the development of priority cluster is created or included on the goal-oriented basis (for instance, university departments, innovation centers, research institutes, banks, airports, roads, etc.)
The direction of the government policy	The government creates incentives for regional authorities which bear the responsibility for the existing or the newly created cluster	The region for the cluster creation as well as the volume of its financing is determined by the government with the consideration of the thought or proposal of the regional (territorial) structures

The main principle of the liberal model applied in the USA, Great Britain, Australia, lies in the idea that cluster is the market mechanism and the role of the regional authorities is reduced to removing the barriers hindering its natural development. This cluster strategy is characteristic of the countries which conduct the liberal economic policy. The peculiarities of the cluster policy in these countries lie in the fact that the major players are regional authorities and regional organizations which elaborate and implement the programs of the cluster development together with their

<sup>261</sup> Production clusters and the regional competitiveness : monograph / ed. by T. V. Uskova. – Vologda: Institute of social–economic development of territories of the Russian Academy of Sciences (RAS), 2010. – P.156.

leading participants, and in some cases finance and support the pilot projects.

The second group includes the countries which realize the dirigism policy of the cluster advance. To them belong some Asian and European countries, in particular Japan, the Republic of Korea, Singapore, Sweden, France and other countries. In these countries a great role is played by the active government (regional) policy of the cluster development. This policy includes a complex of measures — from the choice of priority clusters and financing of projects for the elaboration of strategies and programs of the cluster progress to the purpose-oriented creation of key factors for the successful cluster development (for example, the establishment of the infrastructure, the improvement centers in the sphere of research and development and others).

It could be noted that the government does not implement only one model of the cluster policy in the country. Depending on the level of the sectoral development and the significance of the government policy concerning the creation of clusters in a certain region, the simultaneous use of the two models is possible. We consider that the liberal model is more appropriate for the existing clusters whereas the mechanisms of the dirigism model should be applied during the formation of clusters in the branches with a low level of clusterization, the progress in these sector being significant for the economy of the region or the country. Besides, depending on the level of the government support for clusters in the region, a group of the Russian scientists headed by Tamara Uskova singled out the following types of the cluster policy:

- the catalytic: the government structures act as the catalyst of the clusterization processes, the government promotes the interconnection between the interested sides (the business structures and the research organizations) but provides only limited financial support to the project;

- the supporting type: the catalytic function of the government is supplemented by investments into the region's infrastructure, education, training and marketing for stimulating the progress of clusters;

- the directive type: the supporting function of the government is supplemented by special programs aimed at the revision and revealing of new directions in the regional economic specialization through the cluster development;

- the interventionist type: the government performs not only its directive function but also takes the responsibility from the private sector for making decisions about the further advance of clusters and forms its specialization with the help of transfers, subsidies, restrictions or regulation as well as active control over the cluster participants.<sup>262</sup>

The analysis of over 160 regional clusters examined by Michael Enright shows that in 40 percent cases the regional and local authorities conduct the supporting policy. This policy involves the government investments into the regional infrastructure, the training of skilled personnel and the marketing of the regions with aim of encouraging the cluster development. In 20 percent cases the government activity is limited to the

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<sup>262</sup> Production clusters and the regional competitiveness: monograph / ed. by T. V. Uskova. – Vologda: Institute of social – economic development of territories of the Russian Academy of Sciences (RAS), 2010. – P.156.

implementation of the catalytic cluster policy which is reduced to the establishment of interconnections between the interested sides and to the provision of limited financial support of the projects. And in 5 percent cases the directive policy related to the regional clusters was conducted; such policy is aimed at the introduction of special programs in order to revise and reveal new directions of the regional specialization through the development of clusters. Finally, 2 percent clusters are subjected to the intervention policy when the government defines the region's specialization with the help of subsidies, restrictions, as well as by control over the firms in the cluster.

In these cases the volumes of the state financing increase in the sequence from the supporting, catalytic, directive – to maximal values in case of conducting the interventionist cluster policy.<sup>263</sup>

The experience of the formation and functioning of clusters in Ukraine makes it possible to supplement this list by three more types of the cluster policy.

1. The innovation policy: the government or regional authorities conduct a complex of measures for revealing the existing or potential points of growth in the domestic economy with the aim of the comprehensive support of their progress. As a rule, such points include high-technology branches which experience a considerable demand in innovations. With the help of an active government support such branches can predetermine the specialization in the regional economic system and can guarantee the regional economic revival at a qualitatively new level where the advantage will be given to the constructive forms of cooperation with the business and the institutions.

2. The lobbyist policy: the government or regional authorities lobby certain interest in separate branches of the economy, i.e. in such branches which are unable to retain a high level of competitiveness in the conditions of the market economy and which require the government protection. Such sectors in the society are related to socially oriented branches, they are characterized by a high consumer demand but by a low profitability. Correspondingly, these branches are not very attractive for private investments.

3. The independent initiative policy: the government or regional authorities support the initiative of public or other organizations without interfering and financing the processes connected with the formation and functioning of clusters. Such policy is typical for both natural and artificially created clusters under the condition that the cluster enterprises possess a high financial potential, a strong competitive position at the market and that there exist the initiative groups from the circle of entrepreneurs or public organizations of the region which can represent their interests at the regional and national levels. The major advantage of the creation and the necessary backing in the functioning of such clusters consists in the possibility of obtaining additional competitive advantages of the region due to the synergetic effect as a result of intracuster interaction.<sup>264</sup>

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<sup>263</sup> Romanova E. regional clusters and the competitive economy (on the example of East Germany // Electronic resource. – Access mode: [www.ieras-library.ru\(document\)soveurope/2008/romanova5.doc](http://www.ieras-library.ru(document)soveurope/2008/romanova5.doc). – P.91.

<sup>264</sup> Ukraine and its regions the way to the innovation society: monograph. Volume 4 (I. P. Buleyev, V.I. Dubnitsky, M. P. Voynarenko) et al. – Donetsk: Yugo-Vostok, 2011. – P.196.

Without doubt, the efficient cluster policy enables to create competitive clusters. Traditionally, clusters cannot be imagined as the mechanical sum of enterprises and organizations which determine the character of network cooperation. A distinctive cluster feature is the synergetic effect from the activity of the enterprises which are the cluster components. That is, it is quite probable to create social or business networks in a certain region which are not clusters. For instance, in 1994 the group of M. Porter singled out 33 clusters in Portugal. However, after a few years it became clear that the inefficient government policy in many clusters could be explained by the fact that the determined clusters were either incompetent initially or were just an accumulation of disconnected firms.<sup>265</sup> That is why, the experience shows that the ungrounded “branding” of clusters may lead to unjustified government expenditures because of the inefficient policy of support for the territorial clusters, as well as it may deceive the potential private investors. Thus, the formation of the regional innovation system and the creation of clusters should be regarded not as independent concepts of regional development but as components of the single mechanism of the regional policy which complement each other, and each component of this mechanism can and must become the catalyst of the interregional integration.

The foreign scientists noted more than once that at the current stage of the cluster development it would be possible to single out the cluster policy of two generations. The cluster policy of the first generation is the complex of measures carried out by the regional authorities. Such measures involve the identification of clusters, the determination of spheres where the cluster forming enterprises should operate, the establishment of the government bodies for the support of the territorial-sectoral associations as well as the common policy of encouraging their activity in the country and in the region. The cluster policy of the second generation is grounded on sufficient knowledge about the existing clusters at the national or regional levels and envisages the individual approach to the each cluster development.<sup>266</sup>

T. Mirolyubova and A. Aphonina conducted the investigation of the cluster policy in the European countries. This investigation was carried out on the basis of reports from 31 European countries which were the components of the European cluster project INNOVA. The analysis reveals that the cluster policy is implemented with the help of the cluster development concept which includes both national and regional programs. Also, it is stated that a significant element of the cluster policy is the determination of the sources of financing and the organizations responsible for the realization of these programs. The analysis of the reports enables to single out 4 types of the cluster programs which are widely applied in the European countries:

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<sup>265</sup> Pilipenko I.V. Conducting cluster policy in Russia (Supplement 6 to the Annual economic report) // Electronic resource. – Access mode: [http://www.biblio-globus.ru/docs/Annex\\_6.pdf](http://www.biblio-globus.ru/docs/Annex_6.pdf). P.10.

<sup>266</sup> Valitsky D.A. The formation of the cluster policy as the mechanism of economic development of industrial branches in Russia // Vestnik (Messenger) of Moscow state regional university. Series “Economics”. – 2010. – №1. – P.50-56.

– the first type of regional programs is the programs aimed at studying, specifying and classifying clusters in the region. It should be noted that, besides the mentioned goals, the programs also include such measures as the popularization of the cluster idea, the cluster initiatives and creation as well as the organization of various seminars, training and symposia. The aim of these measures is to elucidate such issues as the essence of clusters, the rules of their functioning, management and the establishment of mutual links between companies inside clusters, etc.

– the second type of the regional cluster programs involves the programs whose aim is to increase the competitiveness, to expand cooperation and to develop certain cluster or branch on the territory of the region.

– the next, third type of programs includes the programs aimed at the progress of the region. The goal of these programs is to create the competitive regional economy. The main measures of the programs are the strengthening of the regional clusters, the increase of the competitiveness of the priority branches, the stimulation of innovations and the support of the economy sectors. Also, besides economic goals, these programs often contain social goals – to increase employment, to improve health care, education and environmental protection.

– the last type of the regional cluster programs involves the programs which are aimed to stimulate not the whole cluster, but some component, the specified chain of the cluster or the interconnections inside the cluster between certain participants.<sup>267</sup>

The experience of clusterization in the Ukrainian economy demonstrates that there is no consistent national cluster policy in the country, despite some regulations on the cluster development included into the normative-legal documents on the issues of innovations. Therefore the formation of the network forms of cooperation is the prerogative of the local authorities. The forms of clusters at the regional level depend on two factors. On the one hand, they depend on the level of information about the possible testing of the cluster technology on certain territory. On the other hand, they depend on the possession of comparative competitive advantages which can manifest themselves in high level of specialization in separate kinds of production, in the availability of exclusive materials, the property rights to unique technologies and so on. The trends of cluster formation are not similar in different spheres, that is why Andriy Stasyshyn suggests supporting the emergence of the cluster consulting in Ukraine, that is rendering services related to the project of establishment of a certain cluster on the region's territory, as well as teaching the theoretical foundations of cluster initiative management with the application of the technique of the keys to successful cluster projects, and cluster management, which is the system of knowledge on managing clusters.<sup>268</sup>

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<sup>267</sup> Myrolubova T.V., Afonina A.G. Cluster policy in the European countries and in Russia: comparative analysis // Scientific journal Vestnik (Messenger) of Perm University. Series "Economics". – 2011. – №1(8). – P.37-44.

<sup>268</sup> Stasyshyn A. Clusters as economic subjects and the cluster policy: theory and experience of small countries of western and Northern Europe // Visnyk (Messenger) of Lviv University. Series: economics. – 2008. – Issue 40. – P.384-388.

An important element of the cluster policy is the creation of favorable institutional environment for the functioning of clusters. Taking into account the close interconnection between the cluster development trends and the character of mutual relations in the region's social and economic system, Tetyana Ignatova suggests conducting the investigations of the institutional environment of the regional economy. Under such environment Ignatova understands stable economic and social links between people, norms and rules on the basis of which the economic social relations in the region are formed and a particular type of economic activity is realized.<sup>269</sup> According to Tetyana Ignatova, a favorable institutional environment contributes to the reduction of managerial risks, the decrease of transaction expenses and raises the region's total income.

Let us agree that in the regional aspect the institutional environment must be directed not only at the realization and protection of the property rights, but also at the protection of implementation of contracts, rules and mechanisms. These factors ensure the creation of the legal, economic and managerial mechanisms for stimulating the competitive innovative production. Tetyana Ignatova considers that institutional factors promoting the progress of competitive advantages in the regional social-economic systems and predetermining the emergence of cluster include the elaborated innovation strategy, or the program of the social-economic development of the region or the city with the SWOT-analysis, the development scripts including the innovation script, the program measures and the implementation mechanism. Other institutional factors, according to Ignatova, are: the priority regional projects at the national and international levels; the advanced market infrastructure (with banks, insurance companies, business-incubators, technology parks and so on); the development of the legislative and normative-legal basis which promotes the innovation development and the sustainable formation, progress and realization of its competitive advantages.<sup>270</sup>

As we can see, an important component of the institutional environment in the regional economy is its innovation component. In order to reveal the character of their interconnections, N. Porosyatnikova conducted the projection of the innovation component on the institutional regional environment and determined the components of the innovation institutional environment (Fig. 2.2).<sup>271</sup>

In general, the conducted investigation of the components of the efficient cluster policy in the developed countries of the world made it possible to specify the directions of the government cluster policy in the regions of Ukraine. These directions determined by the Ukrainian scientists must be solved in the first place. The directions include:

– the clarification and monitoring of the situation during the formation of clusters at the territorial level, in particular, the determination of their optimal structure, the localization of their separate sectors, the

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<sup>269</sup> Ignatova T.A. Institutional environment in the development of competitiveness of the regional economy // Novosibirsk. – Electronic resource. – Access mode: <http://econom.nsc.ru/conf08/info/Doklad/Ignatz.doc>.

<sup>270</sup> Ibid.

<sup>271</sup> Porosyatnikova N.A., Firsova A.A. The modern state of the innovative infrastructure complex: monograph. – Saratov: Nauchnaya kniga, 2009. – 168 p.

coexistence of analytical investigations of cluster prospects, its competitiveness at the external markets, the evaluation of the cluster effect on the social sphere;

- the formation of communication grounds for potential cluster participants, including the integration of participants into the process of elaboration and discussion of the regional development strategies, the promotion of experience exchange between the regions on the issues of the cluster policy;

- the consolidation of the cluster participants (in particular, through the associated firms), the implementation of programs concerning the foreign market entries by the cluster participants, the organization of joint marketing researches and advertizing campaigns, the realization of the educational policy coordinated with the main representatives of the future cluster, the provision of communication and cooperation of enterprises, businesses and educational establishments;

- the creation of the institutional environment and the information-communication infrastructure for the development of the territorial clusters.<sup>272</sup>

The conducted investigations show that, under the conditions of the increased competition for investments between the regions, the urgent tasks are to revise the existing and to search for new instruments of the regional development. The government bodies and the business structures are interested in the active introduction of the world tendencies and initiatives concerning the cluster concepts of regional development. As it was noted, the country's competitive advantages are created and implemented at the regional level. Therefore, it is the regions that become the major object of the government innovation policy by means of the created system of competitive clusters.

We can agree that the cluster policy realized in all regions of Ukraine nowadays is not an additional instrument of the government management but rather a new approach to the use of the available instruments. In its potential and structure the cluster policy is exactly the very complex of measures, the implementation of which is directed at the solution of the major task. Such task is to ensure the growth of investment attractiveness and competitiveness of the domestic economy by means of the advance of competitive markets, the stimulation of local initiatives and interaction between the authorities, the business structures and the institutional environment of the territory.

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<sup>272</sup> Kraynyk O. Clusters as a tool of the region's economic development // Democratic government: scientific messenger. – 2010. – Issue 5. – P. 1-7.

#### **2.4. The prerequisites of distribution of cluster form in the production organization**

Assessing the benefits of intraregional specialization and cooperation of production relations, which enable to get different forms of territorial and sectoral associations, Ukraine is actively involved in clustering processes of socio-economic systems. The lack of national level general approaches and targets to the formation of clusters has led to the fact that the regions, independently, based on the priorities of territorial development, determine the components of the cluster policy and create a set of tools for its implementation. As a result, today the regions are at different stages of the clusterization of social and economic relations – from the emergence of the network forms of organization of production to their transformation. However, despite the diversity of forms of the cluster initiatives, the research of prerequisites and trends of their formation and development allows to make a conclusion about the existence of common characteristics that form models of cluster behavior economic subjects in certain industries. As a rule, they are connected with the prerequisites of emergency of territorial and sectoral associations in a particular area.

Let's note that in this case we don't deal with the dislocation of the integrity of microsystems "government-business-institutions", but only with the study of the nature of relationships between them in identifying general trends in the operation of certain types of clusters in different regions of Ukraine. The analysis of the existing approaches to the clustering of the domestic economy shows that in Ukraine mainly classical models of network organization of production based on the cluster technology, were formed, built in traditional economic sectors, such as: mechanical engineering, light industry, food industry and others. Without a doubt, the emergence of clusters in these areas is connected with preserving the specialization of socio-economic system and the desire to restore the competitiveness of basic industries of the national economy. The mentioned opinion is confirmed by the results of the National Institute of strategic studies of regional-sectoral distribution of clusters (Table 2.5)<sup>273</sup>

The research of strategies of regional development of the regions-pioneers of the cluster development has enabled national scientists to create key advantages of the cluster organization of production.

- Strengthening of cooperation between business, science and government. The world practice shows that the establishment of clusters often occurs in the public-private partnership, with the active participation of the government as the founder and sponsor of the cluster initiatives at the early stages, as well as with research institutions that act as a bridge between industry, government and science.

- Increase of corporate efficiency of company operation due to faster access to resources, knowledge, innovation technologies and suppliers and also due to reducing of transaction costs.

- Revitalization of innovation activity of companies. Due to the so-called "spill-over effect" (spill-over) and closer contact with customers and other companies, the possibilities of creating and sharing new ideas and

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<sup>273</sup> Innovative approaches to the regional development in Ukraine: analytical report / S.O. Bila, Y.A. Zhalilo, V.I. Zhuk et al. – Kyiv: NISD, 2011. – P.18.

technologies among the cluster members appear, which in turn promote the growth of added value of production and orientation of production to manufacture of high-tech products.

Table 2.5

Regional-sectoral distribution of clusters in Ukraine

Type of economic activity	Region
Tourism and recreation	Sevastopol, the autonomous republic of Crimea, Khmelnytsky, Odessa, Cherkasy, Lviv
Food industry	The autonomous republic of Crimea, Poltava, Zaporizhya, Khmelnytsky, Odessa, Donetsk, Vinnitsa, Kharkiv
Engineering	Odessa, Mikolayiv, Zaporizhya, Donetsk, Kharkiv, Transcarpathian
Agriculture	Donetsk, Dnipropetrovsk, Sumy, Vinnytsa, Kharkiv, Chernivtsy
Transportation and Logistics	Odessa, Kherson, Cherkasy, Kharkiv
Woodworking	Rivne, Lviv, Transcarpathian
Light industry	Khmelnytsky, Lugansk, Ivano-Frankivsk
Fishing and fisheries	The autonomous republic of Crimea, Odessa, Kherson
Construction	Khmelnytsky, Dnepropetrovsk
Alternative Power Engineering	Sevastopol, Lviv
Metallurgy	Donetsk, Lugansk
Electronics	Mikolayiv
Nanotechnology	Donetsk
Information Technology	Lviv, Kharkiv
Pharmaceutics	Kharkiv

– Increase of investment attractiveness of the regions and the country as a whole, caused by the higher level of investor confidence in the developed network structures (compared to some smaller companies), as well as the availability of guarantees and benefits to investors by the government in case of participation in the cluster initiatives.

– Acceleration of the rates of creation and development of new business. New companies are able to develop under more favorable conditions through coordination of relationships with partners within the cluster.

– Formation of the closed production cycle and the chain of added value growth) within the country due to the creation, of innovative production units within the cluster, that are directly associated with the development of import substitution.<sup>274</sup>

Considering the increased interest among the government institutions and businesses to introduction of key forms of cluster organization of production in certain sectors of the economy, let's evaluate

<sup>274</sup> Innovative approaches to the regional development in Ukraine: analytical report / S.O. Bila, Y.A. Zhalilo, W.I. Zhuk et al. – Kyiv: NISD, 2011. – P.15-16.

prerequisites, characteristic features and their success factors that have emerged in Ukraine.

### *1. Construction cluster*

The experience of construction cluster formation in Ukraine emerged in 1998 when first in Ukraine, in Khmelnytsky an attempt to unite the interests of construction business enterprises was made in order to preserve the local housing market and increase of the quality of the proposed design and decorating. One of the founders of the theory of clusters in Ukraine S. Sokolenko says that the possibility of creation and development of building cluster in Khmelnytsky region in those difficult years is explained by the presence of natural resources on the territory of the region, that are used in the construction industry, and by scientific and production foundation, as well as significant flows of financial resources that passed through large wholesale markets in the region.<sup>275</sup>

According to the chairman of the board of Khmelnytsky regional public association "Construction cluster" M. Malyi, the construction companies received a number of benefits from the membership in a cluster, associated primarily with the involvement of financial resources in the construction and manufacturing by combining the joint financial opportunities of cluster enterprises, attracting investments, joint participation in tenders, uniting financial resources to present guarantees to receive credits. The image and authority of a business combination are usually much higher, according to the estimation of investors, than the position of a single enterprise. Secondly, the membership in a cluster enabled to reduce the cost of products and services. The availability of production of building materials using local raw material base helped to reduce the cost of transportation, storage, trading services. There were no problems with the sales: products were ordered and fully utilized by the enterprises of the cluster.<sup>276</sup>

Besides, thanks to the development of action plans, the cluster members were able to see the prospect and the opportunity to plan their activities for the next 5-7 years. Important was the fact that the association of enterprises of construction branch enabled the participants of cluster to effectively defend their interests in the construction market, as well as on the level of local authorities and self-government. Due to the successful development of the construction industry of the Podillya, the regional commodity producers did not allow companies from other regions to come to the market of housing construction, which enabled to provide local businesses and domestic financial reserves with work. As a result, today the members of the construction cluster are more than 40 operating construction companies, which united a distribution network for the sale of building and decorative materials, well-developed distribution network, institutions and organizations to provide design services.<sup>277</sup>

Other regions of Ukraine have adopted the positive experience of the network organization of production in the construction sector. In particular,

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<sup>275</sup> Sokolenko S. Ukrainian clusters // Electronic resource. – Mode of access: <http://ucluster.org/universitet/klastery-ukraina>.

<sup>276</sup> Maly M. If interested people are united by the common goal, any obstacles can be overcome // Economist. – 2008. – № 10. – P.14-15.

<sup>277</sup> Ibid. – P.16.

in August 2007 during a visit to the third Belgorod construction forum and interregional specialized exhibition "Modern City", "Power Engineering. Resource Saving. Ecology" an agreement on the establishment of the transborder construction cluster Euroregion "Slobozhanshchyna" between the open joint stock company "Kharkiv Regional Support Fund", Kharkiv State Technical University of Construction and Architecture and Belgorod regional support fund of small businesses and Belgorod State Technological University was signed<sup>278</sup>. The main tasks of the construction cluster is cooperation of enterprises in the construction market of Belgorod and Kharkov regions in order to reduce the cost of operations and improve the quality of construction products, development of new types of building products, projects, construction materials and technologies, equipment and means of small mechanization, automation and production processes, environmental safety of production, introducing international standards of quality management system.

In April 2009, in Chernigiv two meetings jointly with the Association "Ukrainian Union of Manufacturers of building materials and products" took place, where it was unanimously decided to launch a pilot project in Chernigiv region – to create a construction cluster. Let's note that Chernigiv has a great raw materials potential, including the largest reserves of bishofit, and magnesite slabs that are made from this material are imported to Ukraine from China by 100%. During the exit meetings two pilot projects were identified to create a construction cluster – in Mensk and Gorodnyansky districts<sup>279</sup>. After some investigation of successful component of construction cluster in Khmelnytsky, V.P. Ilchuk and A. V. Krot worked out a scheme of the construction cluster of Chernigiv region, to which, in addition to 12 construction companies in the region, the Department of city building and architecture of the regional administration, the Department of restoration of historical and architectural monuments, the Scientific Research Institute "Project-reconstruction" as well as financial and credit institutions of the city were included<sup>280</sup>.

In December 2010, the Strategy of Development of the Sumy region until 2015 "New Sumy – 2015" was approved, in which one of the six strategic directions was identified as the formation of construction cluster<sup>281</sup>. The following approaches to the creation of effective clusters in the construction industry were defined by the document developers.

1. The formation of a single industry information and economic space that includes unity of fiscal space through the conductions of offsets within the cluster, the unity of building space due to the coordination of list

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<sup>278</sup> The agreement of the creation of the creation of the Euroregion construction cluster "Slobozhanshchyna" has been signed // Electronic Resource. – Access mode: <http://kharkivoda.avakov.com/news.php?news=5537>.

<sup>279</sup> The Materials of the Committee of entrepreneurs-producers of construction materials and goods within the Chamber of Trade and Industry of Ukraine // Electronic resource. – Access mode: <http://www.avbmv.com.ua/47-news/403-materiali-zasidanija>.

<sup>280</sup> Ilchuk V.P., Krot A.V. The factors of the region's clusterization on the example of construction industry // Visnyk (Messenger) of Chernigiv state technological university. Series "Economic sciences", – 2009. – № 38. Electronic resource. – Access mode: [http://www.nbu.gov.ua/portal/Soc\\_Gum/Vcndtu/2009\\_38/1.htm](http://www.nbu.gov.ua/portal/Soc_Gum/Vcndtu/2009_38/1.htm).

<sup>281</sup> The strategy of development of Sumy region till 2015 "New Sumshchyna– 2015" // Official site of Sumy regional state administration. Electronic resource. – Access mode: [http://www.state-gov.sumy.ua/docs/komitet\\_ekonom\\_pitan/strateg\\_ns2015.html](http://www.state-gov.sumy.ua/docs/komitet_ekonom_pitan/strateg_ns2015.html).

of structures, the unity of legal space in the form of practical help on the questions of protection of economic activity.

2. The improvement and balance of basic construction processes through the development of planning schemes of the territory of the region and administrative areas, the introduction of new architectural and planning decisions and selection of housing projects, the use of new types of construction machinery and equipment, the introduction of efficient building technologies, thanks to the construction of experimental residential buildings, considering modern consumer demands.

3. The formation of coordinated commercial policy on the basis of participation in investment projects, competitions, collective purchase of necessary resources.

In the strategy of the Sumy region the following algorithm of cluster formation is defined:

- the formation of the initiative group – to unite producers and other subjects who agree with the idea of creating a cluster. The agreement is approved by the adoption of a protocol of intentions;

- the development of the project – in the design it is necessary to take into account the needs of members of the future cluster and their opportunities, the source of forming the material basis;

- the creation of a coordination center of the cluster and the definition of the circle of the cluster subjects. At this stage, assemblies are conducted and cluster members are registered;

- beginning of cluster activity. At this stage, rules of the internal economic activity of the cluster and the business plan are developed.

This approach has been tested in Sumy region in practice when creating a cluster group on the basis of the construction company "Production and Commercial Company" Fedorchenko. " Today the building company is a diversified organization whose main activity is the construction of blocks of flats, modern cottages of improved design on individual order, social and cultural objects, as well as production of building materials (bricks, concrete, wood products, construction solutions, metal plastics products).

Construction has a complete cycle, from its design (construction company has its own design institute), construction, performed with its building materials of its own production, at the expense of its costs, and to the maintenance of already commissioned housing through its housing maintenance division<sup>282</sup>. The considered structures of the "Fedorchenko cluster" are internally closely related, products and services of each department are transferred, by appointment, to another fixed term of payment by cost accounting system with introduced cashless payment. Such system enabled to work effectively for each structural subdivision: increase the volume of production, reduce construction terms to one year, to be guaranteed in need of its products and services, to be sure of getting quality building materials.

In 2011, Dnipropetrovsk region started to work on the implementation of the "Strategies of increase of economic competitiveness of Dnipropetrovsk region: clusters of construction and

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<sup>282</sup> The strategy of development of Sumy region till 2015 "New Sumshchyna– 2015" // Official site of Sumy regional state administration. Electronic resource. – Access mode: [http://www.state-gov.sumy.ua/docs/komitet\\_ekonom\\_pitan/strateg\\_ns2015.html](http://www.state-gov.sumy.ua/docs/komitet_ekonom_pitan/strateg_ns2015.html).

agriculture"<sup>283</sup>. According to the project developers, the construction cluster, with high resource potential, will contribute to the establishment of production in the field of modern building materials, which are currently imported, it will activate housing and will enable to create products and services with high added value.

The strategy of the construction cluster of Dnipropetrovsk region is directed at changing the positioning of key segments in order to accelerate their development by improving the business environment and stimulation of development of the competencies of its members (see Fig. 2.1).

According to the presented strategy, by 2020 the region must become one of the leading centers of Ukraine's construction industry, which will serve both domestic and international markets due to the competences of cluster companies and involvement of investment in the production of modern building materials in the region using its rich raw mineral base. It will be represented also in quantitative terms.

In particular, it is planned that by the end of 2020 as a result of the strategy realization, the added value per worker in the cluster will increase almost 2.5 times compared to 2009 and will be 20 thousand dollars. The contribution of the cluster to the regional economy will be at least 3,3% (1.8% in 2009), production amount of building materials will at least be doubled, exceeding 750 million dollars per year<sup>284</sup>.

The priority initiatives of the construction cluster of Dnipropetrovsk region in 2011 were identified: development and implementation on a competitive basis, and then – replication within the area – of pilot projects of affordable housing, creating a system for monitoring potential orders and distribution of these data among the member enterprises of the cluster, the development and promotion of the use of database of reliable suppliers, the development and implementation of the monitoring mechanism for implementation of the law of Ukraine "On regulation of city construction development", the development of on-line monitoring system of application for permission.<sup>285</sup>

The conducted research suggests that local authorities of actively use the cluster tools to create network forms of organization in construction. The inclusion of measures to support the formation of the construction cluster of the regional programs enables to take into account specific features of the industry in a particular area.

Since the formation of the construction clusters is associated with the presence of specific commodities or materials of a particular area, possession of the unique technology that is used at various stages of the construction process, the role of local authorities is indeed leading in defining areas of cooperation network.

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<sup>283</sup> The strategy of increasing economic competitiveness Dnepropetrovsk region: the clusters of construction and agriculture // The official website of the Dnipropetrovsk regional state administration. Electronic resource. – Access mode: <http://adm.dp.ua/OBLADM/Obldp.nsf/%28DOCWEB%29/D02D2C9A551475C9C225788006B2904?OpenDocument>.

<sup>284</sup> Ibid.

<sup>285</sup> Ibid.

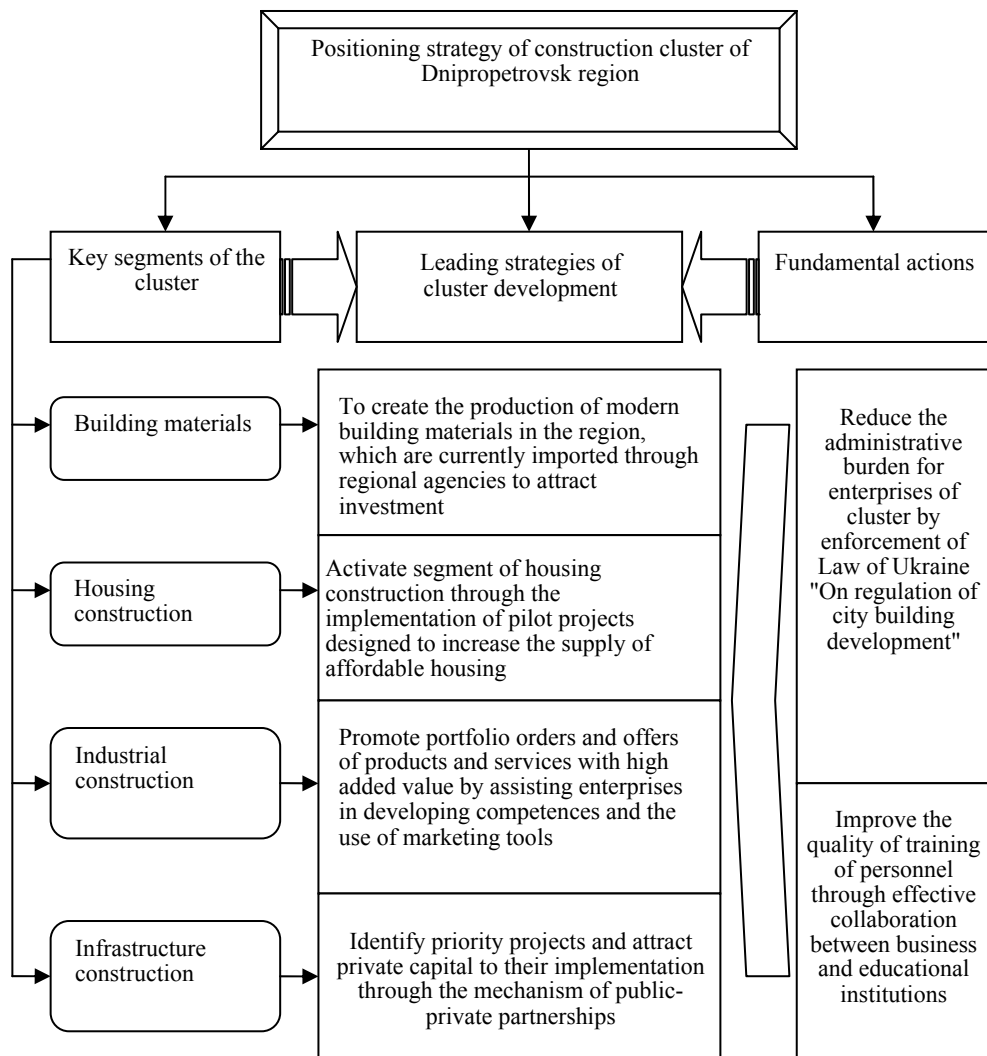


Fig. 2.1. The positioning strategy of construction cluster of Dnipropetrovsk region

However, it is wrong to believe that the formation of construction clusters is exclusively the prerogative of the regional authorities. Either party may initiate as the author of public-private partnership. An example of the successful operation of construction cluster that was created at the initiative of enterprises in the region, can be seen in Khmelnytsky region. Scientists of Donetsk region, among which, let's note the works of M.F. Ivanov, G.M. Shevchuk conduct the research of prospects of creating international innovation-cluster construction in Donetsk and Rostov regions in terms of the creation of the euroregion "Donbass"<sup>286</sup>. On the basis of the analysis of socio-economic development of Ternopil region N.M. Tsepenyuk

<sup>286</sup> Ivanov M.F., Shevchuk G.M. The prospects of creation of international innovation building cluster of Donetsk and Rostov region in terms of the creation of the Euroregion "Don bass" // Theoretical and practical aspects of the economy and intellectual property. – 2011. – № 1. – Electronic Resource. – Access mode: [http://www.nbu.gov.ua/portal/Soc\\_Gum/Tpaeiv/2011\\_1/53.pdf](http://www.nbu.gov.ua/portal/Soc_Gum/Tpaeiv/2011_1/53.pdf).

identified the following prerequisites for the formation of construction cluster.

1. The availability of high quality raw materials for the construction of building materials. Ternopil region has significant reserves of limestone, chalk, gypsum, ceramic raw materials. In particular, in the region, the deposits of gypsum and the anhydrite deposits make up 16.67% of the Ukraine's total indicators. Also significant deposits of cement raw materials are found in the Monastery and Berezhansky districts. The development of construction cluster and concentration of investments will enable to create the preconditions for the construction of a cement plant.

2. The significant import of production of construction materials from neighboring regions and from other countries. The formation of the construction cluster will enhance competitiveness of local production of building materials to form a clear relationship in connection of suppliers and construction companies, to make innovations in production based on energy-efficient technologies .

3. High housing prices. Using its own natural resources, the geographical concentration of production will enable to reduce construction costs and improve its quality characteristics.

4. The availability of a network of higher educational institutions and vocational schools with graduates of civil engineering. In 2008, at the Ternopil State Technical University, the department of construction mechanics was founded, where the training of specialists was focused on the general construction of buildings of industrial and civil purposes; the development of architectural planning and design projects, research in the field of calculations in strengthening stability of complex spatial structures, the use of computer automatic systems in the field of construction industry, the development of modern models of technical-economic analysis of economic activity of construction contractors and companies of the construction industry. Also, the university plans to expand the training of specialists in construction specialities on the basis of the creation of the specialized faculty.

5. The restriction of mortgage credit and the lack of adequate funding for construction companies for realization of construction projects. The formation of this construction cluster is one of the tools of overcoming the crisis. Taking into account the participant composition of the territorial and sectoral association, this form of public-private partnerships makes it possible to significantly accumulate investment flows and create a favourable environment for the implementation of construction projects<sup>287</sup>.

Besides studying the prerequisites of formation of construction clusters in certain regions, the domestic scientists conduct research on the various aspects of their activities related to the formation of behavior of members of the association at the local market in relation to consumers of manufactured production and evaluation of systemic effects of spatially clustered organizations in construction structures for social and economic development of the region. So, on the basis of forming of development trends of housing property market in Ukraine, A.V.Taranych, S.V.Kosarev,

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<sup>287</sup> Tsepenyuk N.M. The formation of construction clusters in the region's framework // Scientific papers of Cherkasy state technological university. Series "Economic sciences". – 2009. – № 24. – P. 220-221.

M. B. Babenko have developed proposals to form the marketing policy of enterprise members of the building cluster<sup>288</sup>. Yu. V. Orlov, N. I. Verkhoglyadova and O. O. Zaychenko defined the influence of construction clusters on formation of sustainable ecological-protective development of regions through assessment, at the stages of design and construction, of such indicators: maintenance of ecological balance, ecological reconstruction, energy saving, usage of renewable resources, cost of materials, the advantage of using renewable materials, reduction of pollution, waste, recycling, reduction of the negative impact of natural and technogenic disasters<sup>289</sup>.

In general, the conducted study of prerequisites of formation of construction clusters in regions of Ukraine shows that two factors play an active influence on the clustering process in the construction industry in the region: at first, the presence of deposits of raw materials, and secondly, the demand for new housing. Taking into account a number of synergetic effects of membership in the union, which each of the construction companies receives, we can conclude that clustering technologies make it possible to protect the local housing market and strengthen the competitive position of businesses in the national market.

## *2. Machine-Building Cluster*

Clusters in machine-building, as opposed to other types of territorial and sectoral associations of this type, have several specific features associated primarily with the inclusion of large industrial enterprises into their composition. Being in most cases the core of associations, large companies determine the strategy of development of the cluster, and according to it – select the participants, who will perform advice and information, supply and sales and other functions. Besides, as the machine building industry is characterized by a high degree of equipment wear, the participation in the cluster enables to attract potential investors and reduce the risks when getting other financial resources for technical upgrading. No doubt, clusters are an important tool for improving the competitiveness of domestic machine-building enterprises.

To implement the legislative priorities for innovation, as well as with the consideration of the existing potential and regional initiatives, the State agency of Ukraine for investment and development in 2009, began its work on foundation of 10 national innovation clusters, namely: "New Machines" (Dnepropetrovsk) , "New Materials" (Kharkiv), "Biotechnology" (Lviv), "New Food" (Kyiv and Kyiv region). "New technologies of nature usage" (Donetsk), "Innovation culture of the society" (Kyiv), "New power plants and engines" (Zaporizhya), "Energy of sustainable development" (Kyiv), "Ukraine's transit potential" ("The development of transit potential") (Odessa)", Information society technologies "(Kyiv)<sup>290</sup>.

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<sup>288</sup> Taranych A.V., Kosarev S.V., Babenko M.V. The features of construction marketing in the context of the forming housing and building clusters in Ukraine // Theoretical and practical aspects of the economy and intellectual property. – 2010. – № 2. – Electronic Resource. – Access mode: [http://www.nbuv.gov.ua/portal/Soc\\_Gum/Tpaeiv/2010\\_2/48.pdf](http://www.nbuv.gov.ua/portal/Soc_Gum/Tpaeiv/2010_2/48.pdf).

<sup>289</sup> Orlovska Yu.V. Systemic effect of spatially clustered structures in the construction on social and economic development of the region / Yu.V. Orlovska, N.I. Verhohlyadova, O. O. Zaychenko // Economic space. – 2008. – № 20/2. – P. 5-13.

<sup>290</sup> In Zaporizhya innovative industrial cluster in the field of agricultural machine-building is created // electronic resources. – Access mode: <http://in.ukrproject.gov.ua/index.php?get=152&id=1895>.

By the decree № 220 of July 8, 2009, the Presidium of the National Academy of Sciences of Ukraine approved “The procedure for the establishment and functioning of the national innovation clusters”, developed by the working group of representatives of the State Agency of Ukraine for Investment and Development and the National Academy of Sciences of Ukraine<sup>291</sup>. For example, the establishment of national innovation cluster "New Machines" (Dnepropetrovsk) is in the form of amalgamation of some technological innovation clusters "Agricultural machine-building" (Melitopol), "Rocket Building" (Dnipropetrovsk), "Aircraft Building" (Kyiv), "Mining Engineering" (Kriviy Rih), "Instrument making" (Zhovty Vody, Dnipropetrovsk region), "Metallurgical machine-building" (Dnepropetrovsk), "Infrastructure and information cluster" (Zaporizhyya).

The leaders of creating machine-building clusters are industrial regions of Ukraine, which have the necessary prerequisites for the exercise of cluster initiatives. Thus, in 2009, in Ukraine in Zaporizhyya the formation of the first cluster of the agriculture machine-building "AgroBoom," according to the authors of the project, was connected with the following preconditions: about 50 machine-building enterprises of small and medium size business and 7 large machine-building plants, operate in the region. There is a specialized higher educational institution – Tavrian state agrotechnical university; there is an initiative group, there is a need in the agricultural market of innovative production<sup>292</sup>.

The operation of the cluster “AgroBoom” is realized on the principles of subcontractions, that is mutually beneficial for both partners and customers of the association. Today the machine-building cluster brings together about 20 companies of the region and carries out orders of any level of complexity. A wide variety of equipment, staff potential, flexibility and efficiency enables, in optimal time and for the much lower cost, to perform a wide range of metalworking orders in small and medium size enterprises (the members of the cluster). In the cluster "AgroBoom" virtually the entire spectrum of technological operations, peculiar to the field of machine-building, is performed: foundry, stockpiling, forging, sealing systems, mechanical processing of metals, heat treatment of metals is conducted, electroplating production is realized, the modern machine-tools are available<sup>293</sup>.

Despite the fact, that by the various international experts, the economic effect of the introduction of the cluster technologies appears only after 3-5-7 years, already six months of its existence, the cluster "AgroBoom" managed to get two orders worth 150 thousand and 90

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<sup>291</sup> On the formation and operation of innovative clusters in Ukraine: the resolution of the presidium of NAS of Ukraine № 220 dated 8.07.2009 // Electronic resources. – Access mode: <http://www.nas.gov.ua/infrastructures/Legaltexts/nas/2009/regulations/Pages/220.aspx>.

<sup>292</sup> On the activity of innovation technological center "Agro Boom" the city of Melytopol, Zaporizhyya region. // Electronic resource. – Official site of Kharkiv regional center for investment and development "Kharkiv investment and innovation". – Access mode: <http://www.inno.kharkov.ua/wp-content/uploads/2009/08/deyatelnostj-klastera-agrobom.pdf>.

<sup>293</sup> On the joint-stock company “Machine-building cluster “AgroBoom” // Electronic resources. – Access mode: <http://www.ua.all.biz/enterprises/65210/>.

thousand hryvnas for the production of new goods, not typical for the city<sup>294</sup>.

Other engineering subbranches of machine-building have adopted the positive experience of the information of clusters in the agricultural engineering in Zaporizhya. For example, A.W. Cherep and I.M. Rukomasova, conducting a study of peculiarities of the economy of Zaporizhya region, offer to create a car cluster with foreign investments "ZAZ", the closed-type joint-stock company "IVECO – Motor Sich", the on the basis of open joint-stock company "Zaporizhya Automobile Plant", the limited company "Melitopol Autohydroagregat", the open joint stock company "Electrotechnology", "Radio Devices", the open joint-stock company "Autotechsoyuz", the limited company "Ruslan-Complect", which now actively interact with each other, carrying out orders of each other<sup>295</sup>.

According to the researchers, the creation and development of the cluster will contribute to solving social problems in the region: the withdrawal on the principles of outsourcing, of the parts of business processes of the production beyond large enterprises and create jobs for the workforce that is released.

The establishing of relationships between the entities of the automotive cluster enabled A.W. Cherep and I.M. Rukomasova to build organizational and economic structure (Fig. 2.2)<sup>296</sup>.

G.A.Semenov and O.S. Bogma studied the cluster formation factors of the regional socio-economic systems and grounded the concept of combining enterprises of power machine-building of Zaporizhya region in the cluster (Fig. 2.3)<sup>297</sup>.

After analyzing the industrial enterprises of Zaporizhya region: such as the open joint-stock company "Plant of small transformers", the open joint-stock company "Plant of super transformers", the open joint-stock company "Converter", the open joint-stock company "Zaporizhya factory of high voltage equipment", the existence of common problems was determined, the main of which are: the lack of government support for domestic power machine-building; legislative instability; high tax and administrative pressure that adversely affect the financial and economic situation of enterprises; higher depreciation of capital assets; lack of working capital to purchase new equipment and modernization of existing equipment, which negatively affects the quality of production enterprises, the lack of serial orders for production. Insufficient workload of production makes it impossible to obtain sufficient amounts of profit to finance with the

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<sup>294</sup> Kuznetsova A. The cluster "AgroBoom" First results of work / A. Kuznetsova // Electronic resource. – The official site of the newspaper "Vedomosti Melitopolskie." – Access mode: <http://www.mv.org.ua/?news=20482>.

<sup>295</sup> Cherep A.V., Rukomasova I.M. The need and importance of creating cluster groups for the region / A.V.Cherep, I.M. Rukomasova // Economic Space: Collected works. – 2009. – № 32. – P. 167-186.

<sup>296</sup> Cherep A.V., Rukomasova I.M. Background and perspectives of cluster formation as a factor of strengthening the competitiveness of Zaporizhye region / A.V. Cherep, I.M. Rukomasova // Visnyk of Khmelnytsky national University. Economics. – 2010. – № 1. – T. 1. – P. 122-127.

<sup>297</sup> Bogma O.S. Defining the problems and prospects of development for domestic power machine-building enterprises / O.S. Bogma // State and regions. Series "Economics and entrepreneurship". – 2010. – № 1. – P. 36-40.

aim of expansion of the production of new developments, factories manufacture products only for orders, mass production is an exception.

In this case the problem of loading of industrial capacity and further increase of production amount and sales is one of the primary problems for machine-building enterprises.

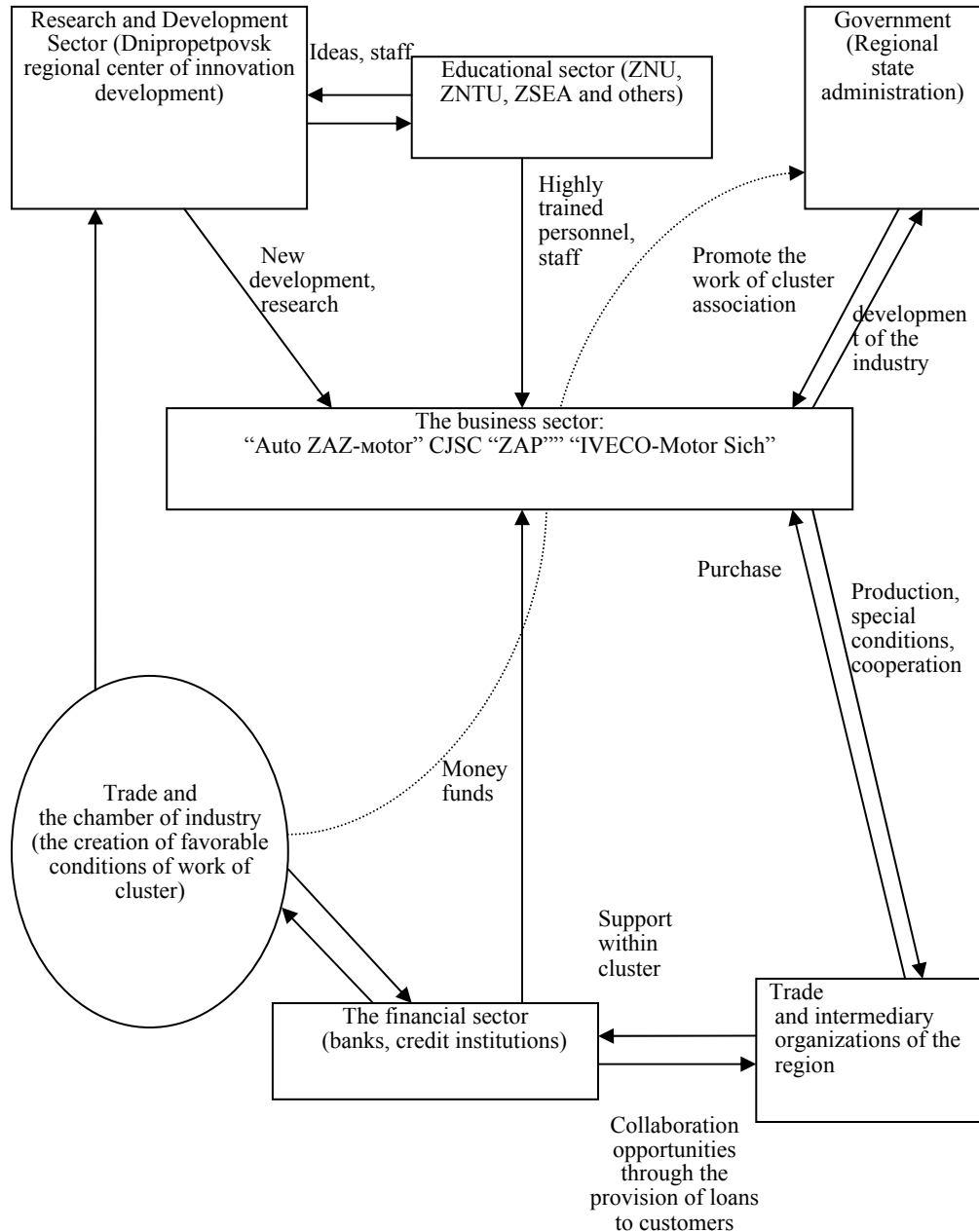


Fig. 2.2. The model of automobile building cluster in the Zaporizhya region

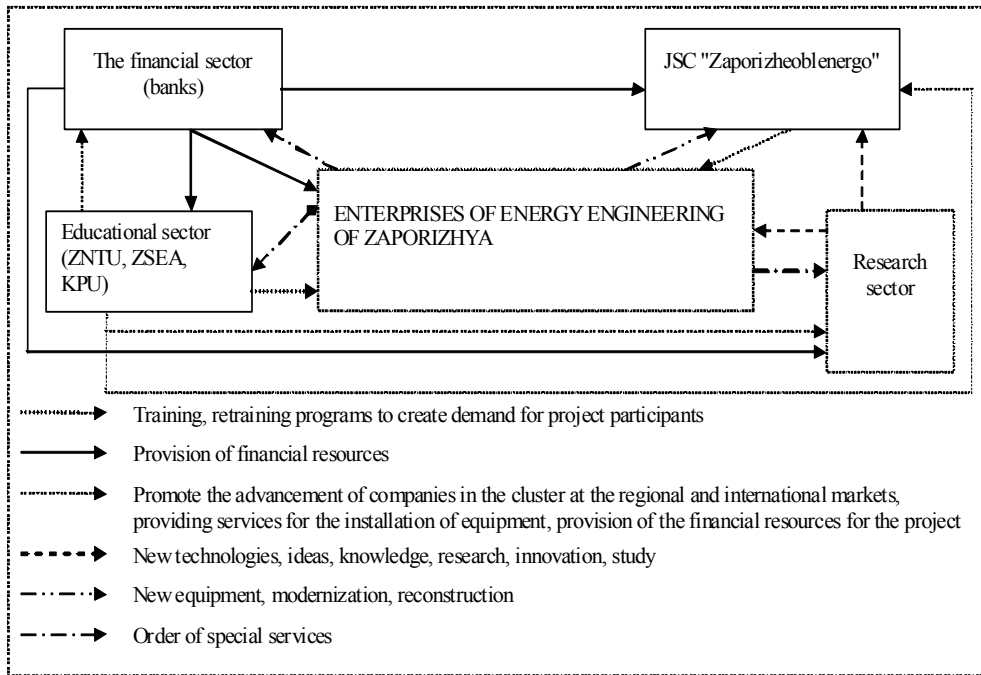


Fig. 2.3. Interaction of power machine building enterprises based on the cluster approach

As a result, in March 2011, the members of the working group on the formation of clusters in Zaporizhyya were awarded with diplomas of the presidium of the Union of Economists and the Chamber of Trade and Industry of Ukraine "For considerable contribution to the formation and development of innovation clusters in Zaporizhyya region, high indicators in the creation of sustainable industrial and agricultural production as a basis for economic and social development of Ukraine"<sup>298</sup>.

The positive experience of the operation of machine-building cluster in Zaporizhyya and evaluation of the potential for integrative associations in other sectors of the economy led to an increased interest in the idea of clustering in machine-building in other regions. For example, S.V. Kolesov, assessing the preconditions of social and economic development of Dnipropetrovsk region, concludes that Kramatorsk formed a cluster of machine building de facto, which includes the companies: the closed-type joint-stock company "Novokramatorsk machine-building plant", the open joint-stock company "Kramatorsk plant of heavy machine-building", the open joint-stock company "Starokramatorsk mechanical engineering plant", the open joint-stock company "Slavyazhmash"<sup>299</sup>.

To enhance its operations the author offers to create a joint venture fund to diversify and increase the sources of funding of innovation projects,

<sup>298</sup> The head of Council of territorial department of association of tax payers of Ukraine in Zaporizhyya Oblast was awarded "For the great contribution to the formation and development of innovation clusters in the Zaporizhyya region" // Electronic resource. – Access mode: <http://www.taxpayers.org.ua/articles/1322>.

<sup>299</sup> Kolesov S.V. The cluster model of development of innovation potential of machine-building enterprises based on venture capital / S. Kolesov // Modern problems of economy. – 2009. – № 11 (101). – P. 100-108.

besides, for the implementation of one or several related projects, the most optimal for attracting investments is the creation of small innovative enterprises. S.V. Kolesov considers the compulsory condition of work of the cluster mechanism of machine-building enterprises is the creation of a specialized business incubator. Besides, the specialization of the business incubator will manifest in the fact that it will include small innovative enterprises with a share of venture fund and companies, intended to support the activities of small innovative enterprises which are located in the business incubator.

The conducted studies show that the venture capital fund is the center of the model of development of innovation and investment potential of the machine-building enterprises of Kramatorsk. The proposed scheme of financing statutory fund for the created small innovative enterprises makes venture capital fund, for specific innovative projects, a distinctive double local market, where the supply and demand of knowledge and of financial resources necessary to transform knowledge into innovation (new or improved technologies, etc.) interact<sup>300</sup>. Without a doubt, key moments for ensuring the central role of capital venture fund in the cluster model of increasing innovation and investment potential of the machine-building enterprises of Kramatorsk is an effective system of selection of projects to be financed by the fund, the maximum regional integration in the information space.

I.M.Kuksa, I.A. Gnatenko identified the need to form a cluster in machine-building of Luhansk region<sup>301</sup>. Indeed, the presence in the region of two largest factories of the former Soviet Union for the production of railway locomotives (the open joint stock company "Holding Company Luganskteplovoy" and NEVZ) which are in a single holding, sets the ground for the formation of the cluster in transport machine-building

In Poltava region, there are developments on the formation of a railways carriage building cluster. V.A. Bezuglaya elaborated the structure of the cluster the core of which is defined the Kryukov carriage building plant<sup>302</sup>; V.V. Tatarinov offers to create the limited company "Vagonbudklast" to coordinate the efforts of enterprises-members of a railway carriage building cluster<sup>303</sup>.

On the basis of a study of socio-economic development of Cherkassy region V.I. Homyakov substantiated the feasibility of establishing a regional cluster, which will bring together the leading machine-building enterprises of the region, such as the educational training center "Photodevice", the "Kamyansky machine-building", the machine-building "Korsun-

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<sup>300</sup> Kolesov S.V. The cluster model of development of innovation potential of machine-building enterprises based on venture capital // Modern problems of economy. – 2009. – № 11 (101). – P. 100-108.

<sup>301</sup> Kuksa I.M, Gnatenko I.A. Optimization of the process of interaction of machine-building industry enterprises on the basis of cluster grouping // Visnyk of Donetsk University of Economics and Law. – 2011. – № 2. – P. 159-162.

<sup>302</sup> Bezuglaya V.O. The fundamentals of basis of the formation of regional competitiveness of Ukraine (for example, Poltava region): Abstract of dissertation of candidate of economic sciences: 08.10.01 / Kremenchug State Polytechnic University. – Kremenchug, 2006. – 24 p. // Electronic Resource. – Access mode: eprints.kname.edu.ua/279/1/aref\_Безуглая.rtf.

<sup>303</sup> Tatarinov V.V. The organizational and legislative provision of the development of clusters of small and medium-size machine-building enterprises // Visnyk (Messenger) of Zhitomir State Technological University. – 2011. – № 3 (57). – P. 380-384.

Shevchenkov plant", the machine-building plant "Umanfermmash", the machine-building "Cherkassy Bus plant", the machine-building "Smilyansk Electromechanical Plant".

Also, the cluster will include Cherkasy State Technological University, Cherkasy Regional State Administration, the Ukrainian Union of Industrialists and Entrepreneurs and the banking establishments of the region<sup>304</sup>.

In November 2011, in Kherson there was a meeting of the local authorities with the initiative entrepreneurs of the region, to discuss proposals for the creation of the regional engineering cluster in production, sales and service of harvesters, complex agricultural machinery<sup>305</sup>.

The increased interest among national scientists is caused by the study of cluster initiatives in the machine-building sector of Donetsk region. In particular, O.S. Kovalevskaya considers clusters as a tool for sustainable development of the engineering sector of the region in terms of rigid competition<sup>306</sup>. A.V. Sokolov examines the prerequisites for the formation of cluster model of regional innovation development involving machine-building enterprises<sup>307</sup>.

In the strategy of social and economic development of Kharkiv region until 2015, the choice of nine priority clusters of the regional economy, including five of them – innovative high-tech and scientific clusters (aviation industry, aerospace industry, power engineering, pharmaceutical Industry, nano – and biotechnology), and four – other clusters (agro-processing, gas mining and energy, housing, utilities, health care) was substantiated<sup>308</sup>.

According to the point of the project developers, the exclusive character of cluster of power machine-building of Kharkiv region is not only in significant volume of production, even for the world market, but in the presence of technological complex which can provide complete technical equipment for power stations of any kind. The structure of the manufacturing cluster's nucleus includes the open joint-stock company "Turboatom", the state enterprise "Electrovazhmash", Kharkov State Instrument-Making Plant named after T.G. Shevchenko, the state enterprise "Kharkiv Electromechanical Plant" and the open joint-stock company "Teploenergmontazh."

The open joint-stock company "Turboatom" is a major scientific organization of the power machine-building complex of Ukraine. The company is a part of the leading turbine-building companies in the world

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<sup>304</sup> Homyakov V.I. Machine building cluster as a precondition for economic development in Cherkasy region // Electronic resource. – Access mode: [www.kneu.kiev.ua /data/upload/publication / main / ua / ... / reyhreg.doc](http://www.kneu.kiev.ua/data/upload/publication/main/ua/.../reyhreg.doc).

<sup>305</sup> A machine-building cluster will be created in Kherson region // Electronic resource. – Access mode: <http://www.postfactum.ks.ua/2011/11/02.html>.

<sup>306</sup> Kovalevskaya O.S. The sustainable development of the machine building complex of Donetsk region in terms of rigid competition // Visnyk of the Donbas state mechanical engineering academy. – 2009. – № 3 (17). – P. 108-113.

<sup>307</sup> Sokolov G.V. The formation of competitive production cluster system in machine-building of Ukraine // Problems of development of foreign economic affairs and attraction of foreign investment: regional aspect. – 2007. – № 1. – P. 360-365.

<sup>308</sup> Strategy of social and economic development of Kharkiv region until 2015 : Monograph / Collected works by A.B. Avakov and others. – Kharkov: Publishing House "INZHEK", 2008. – 352 p.

and specializes in the production of steam turbines for thermal power plants, nuclear power plants and pumped storage power plants (PSPP), gas turbines for thermal power plants and combined-cycle power plants and other power equipment. The open joint-stock company "Turboatom" produces goods that meet international certificate of quality ISO 9001. In the region the production of all turbines of Ukraine is concentrated. Turbines of the open joint-stock company "Turboatom" are exported to Finland, Bulgaria, China, Norway, Iceland, Greece, Argentina, Mexico and other countries of the world.

The state enterprise "Plant Electrovazhmash" is the largest producer of turbine generators, electric engines and traction equipment of high capacity. It specializes in the production of turbine generators with capacity from 6 to 500 MW, hydrogenerators of power up to 430 MW, large electrical machines of DC and AC power to 12.5 MW. The plant produces computer electrical equipment for locomotives, diesel trains, trams, trolley buses, dumps with a load from 120 to 180 tons. 73% of Ukrainian thermal power plants are equipped with turbogenerators, with hydrogenerators – 78% of hydroelectric power stations. The equipment of the company is exported to 30 countries of the world.

The state instrument-making plant named after T.G. Shevchenko is a diversified modern enterprise. On its base the state enterprise "Monolith" was founded, whose operation has received wide international recognition. The executive committee of the international organization "Business Initiative Directions" awarded the "Monolith" with a prize "Golden Star" for the company image and high quality production. For power engineering this company manufactures computer-aided process control systems of thermal and nuclear power plants.

The researchers propose to perform assessment of the economic potential and possibilities of the power engineering cluster with the help of the method of SWOT-analysis (Table 2.7)<sup>309</sup>.

Since the strong points and external opportunities for the regional cluster of power engineering outweigh the weaknesses and external threats, it demonstrates the possibility and feasibility of further development.

The similar strategic matrices of SWOT– analysis were built to other clusters and the economic feasibility of further work on their formation is confirmed.

The proposed recommendations were elaborated and their main principles are used in the draft project of the strategy for sustainable development of Kharkiv region till 2020, according to which each of the clusters is identified model with construction, development and operation models (Table 2.8)<sup>310</sup>.

In general, the conducted studies of prerequisites of formation of machine-building clusters in industrial regions of Ukraine show that the network forms of organization of production are the integral part of economic growth of areas on the innovation basis. Taking into account the

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<sup>309</sup> Strategy of social and economic development of Kharkiv region until 2015 : Monograph / Collected works by A.B. Avakov and others: Publishing House "INZHEK", 2008. – 352p.

<sup>310</sup> Sustainable development strategy of the Kharkiv region by 2020 // The official website of the Kharkiv Regional State Administration. – Electronic Resource. – Access mode: <http://kharkivoda.gov.ua/images/users/Strategiya.pdf>.

specifics of the activity of machine-building enterprises, namely the business sector shows initiative of cluster formation. In the form of constructive cooperation with the authorities and institutions of regions, the machine-building industry foresees the growth of its competitive advantages of subjects.

Table 2.7

Strategic matrix of SWOT–analysis of high-tech and knowledge-based cluster of power engineering of Kharkiv region

<b>Advantages</b>	<b>Level of factor importance</b>	<b>Disadvantages</b>	<b>Level of factor Importance</b>
I. Strengths Matching of products to the world standards. Significant experience in the manufacture of products. The presence of scientific and educational and training basis	3 5 3	I. Weaknesses Ageing of the fixed production assets. Difficult state of individual enterprises	5 5
Together (A)	11	Together (D)	10
II. External Opportunities Large foreign markets of energy products. Large domestic market. Monopoly position in the domestic market	4 3 5	II. External Threats Deterioration of conjuncture of the world market. Reduction of the capacity of the national market	5 5
Together, the second part (O)	12	Together, the second part (T)	10
Total advantages (I + II)	23	Total disadvantages (I + II)	20
Balance	3		

### 3. Food cluster

The prerequisites of the food cluster formation are in the desire to provide regional market with high quality food products. Unlike machine-building clusters, the forming of network forms of organization of production in the sphere of food is more characteristic for agricultural areas that have a high level of specialization in the sphere of food production. A specific feature of the formation of agricultural clusters for the economy of Ukraine is that alongside with the successful cases of such associations functioning we have an experience of failed attempts to create the first in Ukraine food and processing clusters in Khmelnytsky region.

We believe that the disappearance of two promising clusters for the region's economy was due to two main reasons.

– Firstly, the lack of interest among businesses in the association: the business leaders saw the establishment of network forms of cooperation as a loss of freedom and because of low level of trust to the competitors who were unwilling to cooperate in order to maintain their position in the regional market.

– Secondly, the desire to get a rich income: as it is known, the effect of clustering unity manifests itself in most cases after 5-7 years of integration.

Table 2.8

Models of operation and support system of leading clusters of Kharkov region

Cluster	Characteristics of the cluster			
	Model of Development	Level of scale	Orientation at sales markets	Model of building and operation
Extraction of oil and gas and their refining	supporting	National	Internal	The post-Soviet
Production and processing of agricultural products and production of food	anticipatory	Regional	External and internal	Italian
Light industry	supporting	Regional	External and internal	Italian
Construction and production of construction materials	supporting	Regional	Internal	Italian
High-tech manufacturing	anticipatory	National	External and internal	Japanese
Research and education	anticipatory	National	External and internal	Japanese
Health care	anticipatory	Regional	The internal market	Indian-Chinese
Housing and communal services	overtaking	Regional	Internal	Indian-Chinese
Transport and trade-structure and logistics	supporting	Trans-border	External and internal	Italian

However, these sectors of the economy continue to be important for the economic development of Khmelnytsky region and today both local authorities and business units are making efforts to the development of mechanisms of joint cooperation. However, Ukraine has considerable experience in clusterization of the sphere of food production, which other regions have gained.

Domestic food producers are an important component of food production due to its ecological aspect. According to statistics, in Ukraine four small areas are left where soil has not yet been contaminated to dangerous levels and where it is possible to cultivate ecologically clean products on the level of the strictest international standards:

– North Poltava region – it covers most of Poltava region (except for the regions adjacent to the cities of Kremenchug and Komsomolsk), north-western districts of Kharkiv region, south-western districts of Sumy region, the south-eastern regions of Chernigiv and Kiev regions and eastern areas of Cherkasy region (left part);

– Vinnytsya-Pre-Carpathian – stretches about 100 km from Popelnya of Zhytomyr region and extends to the north of Vinnytsya, Khmelnytsky and Ternopil regions in the direction to Lviv;

– South-Podilsk – includes a small south-eastern part of Vinnytsia region, the south-western part of Kirovograd region, north of Mykolayiv and the northern half of Odesa region;

– North-East Lugansk – covers Milovski and Novopskov areas of Lugansk region<sup>311</sup>.

In our opinion, these regions should use all its available potential to revive organic farming. Thus, since September 2007, in the Poltava area, a project "Establishment of regional cluster of manufacturers of ecological products", has been released, the support of which is made by Eurasia foundation with funds provided by the OSCE project coordinator in Ukraine and the US Agency for International Development (USAID). Taking into account the specific features of Poltava region, where one of the important areas of economic development is agricultural production and agro-processing industry, the administration of the region supports the idea of creating regional agro-industrial cluster for the production of environmentally clean products.

The aim of the cluster is to attract additional resources to the region by strengthening of the competitiveness of participating companies, using common opportunities and sales market expansion. Cluster development aims at visible improvements of economic situation and significant benefits to participants, which they, as a separate company, could not reach. Creating the cluster association takes place voluntarily. The involvement of manufacturers is carried out only by informing them about the benefits of joint activities. With this aim in the frame of the project:

– information assistance is provided to the project participants on questions of ecological production, production certification and its sale;

– the center of environmental safety of consumers "Ecostandard" is created to coordinate the activities of members of the cluster, to find potential partners and inform consumers about the benefits of ecological products.

International experience suggests that the prospect of ecological production development depends on three components. First, it requires the presence of the natural environment on a defined territory and the experience of introduction of appropriate agricultural technologies by the agricultural producers. Considering natural climatic and environmental factors, Poltava region has all the opportunities to develop this district in agriculture.

Secondly, the presence of the national legal framework on questions of environment (organic) production, which will enable to work out the mechanisms of control of the production process of ecologically clean production to provide its guaranteed quality to the end-user. National regulations should be harmonized with international ones to create work conditions for Ukrainian producers in the international market of environmental production. The work on the mechanism of inspection and control of the environmental production is conducted within the project. The participants of project wishing to start introduction of environmental technologies in their economy this year, can apply for a certificate of

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<sup>311</sup> The creation of a regional cluster of manufacturers of environmental products in Poltava region // Official site of the center for environmental safety of consumers. – An electronic resource. – Access mode: [http://www.ecoinfo.com.ua/aktualno\\_klaster.html](http://www.ecoinfo.com.ua/aktualno_klaster.html).

environmental safety consumer center on the conditions of the inspection of the enterprise. The objective of the inspection is to control the usage of banned chemicals, genetically modified seeds, stimulators of growth and other medicine.

Thirdly, marketing and advertising of environmental products, information of consumers about the benefits of these products and the formation of stable demand for these products. This is the most difficult condition in Ukraine because of absence of tradition of ecological consumption of products. Therefore, the formation of mechanism for the promotion of environmental products to the consumer is in the basis of the project. The main objective of the cluster is the advertising and marketing of ecological products, assistance in production certification and its distribution, cooperation between agricultural producers, processing enterprises and retail chains<sup>312</sup>.

In order to inform managers of agricultural and processing enterprises to promote involvement in the project with the assistance of management of agriculture complex of Poltava regional state administration the workshops were held, which were attended by about 130 manufacturers. During the workshops the participants were informed about the state of implementation of agroecological production in Ukraine and the EU, in particular in Poland and Germany, the benefits were explained which participants of the project "Creation of the cluster of manufacturers of environmental products in Poltava region" could receive, and the potential difficulties were pointed out and connected with the introduction of ecological production in separate enterprises. The participants of the workshop were asked to get consultations on the introduction of ecological production and association in this project to develop a joint marketing strategy for the implementation of ecological products.

The seminars showed that a significant number of enterprises (60 households) are interested in participating in this project, and some of them have been engaged in agroecological production without the use of pesticides and fertilizers. For example, one of the most famous "organic" enterprises in Ukraine is an agricultural joint stock corporation (ASC) "Obriy" and the private enterprise "Agroecology" (Poltava region, Shishatskiy district, the village Mykhayleky). These enterprises specialize in growing grain and industrial crops and the production of milk and meat. Since 1976, the ASC "Obriy" has been the basic household of the production test of soil cultivation technologies, measures of expanded reproduction of soil fertility and production of ecological food. The technologies of soil protective biological agriculture began to be implemented in the enterprise since 1979, and the technology of organic farming since 1990.

In addition, several processing companies expressed a desire to participate in the project: the joint-stock company "Lubny Dairy Plant", the open joint-stock company "Hlobynsky Meat Plant", the open joint-stock company "Mirgorod bakery", the Poltava food factory "Dawn", the limited company "UkrOliya". These companies are ready in case of availability of

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<sup>312</sup> The creation of a regional cluster of manufacturers of environmental products in Poltava region // Official site of the center for environmental safety of consumers. – Electronic resource. – Access mode: [http://www.ecoinfo.com.ua/aktualno\\_klaster.html](http://www.ecoinfo.com.ua/aktualno_klaster.html).

ecological raw materials to move to an output of new product line. So the work with these companies is becoming an important direction in future project activities. In the framework of the project, together with the specialists of Poltava state agrarian academy, the workshops on certification of organic products and the use of modern biological means of protecting plants and biomedicine were held.<sup>313</sup>

In 2009, in Kiev two food clusters were successfully launched – "Bee without frontiers" and "Buy from Zaporizhya – choose your own products". The creation of these clusters is consistent with the priorities of the main development of entrepreneurship in the region under the strategy of regional development of Zaporizhya region until 2015 and the comprehensive program of small business development in Zaporizhya region for 2009-2010. For projects realization, the action groups among entrepreneurs, representatives of local government, academic and research institutions were established which enabled to develop the most appropriate technologies of cooperation and the development of portfolio of investment, innovation and technological priorities contributed to the establishment of a consensus dialogue with potential investors.

The cluster "Bee without frontiers" (the centre – Melitopol, Zaporizhya region) attracted to cooperation not only producers of honey and other original bee products (e.g. only in Melitopol district about 500 beekeepers), but also research institutions, apitherapists, trade organizations, manufacturers of cosmetics, medicines, and other products that use the healing components of honey.

The program of cluster development involves the creation of bodies of management of common business, the conclusion of relevant agreements, the development of credit and financial relations, the involvement of external recourses and other activities. The cluster "Bee without frontiers" can facilitate the introduction of the brand of new product – honey into the market. Moreover, the name of the city of Melitopol from Greek is translated as "Honey city."

Let's note that in the first two years of the cluster foundation, 22 beekeepers were trained for industrial production of sectional cellular honey; all cluster members were assisted in the procurement of containers, the museum of beekeeping was created and the agreement about doing lectures and therapeutic sessions was made by leading apitherapists for residents of Ukraine. In addition, the creation of information-logical center and tasting room of honey, apicenter, city and school apiaries, honey holding exhibitions, fairs and festivals, honey pharmacy inclusion of cellular honey in the diet of children were planned<sup>314</sup>.

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<sup>313</sup> The creation of a regional cluster of manufacturers of environmental products in Poltava region // Official site of the center for environmental safety of consumers. – Electronic resource. – Access mode: [http://www.ecoinfo.com.ua/aktualno\\_klaster.html](http://www.ecoinfo.com.ua/aktualno_klaster.html).

<sup>314</sup> Sokolenko S.I. Innovation clusters abroad and in Ukraine – instrument of competitiveness of the national and regional economy / Proceedings of the IV<sup>th</sup>. National forum on questions of the regional development "Strategy of competitiveness of regions under globalization: Ukrainian and foreign experience" (Kyiv, 12.11.2008 y) / Ministry of Economy, Association of agencies of regional development of Ukraine. Electronic resource. – Access mode: [http://www.rgd.org.ua/project\\_activities/round\\_tables/4th\\_annual\\_forum/](http://www.rgd.org.ua/project_activities/round_tables/4th_annual_forum/); Kuznetsova A. The association "Bee without Frontiers": The collaboration of business, science and power gives results // Electronic resource. – Access mode: <http://www.mv.org.ua/?news=23627>.

Besides the cluster of beekeeping, the brand cluster "Buy from Zaporizhyya – choose your own products" gained popularity in the region. The purpose of the project "Buy from Zaporizhyya – choose your own products" is to attract the attention of consumers to goods produced in the region, which are not inferior in quality to the counterparts from other regions. Without a doubt, the increased level of sales of competitive products of local producers will enable to create new jobs, increase production. The structure of the cluster "Buy from Zaporizhyya – choose your own products" is shown in Fig. 2.4<sup>315</sup>.

Today, the cluster includes 22 food enterprises and more than 100 trade businesses. The composition of the manufacturing sector of the cluster is shown in Table 2.9<sup>316</sup>. Trading companies of Zaporizhyya had posters, calling: "Buy from Zaporizhyya – choose your own products" and introduced local products to its range, denoting their specific price tags.

In 2009 in Chernivtsi the regional public organization "The first agricultural cluster" was established (hereinafter – the regional public organisation "First Agricultural Cluster"). The initiators of the Project were:

- the Department of agriculture complex of Chernivtsi regional state administration;

- the Department of economy of Chernivtsi city council;

- the Association of farmers of Bukovyna;

- the scientific & research station of plant quarantine of the Ukrainian Academy of agricultural sciences;

- Chernivtsi regional public organisation "Inter-regional agricultural union" and the trade exchange "Bukovyna Agricultural Exchange."

In the near future the project is expected, to go beyond Chernivtsi region, and cover the surrounding areas of the regions of Khmelnytsky, Ternopil, Ivano-Frankivsk (Ukraine), and Botoshansky and Suchava districts (Romania), Moldova<sup>317</sup>.

According to the initiators of the Project, the need to create "First Agricultural Cluster" is due to the fact that in Chernivtsi region there are no large industrial enterprises and organizations. The basic budget forming enterprises are markets and agriculture.

The leading branch of agriculture is gardening: the total area of fruit plantations as of 1.01.2009 in Chernivtsi region is more than 28 hectares, including fruit-bearing – more than 23 thousand hectares, granular – 20.2 thousand hectares. In recent years, the cultivation of apples has been on quite a large scale, but problems with sales and processing have appeared.<sup>318</sup>

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<sup>315</sup> Pulina T.V. Definition of the prerequisites for the development of food industry of Zaporizhyye region based on the cluster approach // The state and regions. Series: Economics and Entrepreneurship. – 2011. – № 1. – P. 129-135.

<sup>316</sup> Ibid. – P. 129-135.

<sup>317</sup> Burbak M.Yu. The presentation of the regional public organization "The first agricultural cluster" // Electronic resource. – Access mode: [https://ru.wikipedia.org/wiki/dimafoto.net/download/dopovid\\_Burbak.pdf](https://ru.wikipedia.org/wiki/dimafoto.net/download/dopovid_Burbak.pdf).

<sup>318</sup> The report about carrying out the round table "The experience of creating clusters in different regions of Ukraine" // The official website of the regional public organization "The first agricultural cluster". – Electronic Resource. – Access mode: [http://www.agrocluster1.com.ua/index.php?option=com\\_content&view=section&layout=blog&id=20&Itemid=85](http://www.agrocluster1.com.ua/index.php?option=com_content&view=section&layout=blog&id=20&Itemid=85).

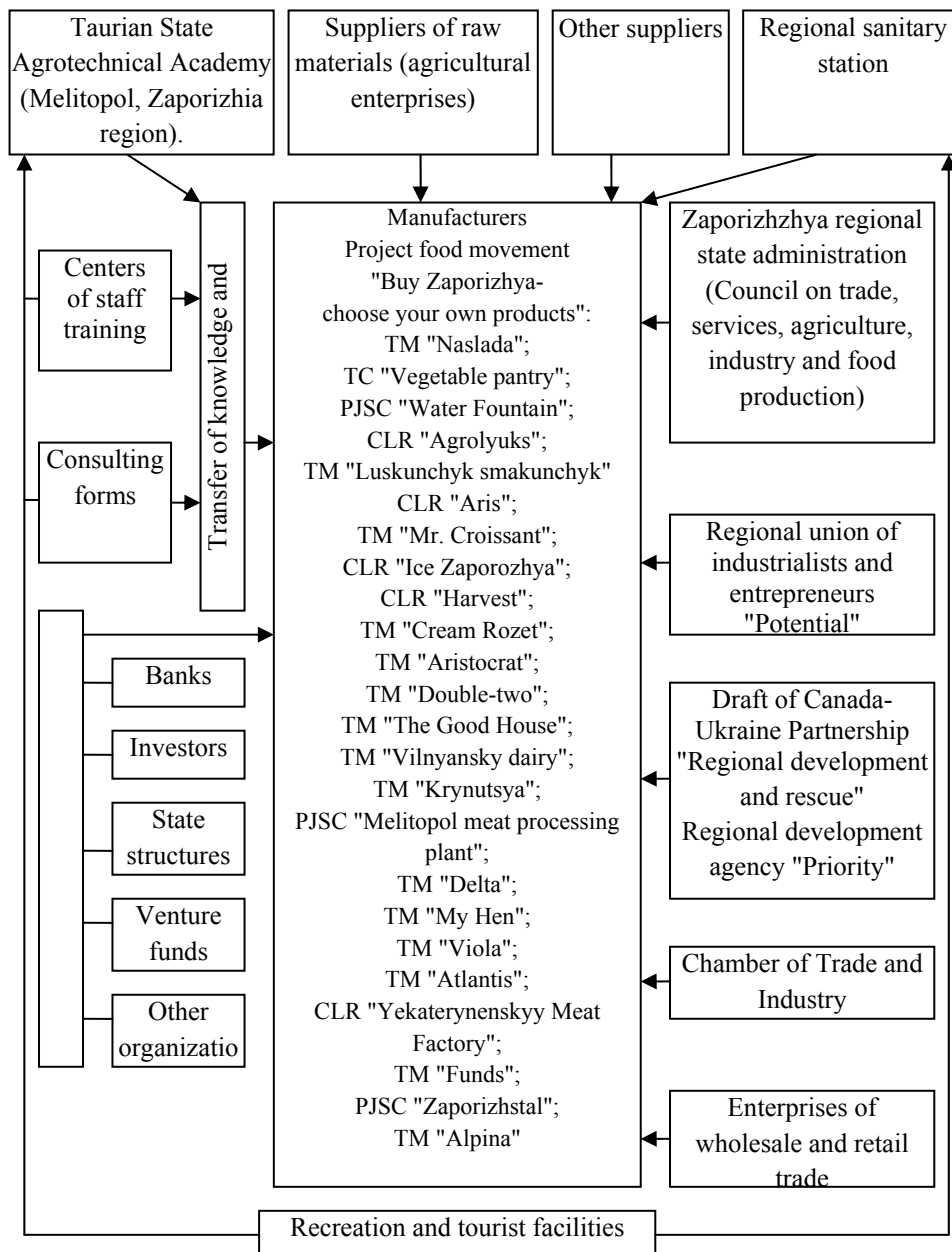


Fig. 2.4. The structure of the production sector of cluster "Buy from Zaporozhya – choose your own products"

To solve the problem of marketing of agricultural products the wholesale market of agricultural products "Gifts of Bukovina" (hereinafter – the WMAP "Gifts of Bukovina") was established, the purpose of which was to provide direct access of the manufacturers of products to consumers. For the integration and cooperation of agricultural enterprises of Chernivtsi region the wholesaling market of agricultural production "Gifts of Bukovina" made a cluster initiative. Today members of the cluster are 25 private entrepreneurs and farm households of the region<sup>319</sup>. According to the

<sup>319</sup> Members of the RPO "First agricultural cluster" // The official website of the regional public organization "The first agricultural cluster". – Electronic resource. – Access mode: [http://www.agrocluster1.com.ua/index.php?option=com\\_content&view=article&id=26&Itemid=77](http://www.agrocluster1.com.ua/index.php?option=com_content&view=article&id=26&Itemid=77).

view of the project developers, the main obstacle to the expansion of "First agricultural cluster" is the low level of awareness among members of the union about its activities and opportunities.

Table 2.9

The composition of the manufacturing sector of the cluster  
"Buy from Zaporizhya – choose your own products"

<b>Company name</b>	<b>The product manufactured</b>
Trade mark "Naslada"	Production and sale of confectionery (cakes, biscuits)
Trade Complex "Vegetable pantry"	Wholesale, retail, trade and distribution of agricultural products (fruits and vegetables)
Private company "Water Fountain"	Production and sale of rectified water by advanced technology
Limited Company " Agrolyuks";	Processing of sunflower and production of refined sunflower seeds
Trade mark " Luskunchyk smakunchyk "	Processing of sunflower and sunflower seed production
Limited Company "Aris "	Manufacture of bakery products
Trade mark "Mr Croissant"	Production of croissants
Limited Company "Ice Zaporizhya"	Manufacture of ice cream
Limited Company "Harvest "	Production of bread and bakery products
Trade mark "Cream Rozet"	Manufacture of cakes
Trade mark "Aristocrat"	Production of meat and eggs
Trade mark "Double-Two"	Production of semi-finished products (Tortellini, ravioli, etc.)
Trade mark "The Good House"	Production of cereals
Trade mark "Vilnyansky butter factory"	Manufacture, sale and distribution of dairy products
Trade mark " Krynutsya "	Production of drinking water and soft drinks
Joint-Stock Company "Melitopol meat processing plant"	Meat, meat products and eggs
Trade mark "Delta"	Mayonnaise production
Trade mark "My Hen"	Chicken meat production, wares and semi-finished products from it
Trade mark "Atlantis"	Production of fish food
Limited Company "Yekaternensky Meat Factory"	Meat and meat production
Trade mark "Kosh"	Production of drinking water and soft drinks
Joint-Stock Company "Zaporizhstal"	Meat production
Trade mark "Alpina"	Production and distribution of food products

To increase awareness of potential participants of territorial and sectoral associations, the official site was established, which displays the requirements for membership in the regional public organization, a list of existing members, partners' news, preview of exhibitions, conferences, forums and press releases of activities that took place involving participating companies of "First agricultural cluster"<sup>320</sup>. In our view, the inclusion of a member of the public organization to the questionnaire as "Proposals for cooperation." We think this part of the questionnaire is crucial in deciding whether to include the company into the RPO "First agricultural cluster"

Recently in Chernivtsi the logo for labeling products was presented and developed by advertising agency "ACC" for the first agricultural cluster. The idea to mark the goods produced in a specific area, the Bukovina farmers with the representatives of "First agricultural cluster", borrowed from Germany. Soon, the logo "Quality products of Bukovina" will be done in the English version. After registration, the rand will be provided to manufacturers, free at first, and then – will be sold. However, as representatives of the first agrarian cluster assured, at first Bukovina production will be tested for quality. Under the Bukovyna brand of quality in the first agrarian cluster they hope to unite, at first, small producers of agricultural products, products of which can be competed and with such a mark – they will be noticed for Ukrainian and foreign market<sup>321</sup>.

In April 2011, in the main department of agricultural development of Vinnytsia regional state administration, in the framework of implementation of the regional development strategy of Vinnytsia region for 2011-2013, with the participation of experts from the European Union, a presentation of the development of the food-processing Vinnytsa cluster took place. According to the project initiators' view, the main goal of creating a cluster is to build a new level of cooperation between farmers and processing enterprises, to improve skills and technology, production quality, access to regional, national and export markets, creating products with high added value.

Vinnytsia region, the majority of population of which lives in rural areas, and which has considerable natural potential and tradition in the production and processing of food products, is largely dependent on the agriculture, the sector of economy of which is not developed enough to produce and export beyond the region cost-effective products with high added value. There fore, combining economic subjects in supply chains and clusters is required for uniting of the agricultural products and the food industry enterprises and provision of output of production of higher added value<sup>322</sup>.

In general, the conducted studies of preconditions of clusterization in the regions in the food industry showed that Ukraine does not use little

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<sup>320</sup> Official website of the regional public organization "The first agricultural cluster" // Electronic resource. – Access mode: <http://www.agrocluster1.com.ua>.

<sup>321</sup> The foodstuffs from Bukovina will be soon recognized everywhere in Ukraine and abroad // Electronic resources. – Access mode: <http://acc.in.ua/index.php?mcmd=shownews&newsid=4565>.

<sup>322</sup> Haylyk O. The presentation of the plan of implementation of the strategy for regional development of the Vinnytsia region / O. Haylyk // Freedom of expression: an independent newspaper. – 2011. – № 16. – Apr 11. – P. 3.

contaminated lands for eco-organic farming revival. The experience of Poltava region in the association of environmental products manufactured in the regional cluster should be learnt by other areas that specialize in both domestic and foreign exports of regional products.

#### *4. Clusters in light industry*

The feature of clusters' operation in light industry is associated primarily with the proximity of their location near the sources of raw materials. Strong dependence of the industry enterprises on the supply of high quality materials is caused by necessities of considering raw materials factors in the construction of the operation strategy of territorial and sectoral associations.

As it is known, the program of clustering of regions of Ukraine started in 1997 in Khmelnytsky with the creation of clothing cluster. It began to be created on the initiative of a Peace Corps volunteer from the USA Wolfgang Price with the participation of Technological University of Podillya (now – Khmelnytsky National University), Khmelnytsky chamber of commerce, and industry, the department of economy of Khmelnytsky regional state administration, and a number of banks and enterprises of clothing industry. The university student fashion house was an innovative center of the cluster. Due to the design developments, modeling and design of new products, training and internships, of students and entrepreneurs in the cluster structures in Poland and Italy the clothing cluster members have achieved industrial and commercial success. The articles of cluster enterprises were exhibited at more than 20 national and international exhibitions and presentations, which in turn facilitated the penetration of the cluster production in the market of fashion clothes not only in Khmelnytsky, but also in many other cities of Ukraine<sup>323</sup>.

In 2002, a patent attorney, member of the managing committee of the association "Podillya First" Yaroslav Vashchuk developed the manual for the clothing cluster business on questions of the protection of industrial property in market conditions<sup>324</sup>, in which the need for legal protection of industrial property rights (IPRs) is defined and IPRs are analyzed that occur during the operation of clothing cluster enterprises.

At present, the clothing cluster includes over 30 enterprises of the production and service spheres. A large-scale competitive environment in the light industry of Khmelnytsky region and in Ukraine has been formed in the recent years. This environment stimulates the enterprises to search for new approaches to the organization of professional activity.

According to the director of Khmelnytsky regional public association "Clothing cluster", the first steps of the clothing association were not easy. In that time many enterprises in Khmelnytsky region were only beginning their activity, and there were a lot of organizational, technical and material problems. The first conversations about cooperation were apprehended with suspicion and without special enthusiasm. But "step by step", according to the American economist Wolfgang Price, the initiator of organization of

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<sup>323</sup> Clothing cluster: the program of activity, the catalog of enterprises / Khmelnytsky: city printing house, 2000. – P. 24.

<sup>324</sup> Vashchuk Ya. Methodological handbook for the clothing cluster enterprises on the problems of protection of industrial property in market conditions // Electronic resource. - Access mode: <http://patent.km.ua/ukr/articles/i3>.

clusters in Khmelnytsky region, the majority of participants of the new association gradually came to understanding common interests, aims and benefit. A large number of manufacturers understood that a higher quality of production was a real factor of survival. The managers of enterprises began improving the working conditions of the employees, as well as raising the wages, introduction of social and cultural programs, provision of money incentives which led to the growth of well-being in the region<sup>325</sup>.

At present small-scale production is developing most intensively in Khmelnytsky region. The sphere of individual entrepreneurship is expanding with the made-to-order clothing production. The manufacture of clothing in small batches has also become profitable for large enterprises since the market relations dictate increased demands to the change of fashions, as well as the goal orientation at potential customers.

During the existence of the clothing cluster a large number of cooperation programs have been implemented in the Khmelnytsky region.

1. Education programs:

- joint seminars on the evaluation and the ways of raising the quality of clothing production;
- seminars on the introduction of systems of computer-aided design (CAD) of clothing into production;
- educational-production practical training of students at the cluster enterprises.

2. Organizational programs:

- organization of new enterprises and improvement of the operation of the existing ones;
- establishment of cooperation with the suppliers of fabrics, accessories and equipment;
- organization of joint trips to the fairs and exhibitions of clothing, including trips abroad.

3. Scientific and creative programs:

- investigation of the fabric properties according to the orders of enterprises;
- designing the production for the cluster participants;
- conducting investigations on the organization of the clothing industrial manufacture and the recommendations on its improvement.

4. Information programs:

- providing information to enterprises on many issues of the clothing manufacture organization (information to suppliers concerning the components for the clothing manufacture, information about various advertising and exhibition measures);
- creation of the dynamic automatic information system of the clothing cluster;
- creation of the database of orders on the production of clothing.

5. Advertising programs:

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<sup>325</sup> Bannova I.M. The training of personnel for clothing industry is one of the major tasks of the clothing cluster today // Economist. – 2008. – №10. – P. 16.

– organization of joint exhibitions of goods, produced by the cluster enterprises, both in the city and the participation in all-Ukrainian exhibitions;

– advertising campaigns in the form of display of clothing manufactured by the cluster enterprises, photo sessions for the publication of booklets and advertising banners;

– organization of the annual contests and TV festivals of fashion “Barvy Podillya” (The Colors of the Podillya region”) with the participation of clothing designers from enterprises and students from educational institutions<sup>326</sup>.

An important role in the economic development of the Podillya region and in the training of specialists for clothing enterprises is played by Khmelnytsky National University. Participating in the cluster operations, the university cooperates with many industrial enterprises. The University helps the enterprises with its scientific developments and by training future specialists with higher education. According to the orders of the enterprises, the department of design was organized at the University and the training of designers was started in the following special fields: design of clothing; design of interior and furniture; graphic design and advertising.

The clothing cluster enterprises take a direct part in the training of future specialists for their operation. The cooperation with the Student Fashion House, the department of design, the department of technology and designing of clothing, the department of machines and devices of light industry enables to correct the curricula and to work out recommendations for the solution of important issues in the training of personnel.

In spite of the availability of sufficient quantity of educational and scientific establishments in the region which meet the demands of the clothing enterprises in skilled personnel, the problem of quality of personnel operation at the clothing enterprises is still rather significant.

The positive experience of Khmelnytsky region in the implementation of the cluster forms of cooperation in the light industry was borrowed by other regions of Ukraine. For instance, when V.Khomyakov, T.Vyatkina, I.Bakum studied the industrial-economic activity of the light industry enterprises in Cherkasy region they determined that one of main reasons for worsening of the potential at the light industry enterprises was the break in the links of the chain of value creation. The industry of the region lacks clearly balanced ties between the enterprises – suppliers of raw materials, the enterprises-producers of light industry goods, the authorities, the educational institutions and the enterprises engaged in the distribution and sale of goods. Most enterprises actually exist due to the production on the delivered program. At the same time, the region’s light industry has sufficient industrial and labor potential for the progress at the domestic market; there is a sufficient raw material base.

According to the results of the analysis conducted, the scientists created a model of the clothing cluster, with the starting point being the

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<sup>326</sup> Bannova I.M. The training of personnel for clothing industry is one of the major tasks of the clothing cluster today // Economist. – 2008. – №10. – P. 16.

enterprises which supply raw materials (Fig. 2.5)<sup>327</sup>. For instance, the joint-stock company “Himvolokno” (“Chemical Fibre”) specializes in the production of viscose thread which, in its turn, is processed into fabric at the joint-stock limited company “Cherkasy clothing company”. These enterprises are to ensure the continuous process of raw material delivery to the clothing factories.

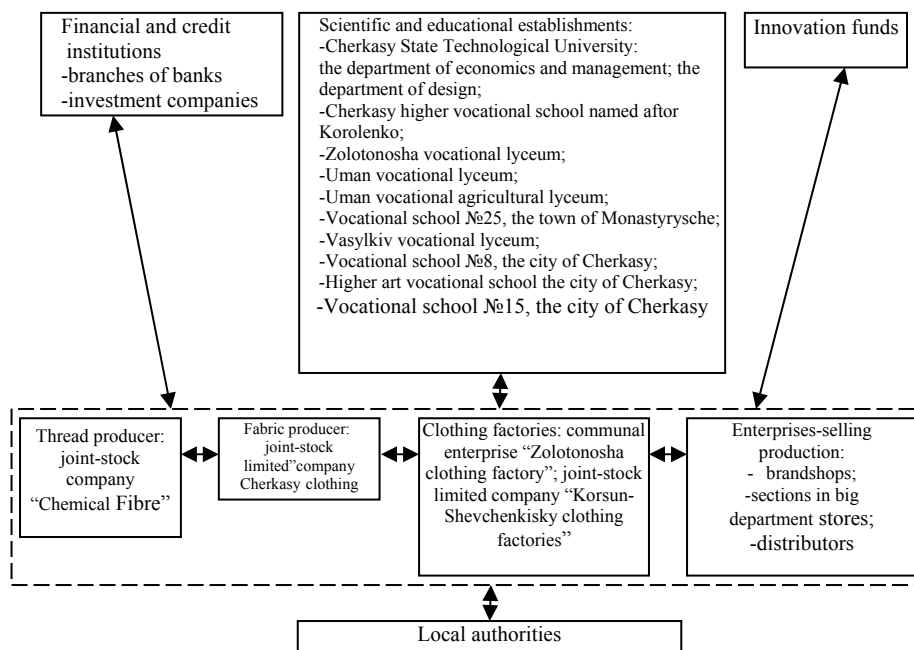


Fig. 2.5. The model of the cluster formation in Cherkasy region

The next cluster component should be the region’s clothing factories. Among them the most attractive are the communal enterprise “Zolotonosha clothing factory” and the joint-stock limited company “Korsun-Shevchenkivky clothing factory”. Their task is to produce competitive light industry goods of high quality.

The output products are sold through the well-established centers of production marketing. With this aim, it is suggested that brand shops should be opened or that some sections should be taken on lease in the city’s big department stores. It is expedient to create the distribution network which could propose the specimens of goods all over Ukraine.

A significant role in creation and functioning of clusters is played by the state authorities, scientific and educational establishments, financial and credit institutions. The state authorities coordinate and ensure the conditions for the cluster functioning.

The positive experience of introduction of the cluster model at the clothing enterprises of Khmelnytsky region and the results of the investigated potential of the clusterization in the clothing industry of Cherkasy region caused an increased interest among the authorities of

<sup>327</sup> Khomiakov V.I., Viatkina T.G., Bukum I.V. The formation of efficient regional industrial institutional units // Electronic resource. – Access mode: <http://dspace.uabs.edu.ua/bitstream/123456789/1904/1/homiakov%20viatkina.pdf>.



craftsmen are free, and in case of free time and individual orders they can perform such order on their own terms.

Thirdly, another significant advantage of this cluster which actually attracts craftsmen– the professional assistance in the presentation of its goods at the exhibitions and fairs and active promotion in marketing and sale of the goods at appropriate prices. That is, the assistance in such work which blanket makers or woodcarvers cannot practically fulfil on their own or which costs too much. For instance, the services of designers and market experts, advertizing specialists.

Fourthly, the “flea market” variant of selling folk craft goods does not bring special profit to the craftsmen. The experience shows that the profits are obtained by middlemen who buy the production of the blanket makers at cheap prices and resell it in the capital of the country and in other cities and even abroad. And it is the local public that loses much because neither individual craftsmen, nor middlemen pay even minimal taxes. The cluster model enables to take the craftsmen from “the shadow” and, at the same time, to guarantee them profits by fixing fair price for handicrafts<sup>331</sup>.

The positive results of the association “Suzirya” can be proved by the fact that in 2005 the cluster became the winner of the all-Ukrainian competition for obtaining the sign of ecological marking “Ecologically clean and safe”. And in 2010 the Council of Ministers of Ukraine made a resolution “On the introduction of the cluster model for the development of folk crafts”, in which Ivano-Frankivsk region was designated as the basic area for the introduction of the cluster model of development of such craft with further propagation of this experience in the cluster formation to other region of Ukraine<sup>332</sup>.

One of the promising projects which led to the formation of the cluster on the basis of folk textile crafts of Ukraine is the International long-term ethnic art project “Ecological view” which started in 1998. The aim of this project is to preserve and develop traditional crafts. The interregional project unites folk textile crafts in the towns of Hlynyany (Lviv region), Bohuslav (Kyiv region), Reshetylivka (Poltava region) and the village of Yavoriv (Ivano-Frankivsk region). During 13 years the activity of the project actually became a stage for mobilizing the efforts of the cluster formation<sup>333</sup>.

At this stage, the concept and program of the cluster development until 2015 was developed, the main priorities of its activity were determined. The major goal of the association is to make use of the potential of folk craftsmen’s work in order to stimulate the regional progress, to raise the living standards of the population, to obtain the synergetic effect by all its participants, to establish cooperation and to promote the given project at the national and international levels.

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<sup>331</sup> The “constellation” of Professor Iryna Tkachuk // Electronic resource. - Access mode: <https://www.google.com/search?q=%20%C2%AB%D0%A1%D0%BE%D0%B7%D0%...>

<sup>332</sup> The decree of the Cabinet of Ministers of Ukraine №145 dated to 27 January 2010 “On the introduction of the cluster model of development of folk crafts”// Electronic resource. – Access mode: <http://zakon1.rada.gov.ua/laws/show/145-2010-%D1%80>.

<sup>333</sup> Mikula N. The cluster of folk craft in the increase of the region's competitiveness // International economic policy. – 2011.– №12-13 // Electronic resource. - Access mode: <https://www.dissercat.com/.../klastery-kak-faktor-povysheniya-konkurentosposobnosti...>

The positive effect of these measures can be estimated at this stage.

Firstly, the cooperation and a high level of trust between its potential participants have been established. Also, the assortment policy of the craftsmen group has been formulated. A number of innovations have been introduced into technological processes, the creative human resources have been accumulated, and the cooperation between the craftsmen, the authorities, the educational establishments training specialists in folk arts has been organized.

One of the main tasks of the “Ecological view” cluster is to ensure the synergetic effect for its participants. The achievement of the synergetic effect makes it possible to provide:

- the diffusion of knowledge in the cluster (the constant cooperation of craftsmen, teachers, scientists, business people not only ensures a high efficiency of all chain of the added value creation but also promotes more intensive innovation activity);

- the accumulation of creative potential on the peripheral territories; such potential was one of the main factors of competitive advantages, progress, cooperation and trust in the XX th century;

- the growth of production and incomes of the companies which are the association participants (the historically formed scheme “raw materials-production-human resources” enables to ensure the complete cycle of production on the territory of the communities and attract the available resources in the region);

- the development, and the common use of the infrastructural objects (information, transport, financial infrastructure);

- the reduction of transaction costs;

- the comprehensive provision of competitiveness of the communities and the region in general at the international level (the increase of employment rate and living standards, the development of new directions of entrepreneurship, innovation activity, the conservation and development of cultural and artistic potential, the growth of the gross regional product, the progress of infrastructure, the attraction of investments, the improvement of quality of formal and informal institutions)<sup>334</sup>.

In order to support the folk art crafts, the Cabinet of Ministers of Ukraine adopted the decision №165 –p of 27 January 2010, according to which the plan of measures for the creation of the innovation technological cluster “Sorochynsky fair” was approved. This cluster was aimed to promote the development of rural territories<sup>335</sup>.

Besides the clusters formed, we can observe the cluster initiatives in other regions of Ukraine. In particular, in Ivano-Frankivsk region the investigations are being conducted as regards the formation of Tysmenytsya fur cluster on the basis of the joint-stock company “Fur firm of Tysmenytsya”; in Transcarpathian region – on the basis of Ushgorod clothing factory.

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<sup>334</sup> Ibid.

<sup>335</sup> The decree of the Cabinet of Ministers of Ukraine “On the adoption of the plan of measures for 2010-2011 for the creation of the innovative technological cluster “Sorochynsky Fair” promoting the development of the rural territories” // Electronic resource. – Access mode: <https://www.zakon.rada.gov.ua/cgi-bin/laws/main.cgi?nreg=165-2010-%FO>.

In general, the conducted investigations demonstrate that the light industry enterprises take an active part in the national projects of clusterization. If we take into consideration that the nucleus of the association in most cases is the enterprise supplying raw materials, the cluster is formed around the established business network of suppliers, producers and customers, that is it has vertical integration.

#### *5. Tourist clusters*

The regions of Ukraine are involved in the processes of the clusterization of the tourist industry. The location of architectural objects, historical places of interest, specific kinds of plants, the memory of the outstanding events that occurred here all these and other prerequisites are connected with the possibility of attracting the attention of customers interested in tourist service. Also, these conditions can influence the tourist's decision to visit certain region. The revival of the architectural monuments and the history of the Ukrainian culture demands elaborating the strategy of attracting potential investors. Such investor should be interested in putting money into expensive low-profit renovation projects which will repay in a long term. It is necessary to remember that the proposal of a high-quality tourist product and its investment attractiveness depend on the level of the service infrastructure: the network of hotels, restaurants, medical and health improvement establishments and so on. The combination of these components requires building a common strategy of behavior for all participants of the business network as well as elaborating the mechanism of cooperation with the regional authorities concerning the participation in the national tenders for financing natural and park objects.

The idea of the formation of the first tourist cluster in Ukraine, in Kamyanyets-Podilsky (Khmelnysky region) was connected with the demand of conservation of the historical and cultural heritage and attracting the attention of potential investors. Kamyanyets-Podilsky is one the most interesting cities in Eastern Europe in historical and cultural aspects. It is called the pearl on stone for the combination of the unique landscape of the canyon of the Smotrych river and the powerful defence wall which seems to grow from the steep rocks. These walls are the creation of hands and talent of the many generations of the Podillya region population. Since medieval times Kamyanyets has been well-known as the city-fortress located on the stone peninsula with the area of 121 hectares, which was created by the loop of the Smotrych river. There are over 600 buildings here, 177 of which are monuments of history and culture. The central element of the architectural ensemble are the Old Fortress and the Zamkovy (Castle) bridge which was nominated to the List of monuments of the World Cultural Heritage of the UNESCO in 2000. In 1977 the state historical-architectural reserve was created and in 1998 it received a high status of the national reserve<sup>336</sup>.

In order to efficiently create the tourist and hotel infrastructure, a public organization "The tourist cluster "Kamyanyets" was established. This organization was registered by the decision of the city executive committee on 16 February, 2001. The tourist cluster is the informal association of institutions, organizations, tourist firms which are close geographically, with the goal of promoting its own and the city's economic growth. The main

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<sup>336</sup> Basyuk D. The cluster model as the factor of raising the competitiveness of the tourist product of Kamyanyets-Podilsky // *Economist*. – 2008. – №10. – P.40.

task of the cluster activity is to contribute to the development of tourist business, to unite the possibilities and capacity of the partners, to create a single tourist product, to participate in the elaboration of projects and programs for the tourist industry and in the grant programs.

The members of the tourist cluster are the representatives of the enterprises, organizations and offices of the tourist sector: the department of international relations and tourism of Kamyanyets-Podilsky cite executive committee, the National historical-architectural reserve “Kamyanyets”, the state historical museum-reserve, the National natural park “Podilsky Tovtry”, as well as representatives of the tourist firms, hotels, restaurants, educational institutions, publishing houses and mass media<sup>337</sup>.

Since its foundation the activity of this cluster has been directed at popularization of the city and its tourist opportunities. In this context, the exhibition stands of Kamyanyets-Podilsky were organized at the International tourist salon in Kyiv in 2001, 2002, 2003 and at the exhibitions of children’s and youth tourism “Vacations”. The delegations of the “Tourist cluster “Kamyanyets” took part in conferences, seminars and trainings on the development of tourism in regions which were held in the cities of Yaremche, Lviv, Kherson, Odessa.

The advertising and information events conducted by the tourist cluster include:

- a number of advertising and information TV programs about the cultural heritage and history of the city and Bunjee jumping attraction were shown in cooperation with the television channels STB, “1+”, “Inter”;

- new advertising and information literature was published (booklets, maps, wall calendars);

- on the cluster initiative, the models of souvenirs with the city symbols were elaborated, and these souvenirs are successfully sold in the city’s souvenir shops;

- on the cluster initiative and with its participation, the official site of the city was created– [www.kp.com.ua/city](http://www.kp.com.ua/city);

- the model and the compact discs were issued with the information about the city, its history, its tourist infrastructure<sup>338</sup>.

Due to the active support of this cluster, the Prospective program for the development of tourism in the city was worked out. With the aim of information support of visitors to Kamyanyets-Podilsky, the communal enterprise “Information tourist center” is operating in city. The comprehensive promotion of the city tourist product includes the tourist internet information <http://www.Kam-pod.info> and the tourist sites, the tourist bulletin and magazine, the media project “The festivals in Kamyanyets”, the action “Seven wonders of Kamyanyets-Podilsky”, the stable cooperation with the local, national and foreign mass-media.

Also, the cooperation and tourist exchanges with the twin cities in 13 countries, with the representatives of the European Commission and the European bank for reconstruction and development is going on.

Taking into account the geographic proximity of historical and cultural objects of Khmelnytsky and Chernivtsy regions, in 2010 the

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<sup>337</sup> Ibid. – p.41.

<sup>338</sup> Ibid. – P.42.

realization of the Plan of integration of the tourist sphere in the two regions was initiated. In this time the intention to create the Podillya-Bukovyna tourist cluster was signed. It will enable to implement the concept of the competitive tourist cluster in the framework of the project “Local investments and national competitiveness” of the USAID (the Agency for International Development of the USA). At present the project involves 10 participants, primarily the cities and towns of Kamyanyets-Podilsky, Khotyn and Chernivtsy. The program is intended for 3 years, to attract the European, Russian and Ukrainian tourists. The common product has the working name “The Podillya-Bukovyna Necklace”. The concept envisages the development of ethnic traditions, the organization of joint tours and the promotion of the event tourism<sup>339</sup>.

Since March 2004 the Chamber of Trade and Industry in the city of Sevastopol has been conducting an active information and promotion campaign for the creation of clusters, including the tourist sphere<sup>340</sup>. The Chamber of Trade and Industry cooperates with the department of economy at Sevastopol city state administration and the non-government organization “The Association of sustainable development of Sevastopol “Aura”. It must be noted that in the framework of the “Aura” association 5 clusters were formed in 2004-2005., 3 of them being connected with tourism and ecology, such as:

- the tourist recreational cluster “Baydary-tour”;
- the ecological cluster “Water resources”;
- the ecological “Vtorma– cluster”<sup>341</sup>.

A significant potential for clusterization in Sevastopol and the interest of the region’s enterprises in using the cluster tools results in the formation of over 10 actively operating clusters in 2004-2010, among them the tourist cluster. The research of interconnections between the cluster structures in Sevastopol has shown that the network forms of production organization are connected by joint infrastructural objects, cooperate and obtain the additional synergetic effect on the joint area. As a result, the idea of integration of the cluster structures found its application in the megacluster “Sevastopol”. Its experience in 2010-2011 shows that this integrated formation can produce new kinds of territorial-sectoral associations, including the tourist sphere. At the beginning of 2011 the Chamber of Trade and Industry of Sevastopol, with the financial support of the German bureau of technical cooperation (GTZ) conducted the study concerning the formation of the clusters of conference tourism, and then started to realize the project of the business tourism cluster and the promotion of tourist products of Sevastopol area.

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<sup>339</sup> Podillya and Bukovyna unite their tourist potential // The official site of the Ukrainian daily newspaper “Day”. – 2012. – №6, 18 January. – Electronic resource. – Access mode: <http://www.day.kiev.ua/222107>.

<sup>340</sup> The Podillya - Bukovyna tourist cluster has started its operation // Official site of Kamyanyets-Podolsky city council. – Electronic resource. - Access mode: <https://cyberleninka.ru/.../turisticheskiy-klaster-regiona-problemy-i-perspektivy-sozda...>

<sup>341</sup> Kurteva T. An uneasy experience of cluster organization // Business messenger (vestnik). – 2009. – №10 (185). – Electronic resource. – Access mode: <http://www.ucci.org.ua/synopsis/dv/2009/dv0910101.ru.html>.

In the framework of the project the map of the business tourism cluster was made. The students of Sevastopol branch of Saratov state social-economic university conducted the questionnaire of the cluster participants which helped to work out the strategy of the cluster. As a result, the cluster of conference tourism was organized on the basis of the public organization “The association of the guides and interpreters”<sup>342</sup>.

In 2007 the Concept for development of tourism regions of Ukraine, the Crimea and other places was approved. At present the cluster cooperates with the regional organizations, the regional state administration, the regional job center. Annually, the seminars are held devoted to rural tourism. Also, the site <http://www.oberig.km.ua> in 4 languages has been created in order to inform about the cluster services as well as meetings and conferences.

In his turn, the Concept for development of tourism in Odessa for 2007-2015 was approved. This program envisages the formation of the tourist cluster.<sup>343</sup> K.Brovkova conducted the analysis of the region’s tourist potential. She came to conclusion that in general the economic activity in the city of Odessa was represented by the resort and tourist service. These directions are priorities from the view-point of the comprehensive approach to health care and social protection of the population of Odessa, other regions of Ukraine and the neighboring countries. Now Odessa possesses a considerable tourist potential and the objective preconditions for its development, especially in the sphere of business, cultural and health resort tourism. The city boasts of such tourist brands of the national and international level as the Potyomkin staircase, the Opera theatre, Derybasivska street, the Odessa catacombs, etc<sup>344</sup>.

The tourist-recreation cluster “The Dniester canyon” was initiated by Ternopil regional council. In 2010 the cluster project won the contest of projects of the Fund for promotion of self-government development. The project envisages the creation of the Concept for developing the recreational and tourist potential of the Dniester canyon which will become the basis of the Program for advance of tourism in Ternopil region. It is planned to work out practical recommendations concerning the effective use and advance of modern recreational infrastructure of the canyon, the arrangement of rest zones on the banks of the Dniester, and the creation of the tourist-recreational business center in the village of Ustechko, on the bank of the Dniester river.

The cluster participants are Ternopil regional council, the department of tourism, families, youth and sport of the state regional administration, the district and village council of Ternopil region, the communal enterprises and

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<sup>342</sup> The cluster of business tourism in Sevastopol: step by step // Official site of the “TERRA TAVRIKA” newspaper. – 2011. – №1, 28 January. – Electronic resource. - Access mode: <https://cyberleninka.ru/article/n/razvitie-klastera-delovogo-turizma-v-sankt-peterburge>.

<sup>343</sup> The concept of tourism development in the city of Odessa for 2007-2015// Electronic resource. – Access mode: <http://www.odessa.ua/acts/council.9875>.

<sup>344</sup> Brovkova K.V. The problems of formation of the tourist cluster in Odessa region // Sustainable development of the economy: All-Ukrainian scientific-industrial journal. – 2010. – №3. – P.104-111.

tourist offices. It is envisaged to allocate 500.000 UAH from the regional budget for the creation of the tourist cluster<sup>345</sup>.

In 2010 the regional public organization in Poltava “The regional tourist cluster” started its operation. Its participants elaborated the regional program of development of tourism and resorts for 2010-2015. The program includes such directions:

- the formation and the provision of functioning of the regional network which consists of tourist and information centers and offices, the united information system with the database, in particular about the consumer characteristics of the tourist resources;

- the creation of favorable conditions for attracting external and domestic investments, the introduction of investment and innovation projects aimed at the development of the tourist infrastructure, the support of medium-sized and small business (especially in the countryside) in the sphere of tourism and resorts);

- the elaboration of audio-visual tourist product, such as audioguides, CD, DVD – sightseeing products.<sup>346</sup>

According to the regional program, the Poltava public organization “The regional tourist cluster” in cooperation with public organizations, enterprises, educational establishments holds annual regional professional contest of specialists in the tourist sphere. The contest is called “The tourist hospitality of the Poltava region”, its aim is to promote the development of tourism and recreation sphere of the region.<sup>347</sup>

An important direction is the rebirth of ethnic coloring of the areas and the formation of clusters of green tourism. In 2002 the cluster of green tourism “Oberig” (“Guardian”) was created in a small town Hrytsev, Shepetovka district, Khmelnytsky region. The results of its operation demonstrate that in case of availability of the interested persons and the attractive tourist product any area can become interesting for investments. In Hrytsev, the “Oberig” cluster unites 10 rural premises which can accommodate 50 people in houses with all conveniences.<sup>348</sup>

Hrytsev has become the site for trainings, seminars, information meetings on the topic of rural tourism. Such seminars and meetings are attended by people from other regions of Ukraine, and Belarus and Moldova. The participants of the “Oberig” cluster share their experience during their business trips to other.

The experience of Khmelnytsky region in the field of rural tourism is followed by other regions. In 2007 in Berezhany (Ternopil region) the

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<sup>345</sup> The round table devoted to the cluster initiative in the tourist sphere was held in Ternopil // The news portal “Across the Zbruch”. – Electronic resource. - Access mode: [www.omctur.kh.ua/events/kruglyy-stil-podiyevyy-turyzm-yak-faktor-formuvannya-turystychnoyi-pryvablyvosti-regionu#](http://www.omctur.kh.ua/events/kruglyy-stil-podiyevyy-turyzm-yak-faktor-formuvannya-turystychnoyi-pryvablyvosti-regionu#).

<sup>346</sup> Poltava: the regional program of development of tourism and resorts for 2011-2015// Official site of Poltava regional council. – Electronic resource. – Access mode: <http://oblrada.pl.ua/ses/6/4/39.pdf>.

<sup>347</sup> The regulation “On the regional professional contest of the specialists in the tourist sphere “The tourist hospitality of Poltavshchyna” // Official site of the department of tourism and resort of Poltava state regional administration. 9 June 2011. – Electronic resource. - Access mode: <http://poltava-tour.gov.ua/ua/news/detail/143htm>.

<sup>348</sup> The cluster of rural tourism “Oberig”// Official site of the cluster of rural tourism “Oberig”. – Electronic resource. - Access mode: [http://www.oberig.km.ua/about\\_us.php](http://www.oberig.km.ua/about_us.php).

district public organization was established – the cluster of rural tourism “The Picturesque Berezhanshchyna”<sup>349</sup>. The main aim of the project is to promote the development of tourism in the rural areas of Berezhany district and the protection of economic, social, creative, cultural common interests of the participants. The precondition for the cluster formation was the aspiration to renovate historical and archeological monuments of the district – the castle, the town hall, the wooden and stone churches, the administrative buildings. The district is rich in picturesque hills, forests and water reservoir, curative springs, cave, colorful ethnic places.

On September 29, 2010 the presentation of the project for the creation of the transborder rural tourism cluster “Dnipro” was held in the village of Illich of Gomel region, the Republic of Belarus. This project unites 6 neighboring border districts of Gomel and Chernigiv regions from Belarus and Ukraine. The project was realized due to the activity of two public organizations engaged in the development of the rural green tourism: the scientific-educational association “Oracul” from the city of Gomel and Chernigiv regional association of the rural tourism.

Nowadays the transborder cluster of the rural tourism of the Euroregion “Dnipro” includes over 300 natural, historical, cultural and archeological monuments. A number of “green” ring and radial routes are elaborated for tourists – walking, cycling, horse routes on the cluster territory. Among them are weekend tour routes and special proposal for bikers and extreme tourism fans<sup>350</sup>. These routes have been tested, and the information about them can be found on the site [http:// cluster-dnepr.com](http://cluster-dnepr.com) and in a special booklet.

The network of the “Dnipro” cluster participants contains 44 residents, among them agricultural estates, tourist firms, museum, hotels, sanatoriums, natural reserves, village schools.<sup>351</sup>

Besides the operating clusters of the rural tourism, the domestic scientists have proposals concerning the creation of new clusters. For example, Yu. Grytsku-Andriyesh studied the recreational potential of Chernivtsi region and came to conclusion that this region was favorable for development of both summer and winter mountain and sport tourism, for medical treatment. He suggested creating there the cluster of the rural tourism.<sup>352</sup>

M.Kostrysya investigated the preconditions of advance of tourism in

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<sup>349</sup> The idea of creation of a new cluster in Ternopillya // Official site of Berezhany district public organization - the cluster of rural tourism “The picturesque Berezhanshchyna”. – Electronic resource. - Access mode: <https://www.itcluster.te.ua/pro-klaster/>.

<sup>350</sup> The transborder cluster of rural tourism of Euroregion “Dnipro” has been presented // Official site of Chernigiv regional association of rural green tourism. – Electronic resource. - Access mode: <https://cyberleninka.ru/article/n/transgranichnoe-sotrudnichestvo-kak-mehanizm-razvitiya-prigranichnyh-selskih-territoriy>.

<sup>351</sup> The cluster of transborder rural tourism “Dnipro” has been presented in Kyiv // Official site of Chernigiv regional association of rural green tourism. 2011. – Electronic resource. - Access mode: <https://cyberleninka.ru/article/n/transgranichnoe-sotrudnichestvo-kak-mehanizm-razvitiya-prigranichnyh-selskih-territoriy>.

<sup>352</sup> Grytsku-Andriyesh Yu. The prospects of creation the cluster of rural tourism in Chernivtsi region // Electronic resource. – Access mode: [http://www.rusnauka.com/9\\_DN\\_2010/Economics/62121.doc.htm](http://www.rusnauka.com/9_DN_2010/Economics/62121.doc.htm).

Zhytomyr region and suggested that the ethnic-historical cluster of the rural tourism “The land of drevlyans” should be formed there, elaborating the mechanism of its functioning<sup>353</sup>.

In general, the conducted research shows that the regions of Ukraine make use of the available recreational potential in order to improve the social and economic state of the area and to increase its investment attractiveness. As the promotion of historical and cultural sights requires the perfection of the tourist infrastructure, the use of recreational advantages enables to improve the social and economic development of the region as a whole.

#### *6. Transborder cluster*

The transborder cooperation is aimed at the increased use of natural and resource potential of the bordering territories, at the joint efforts for solving identical problem on both sides of the border. The use of cluster tools enables to choose the optimal forms of cooperation for the participants.

A number of normative documents were adopted in Ukraine which determine the character of interrelation between the participants of transborder cooperation. And the cluster technologies are considered to be a significant tool for reducing the effect of customs and tax borders.

The resolution of the Cabinet of Ministers of Ukraine №1838-p of 15 September 2010 approved the concept of the National program of transborder cooperation for 2011-2015<sup>354</sup>. And on 1 December 2010 the Cabinet of Ministers adopted the National program of transborder cooperation<sup>355</sup> which envisages the creation of conditions for the foundation and operation of joint ventures and transborder economic clusters. The Ministry of regional development and construction of Ukraine adopted a decision №46 dated to 17 September 2009 concerning the draft concept of the national strategy for formation and development of the transborder cluster. According to this concept, the transborder cluster is defined as the voluntary association of independent companies, incorporated institutions, other subjects of transborder cooperation which:

- are geographically concentrated in the transborder region (space);
- cooperate and compete;
- specialize in different sectors, connected by common technologies and skills, and supplement each other for the production of common good or service which, as a result, enables to obtain synergetic and network effects, diffusion of knowledge and skills.<sup>356</sup>

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<sup>353</sup> Kostrytsya M.M. Rural tourism: theory, methodology, practice (ethno-historical tourist cluster) : monograph. – Zhitomir: ZDTU, 2003. – P.196.

<sup>354</sup> The concept of the state support for transborder cooperation for 2011-2015 adopted by the decree of the Cabinet of Ministers dated to 15 September 2010, №1838-r // Official site of the Supreme Council of Ukraine. - Electronic resource. – Access mode: <http://zakon3.rada.gov.ua/laws/show/1838-2010-%D%80>.

<sup>355</sup> The state program for development of the transborder cooperation for 2011-2015, adopted by resolution of the Cabinet of Ministers of Ukraine, dated to 1 December 2010, №1088 // Official site of the Supreme Council of Ukraine. - Electronic resource. – Access mode: <http://zakon3.rada.gov.ua/laws/show/1088-2010-DO%BF>.

<sup>356</sup> The draft concept of the National strategy of formation and development of the transborder clusters // Electronic resource. – Access mode: <http://search.ligazakon/>.

N.Mikula singles out two particular features of functioning of the transborder clusters:

1) the participants are located in different taxation, customs, legislative environments of the neighboring countries but they have joint ventures, make use of joint infrastructure and operate, primarily, at the transborder markets;

2) the intensity of network interactions in the cluster is limited by the existence of the border which creates additional barriers for free movement of goods, workforce, capital. The barriers for establishing cooperation can also be different mentality, traditions, language, culture, negative pages of history.<sup>357</sup>

Proceeding from the abovementioned, N.Mikula specifies two basic models of the transborder clusters.

The first model is the monopolar (asymmetric) model which is formed when the adjacent regions of the neighboring countries are considerably different in the levels of economic development or the introduction of cluster approaches, or in institutional systems. In this case the cluster formed on one side of the border can attract, in the process of its advance, separate enterprises-subcontractors, local suppliers, for supplying raw materials, components or for the organizations of sales into its network.

Due to the exchange of experience, the transfer of technologies, the establishment of new enterprises, a full-bodied cluster network can be formed on the other side of the border. One more variety of such cluster can exist in case of the location of the subsidiary of the transnational company on the region's territory, with the network of suppliers and related enterprises being formed around the subsidiary.

The second is the bipolar (polypolar) model which is based on the approach that the transborder network is grounded on the existence of regional network (clusters as the founding elements).<sup>358</sup>

In Ukraine the leader in the formation of the transborder cluster is, undoubtedly, Kharkiv region. In August 2007 in the city Belgorod (Russia) an agreement on the creation of the construction cluster "Slobozhanshchyna" was signed. The participant were the joint-stock company "Kharkiv regional fund of entrepreneurship support", Kharkiv state technical university of construction and architecture and Belgorod regional fund of small business support, Belgorod state technological university.<sup>359</sup>

In 2008 the transborder tourist cluster was created with the participation of Kharkiv and Belgorod funds of business support, Kharkiv national economic university and Belgorod state university (the departments of tourism). The cluster activity covers the two districts in Ukraine and Russian Federation (Zolochiv and Gaivoron districts). The main aim of this

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<sup>357</sup> Mikula N.A. The state and prospects of development of the transborder clusters in Ukraine // Geopolitics of Ukraine: history and modern stage. – 2010. – №2. - Electronic resource. - Access mode: <http://www.nbu.gov.ua>.

<sup>358</sup> Mikula N.A., Tolokovanov V.V. Transborder cooperation: handbook. – Kyiv: Kramar, 2011. – P.259.

<sup>359</sup> The agreement of the creation of the creation of the Euroregion construction cluster "Slobozhanshchyna" has been signed // Electronic resource. – Access mode: <http://kharkivoda.avakov.com/news.php?news=5537>.

cluster is to revive the routes of rural tourism and historical monuments of culture.<sup>360</sup>

The team of scientists headed by N.Vnukova are engaged in the formation of the transborder financial cluster. The conducted SWOT – analysis of the creation of the financial megacluster made it possible to work out methodological recommendations for the formation of the nuclear group and selection of the participants, to determine the components of financial provision of cluster initiatives concerning the transborder cooperation and to elaborate the methodological basis for creating the strategy of the megacluster operation.<sup>361</sup>

The issue of formation of the transborder tourist cluster is also being discussed in Lviv region. The common strategy for the development of the Ukrainian-Polish transborder region for the period until 2015 (including Volyn, Lviv, Transcarpathian regions and Lublin and Subcarpathian provinces) was worked in 2007-2008 in the framework of the program INTEREG-III/TACIS CBS 2004-2006. One of the priorities of the strategy is the development of the tourist-recreation sphere. In this respect the main tasks are:

- to identify and develop the Ukrainian-Polish transborder area as a single tourist region;
- to develop the integrated system of marketing for the transborder region in Ukraine, Poland and other countries;
- to train highly skilled specialists for tourism service sphere and managers of transborder tourism;
- to create powerful and institutional infrastructure for tourism development in the Polish-Urainian transborder region.

The new transborder cluster is very promising taking into account the EURO-2012.<sup>362</sup>

In the Transcarpathian region in 2009 the program of establishing the transborder tourist cluster was adopted, which involved Poland, Ukraine, Belarus. Also, Lublin ecoenergy cluster began functioning as the transborder association with the participation of the Ukrainian side – the joint venture “Com EcoLviv”. It is possible to envisage the further advance of this transborder cluster in the sphere of ecological power engineering because of significance of energy saving and reusable resources as well as secondary processing of waste due to the financial support by the European Union.<sup>363</sup>

In July the Transcarpathian region joined the International cluster association “Tysa”. The goal of this association is to promote the introduction of innovation projects in power engineering and environment protection in Ukraine, Bulgaria, Slovakia, Serbia and Hungary. The Tysa

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<sup>360</sup> Vnukova N.M. Transborder clusters: foreign and domestic experience// Electronic resource. – Access mode: <http://www.inno.Kharkov.ua/wp-content/uploads/2009/10.pdf>.

<sup>361</sup> The organization of providing the creation of financial clusters of transborder cooperation: monograph/ edited by Professor N.M. Vnukova. – Lviv: Institute of regional investigation of the NAS Ukraine, 2011. – P.104.

<sup>362</sup> Mikula N.A., Tolkovanov V.V. Transborder cooperation: handbook. – Kyiv: Kramar, 2011. - P.259.

<sup>363</sup> The recommendations concerning the introduction of new forms of transborder cooperation/edited by Professor N.A.Mikula. – Lviv: Institute of regional investigations, 2010. – 150 p.

river begins to flow in the Transcarpathian region, and so the organization aims to improve the quality of water in the river which flows through the countries-participants. Therefore the International cluster association proposes the latest technologies for water purification and waste utilization in the Transcarpathian region. Also, it is planned to build an exhibition hall and an educational center of introduction of biotechnologies.<sup>364</sup> There are plans to create the tourist transborder cluster in Chernivtsi region on the basis of the network of the regions which won in the national competition “Seven wonders of Ukraine”. In Lugansk region the possibilities for formation of the transborder clusters in machine-building, agriculture, medicine are being considered.

The conducted research of directions of the transborder cooperation demonstrates that the border areas actively apply the cluster tools for different forms of interactions. The wide variety of the cluster forms makes it possible to take into account the specific forms of the transborder cooperation and to build the equal relations with the neighboring area.

It should be noted that the cluster potential of the national economy is not limited by the discussed forms of production organization. Only the most tested technologies of cluster formation were selected for analysis. At the same time, we should bear in mind that the potential of the regional clusterization is a dynamic value, and its manifestations are constantly improved according to the demands. More than 10 years of experience of cluster operation in Ukraine enable to follow the trend in the evolution – from the support of traditional forms of production to the establishment of network relations in modern branches of economy connected with nanotechnologies, alternative sources of energy, biotechnologies and others. Undoubtedly, those regions will be the leaders which will be able, with the help of the cluster tools, to create a set of competitive advantages of these branches and to determine their prospective significance for the regional economy as a whole.

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<sup>364</sup> The International associations of clusters (IAC) “Tysa” in the Transcarpathian region will deal with rubbish, water quality and renewable power engineering // Official site of the “Zakarpattya” (Transcarpathian) press center. – Electronic resource.– Access mode: <http://zakarpattya.net.ua/News/90612-MAK-Tysa>.

## **2.5. The cluster internal structure and the system of organization in the interaction of business structures inside the cluster**

The study of possibilities of applying the clusterization schemes in different regions of Ukraine requires the investigation of approaches concerning the formation of the cluster internal structure and the organization of interaction of business structures inside the cluster. The variety of cluster forms demonstrates that it is impossible to use a single general mechanism of formation of the territorial-sectoral association. The research conducted shows that three main approaches have been tested in the domestic practice. These approaches are the most widespread in the study of the inner structure of the territorial-sectoral association.

When analyzing the cluster system components the supporters of the first approach proceed from the assumption that the compulsory elements of the association are the authorities, the business and the institutions. Correspondingly, the objects of research are the interconnections appearing during the inner cluster interaction.

According to the second approach, an essential component of the cluster formation is the establishment of a public organization which takes over the function of the coordination center and determines the strategy of the cluster development. While evaluating the potential of the network structure we should choose the interrelations between the cluster members as the object of research.

The supporters of the third approach pay attention to the necessity of forming a nucleus of large enterprises around which other cluster participants would be grouped. This can be one of the prerequisites of the cluster formation. The character and forms of interaction between the cluster nucleus and every participant are investigated.

We can note that every discussed approach found its practical application in the analysis of clusterization tendencies in Ukraine. Thus, the first approach is actively used when determining the components of success in the territorial-sectoral associations in Chernygyv region (the construction cluster), in Lviv region (the cluster of folk craft), in Cherkassy region (the clothing cluster). The second approach was tested in Khmelnytsky region (the region public organization “The first agrarian cluster”), in Ivano-Frankivsk region (the Coordination council of the cluster of folk textile craft “The Ecological foreshortening”, the “Constellation” cluster) and in Sevastopol (the Association of sustainable development “Aura”). The third approach was practically applied in large industrial cities of Ukraine, in particular in Zaporizhya (the clusters of motor car industry and power machine-building), in Kharkiv (a high-technology and science-intensive cluster of power machine-building, the border cluster), in Sumy (the construction cluster), Donetsk (the electrical power engineering cluster), in Lviv (the border cluster) and others.

In our opinion, whatever approach is chosen in the formation of the cluster internal structure, an important factor is to determine the cluster nucleus and the character of interrelations between its participants. The question of a set of demands for the nucleus is rather significant because the internal structure and the behavior of the participants in the regional social-economic system are predetermined by the goals of the cluster initiator. Taking into account the abovementioned approaches to the formation of the

cluster internal structure, the nucleus of the territorial-sectoral association can be both a public organization and an enterprise (a business). In case if the nucleus is a public organization, its functions consist in the coordination of activities of the cluster participants, in the establishment of links between them, in the provision of information consulting support. This means that the public organization turns into a business incubator for the formation of the production organization network forms. When the cluster is transformed into the established network with clearly defined interconnections between its participants, the need for coordination by public organizations decreases. Therefore, in most cases the cluster leaves the network composition and becomes an independent participant of the market.

The nucleus of clusters can be the subjects of business activity. In the opinion of T. Karlina, the cluster nucleus is formed by one enterprise or a group of businesses which manufacture competitive goods for foreign and domestic markets and which can create new jobs and participate in the preparation of budgets at different levels.<sup>365</sup>

In the monograph edited by N. Vnukova it is suggested to differentiate the notions “the cluster nucleus” and “the cluster group”<sup>366</sup>. The scientists consider that the nucleus of the cluster can be a large enterprise, a leader of its branch, whose production enjoys considerable demand and which is competitive, as well as the association of small and medium-sized businesses with the similar characteristics of production.

As a result of the analysis of economic literature, the authors of the monograph singled out the main properties. The enterprise which is the potential cluster nucleus must be characterized by such properties: 1) it must correspond in its economic activity to the priorities of the country’s development; 2) it must have stable economic links with other enterprises of the region and it must be territorially close to the potential partners; 3) the production of this enterprise must be science-intensive and innovative; 4) the enterprise must be export-oriented; 5) the region should have the necessary scientific and financial infrastructure; 6) the enterprise must be financially stable; 7) the role of the enterprise in the economy must be considered (the market share, the volume of assets, etc).<sup>367</sup>

The definition of the cluster nucleus and the potential participants is followed by the formation of the nuclear group for the cluster formation. The nuclear group is the composition of specialists interested in the establishment of a cluster from the side of the potential participants and other specialists who have appropriate experience in cluster management. A special place in the composition of the nuclear group belongs to the facilitator (the representative of the cluster nucleus) as exactly this person has to determine a group of the most interested sides and their representatives because it is very important to be attached to the cluster initiative at the initial stage<sup>368</sup>.

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<sup>365</sup> Karlina T.V. The identification of the nuclei of regional economic clusters on the basis on analysis of structural shifts in the conditions of the cyclically developing economy // Vestnik (Messenger) of Perm university. Series “Economics”. – 2011. – Issue 4(11). – P.18.

<sup>366</sup> The organization of providing the creation of financial clusters of transborder cooperation : monograph / edited by Professor N.M. Vnukova. – Lviv: Institute of regional investigation of the NAS Ukraine, 2011. – P.104.

<sup>367</sup> Ibid. – P.46.

<sup>368</sup> Ibid. – P.51.

S. Rudak and O. Slutska maintain that a stable financial position of the enterprise – the cluster nucleus, as well as the position of all its participants is the prerequisite for a stable functioning of the whole cluster. It can be explained by the fact that the financial stability of the cluster nucleus makes it possible to accelerate the process of its formation and contributes to simplified procedures in cooperation with financial institutes and other contractors. According to the investigation results, the scientists formulated a set of main properties of the cluster nucleus and the indicators for their evaluation (Table 2.10)<sup>369</sup>.

Table 2.10

The characteristics of properties for evaluation of the cluster nucleus

Property	Indicator for evaluation of the cluster nucleus	Type of scale	Criterion
Market	Market share	Absolute	Max
	Concentration index	Absolute	Min
	Links with other enterprises	Interval	Max
	Enterprise image	Serial	Min
Financial	Ratio of instantaneous solvency	Absolute	→ 1
	Level of working capital	Absolute	Max
	Level of debt	Absolute	Min
	Level of operational margin	Absolute	Max
Economic	Science intensity	Absolute	Max
Technological	Technological level of the enterprise	Serial	Max
	Ratio of wage to average in the branch	Interval	Max
	Share of technological chain in the region	Absolute	Max
	Level of completeness of production chain at the enterprise	Absolute	Max
Government policy	Conformity to government aims	Nominal	Max
	Conformity to regional aims	Nominal	Max

We would like to note that when we deal with the regional or the national cluster we mean only the formation of a one-nucleus cluster. At the same time, while investigating transborder territorial-sectoral associations, N. Mikula singled out two forms of the network production organization: monopolar and bipolar transborder cluster<sup>370</sup>. Really, the existence of two nuclei is typical for bipolar clusters. These two nuclei are coordinating centres on both sides of the border.

To identify the nuclei of the regional economic clusters, T. Karlina suggests using Shift – Share analysis. In her opinion, as a result of crisis

<sup>369</sup> Rudak S.M., Slutska O.V. The methodological approaches to the choice of the cluster nucleus // Visnyk (Messenger) of the economy of transport and industry. – 2010. – №32. – P.150-154.

<sup>370</sup> Recommendations on introduction of new forms of transborder cooperation edited of transborder cooperation / edited by Professor N.A.Mikula. – Lviv: Institute of regional investigations, 2010. – 150 p.

more or less essential changes in the structure of the economy take place which effect the change of leaders of region's economic progress and which must be taken into consideration while selecting the most promising production spheres for the creation of the cluster nuclei<sup>371</sup>.

The suggested techniques of conducting the analysis of structural shifts are aimed at the identification of the regional cluster nuclei. Such techniques envisage the evaluation of absolute change of the production volume in the branch (SS – Shift Share) and the specification of three components of this change:

- NS (National Share) – this component reflects the effect of the national factors of growth;
- IM (Industry Mix) – the component which reflects the influence of the sectoral growth factors;
- RS (Regional Shift) – this component reflects the effect of the regional growth factors.

The analysis of structural shifts enables to reveal those branches (sectors) which are considerably influenced by a certain group of the growth factors. Without doubt, the basis of regional economic clusters are the production units with the biggest values of RS. It will demonstrate the existence of special conditions on the region's territory which ensure competitive advantages for these branches and, as a result, the most successful development. Exactly such types of production can become the major sources of the regional economic growth.

The value of the indicator of shifts shares will be equal:  
 $SS = NS + IM + RS$ .

In order to specify the leading kinds of activity which would be able to create the nucleus of certain cluster, the approach was applied which makes use of the classification of regional leaders according to the ratio of IM and RS. This approach makes it possible to single out 6 types of branches (Table 2.11)<sup>372</sup>.

The first, the second and the third types of branches are referred to regional leaders. It is obvious that the branches of the first type possess the biggest cluster-forming potential; the branches of the second type are also able to form the cluster nucleus. The branches of the third type as the leading branches possess the capability of forming the cluster nucleus in a small degree because the regional conditions of growth do not contribute but rather impede the development of clusters. However, it is possible that the realization of stimulating selective economic policy in the region will ensure the transformation of these branches into the first type of regional leaders.

Besides the nucleus of the cluster, the character of interaction between subjects plays an important role in the study of the internal structure of the cluster systems. In the opinion of L. Kalinichenko, the intersubject cooperation in the framework of the industrial cluster is a system of interrelations between the industrial cluster participants. Such system is realized with the help of various forms, with the account of the role of the exact subject in the economic process.

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<sup>371</sup> Karlina T.V. The identification of the nuclei of regional economic clusters on the basis on analysis of structural shifts in the conditions of the cyclically developing economy // Vestnik (Messenger) of Perm university. Series "Economics". – 2011. – Issue 4(11). – P.19.

<sup>372</sup> Ibid. – P.25.

Table 2.11

The typology of branches according to the ratio of the indicators IM and RS

Type of branch	Ratio of indicators	Interpretation of indicators
1	IM>0, RS>0	Favorable regional and sectoral conditions for development
2	IM<0, RS>0  IM < RS	Favorable regional conditions prevail over less favorable sectoral conditions of growth
3	IM>0, RS<0  IM > RS	Favorable sectoral conditions prevail over less favorable regional conditions of growth
4	IM<0, RS>0  IM > RS	Favorable regional conditions for development cannot prevail over unfavorable sectoral conditions of growth
5	IM>0, RS<0  IM < RS	Favorable sectoral conditions for development cannot prevail over unfavorable regional conditions of growth
6	IM<0, RS<0	Unfavorable regional and sectoral conditions of development are available

The most widespread forms of intersubject relations in the framework of the industrial cluster are economic, logistic, information, legal and organizational types of interactions, according to L. Kalinichenko<sup>373</sup>.

N. Altukhova specifies two groups of connections which are typical for the participants of the territorial-sectoral association: the connections that ensure the added value generation and the coordination connections<sup>374</sup>.

Industrial connections take place between the participants of the territorial-sectoral association in the process of the formation of the added value. That is, such connections provide vertical integration of the cluster members; the existence of coordination connections testify to the need of mutual coordination of actions between the association participants with the general strategy of the unit development. When building the organizational-economic mechanism for interaction between the participants of the regional artificial economic cluster, K. Yekimova and Ye. Fedina singled out the following types of interconnections: coordinational, resource-oriented, informational and educational<sup>375</sup>.

Table 2.12 presents the forms of cooperation between the members of the territorial-sectoral association. Such forms of cooperation were revealed by A. Yakovleva – Chernyshova in the process of researching the peculiarities of interaction between the business structures in the recreational cluster<sup>376</sup>.

<sup>373</sup> Kalinichenko L.L. The aspects of interaction of the industrial cluster subjects // Development of management and economic techniques in the transport sphere. – 2011. – №34. – P.126-136.

<sup>374</sup> Altukhova N. The mechanism of internal interaction in industrial clusters // Halytsky economic Visnyk (Messenger). – 2011. – №1(30). – P.102-106.

<sup>375</sup> Yekimova K.V., Fedina Ye.V. The organizational economic mechanism of interaction between the participants of the artificial economic cluster // Visnyk (Messenger) of Chelyabinsk state university. Economics. – 2010. – №6(187). – P.179-183.

<sup>376</sup> Yakovleva – Chernysheva A.Yu. The peculiarities of interaction of business structures in the recreation cluster//Management of economic systems: electronic scientific journal. – 2011. – №1. – Electronic resource. – Access mode: <http://uecs.ru/uecs.25-252010/item/313-2011-03-25-10-00-43>.

Table 2.12

The classification of cooperation forms between the operating business structures in the cluster

Classification feature	Forms of interaction
Sectoral membership	<ul style="list-style-type: none"> <li>- in-sectoral;</li> <li>- intersectoral</li> </ul>
Kinds of cooperation	<ul style="list-style-type: none"> <li>- on the agreement basis;</li> <li>- cooperation;</li> <li>- integration</li> </ul>
Direction of interaction	<ul style="list-style-type: none"> <li>- vertical</li> <li>- horizontal;</li> <li>- mixed</li> </ul>
Closeness of interconnections	<ul style="list-style-type: none"> <li>- independent entrepreneurship structures;</li> <li>- family entrepreneurship structures</li> </ul>
Stability of interconnections	<ul style="list-style-type: none"> <li>- stable;</li> <li>- unstable</li> </ul>
Functional spheres of interaction	<ul style="list-style-type: none"> <li>- technological process;</li> <li>- marketing;</li> <li>- finance;</li> <li>- management and so on</li> </ul>
Types of interaction	<ul style="list-style-type: none"> <li>- technological;</li> <li>- financial-economic;</li> <li>- organizational (administrative)</li> </ul>
Amount of interconnections between participants	<ul style="list-style-type: none"> <li>- bilateral interconnections between participants;</li> <li>- multilateral interconnections between participants</li> </ul>
Models of interaction	<ul style="list-style-type: none"> <li>- franchising;</li> <li>- outsourcing;</li> <li>- strategic alliance</li> </ul>

In spite of variety of approaches to the classification of interconnections between the business structures in clusters, the practical functioning of network forms of production organization demonstrates that most often the territorial-sectoral association is formed at the expense of stronger manifestations of some of them. Ye. Borodkina stresses exactly this fact in her research as she proposes to single out the following three types of clusters according to the character of dominant organizational and economic connection. These types of clusters are: 1) the market clusters which unite the totality of small or medium-sized enterprises utilizing the same territorially localized resources; 2) the quasimarket clusters with the domination of one big enterprise which attracts other economic entities on the basis of subcontract or outsourcing; 3) the administrative clusters are created by the government for implementation of its functions.

Besides, Borodkina elaborated the measures of the government support for each type of clusters. For instance, for the market clusters a direct government financial and organizational support, the infrastructural territorial development institutional and information support are suggested. For the quasimarket clusters, the government's tasks are the identification of the basic business and its interests, institutional and organizational support.

For the administrative clusters, the initiation, direct investments, the organization and financing of production activity are necessary<sup>377</sup>.

A.Yakovleva–Chernyshova touches on the issue of stable interconnections between the participants of the territorial-sectoral association. On the example of the recreation cluster she comes to conclusion that the most unstable interaction is typical for the horizontal forms of cooperation. The scientist notes that most often the horizontal forms of interconnections are grounded on the incorporation of capitals, key competences and other possibilities of the business structures for the realization of certain project. Thus organized, these forms of cooperation tend to dissolution on achieving the single aim of the interacting organizations. Or these forms of cooperation can be cyclical which is connected with seasonal fluctuations of demand for the cluster product.<sup>378</sup>

The stability of interconnections testifies to the effectiveness in the intersubject cooperation of the cluster participants. L. Kalinichenko notes that it is possible to evaluate the effectiveness of the intersubject cooperation on the basis of two approaches. Firstly, by evaluating the indicators which enable to concentrate the managerial efforts on particular spheres of the industrial cluster's activity. Secondly, with the help of a comprehensive analysis of effectiveness on the basis of integral indicators. The scientist gives some arguments in favor of the first approach and suggests to make use of the following system for evaluating the effectiveness of interaction between the participants of the territorial-sectoral associations.

The indicators for such evaluation are: a) the specific weight of management expenses in the consolidated expenses of management; b) the share of implementation of the investment program; c) the ratio of the revenue from the external customers and the revenue in the cluster framework; d) the dynamics of amount of services provided by the cluster participants to each other; e) the specific weight of those economic subjects which accepted general corporative norms and standards; b) the specific weight of its own logistic services<sup>379</sup>.

N. Antukhova suggests determining the coefficient of additional usefulness (CAU) for each cluster participant when evaluating the effectiveness of the internal cluster interaction. This coefficient characterizes the ratio of benefits obtained from all other cluster participants to those additional benefits the participant produces in favor of its partners:

$$CAU_i = \frac{\sum C_j}{E_i},$$

where CAU<sub>i</sub> is the coefficient of additional usefulness of the i – th cluster element;

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<sup>377</sup> Borodkina Ye.V., I.E.Risin The clusters of Voronezh region and the instruments of their state support // National interests: priorities and security. – 2009. – №22(55). – P.21-25.

<sup>378</sup> Yakovleva – Chernysheva A.Yu. The peculiarities of interaction of business structures in the recreation cluster // Management of economic systems: electronic scientific journal. – 2011. – №1. – Electronic resource. – Access mode: <http://uecs.ru/uecs.25-252010/item/313-2011-03-25-10-00-43>.

<sup>379</sup> Kalinichenko L.L. The aspects of interaction of the industrial cluster subjects// Development of management and economic techniques in the transport sphere. – 2011. – №34. – P.126-136.

$\Sigma C_i$  is the total value of all benefits obtained by the  $i$  – th cluster element from all partners;

$E_i$  – is the effort(s) of the  $i$  – th element of the cluster on the generation of “additional benefits” for its partners.

When the value of this coefficient is over 1, it means that the centripetal component for such cluster participant is motivated by not only current, instantaneous economic effect from the main activity of this participant according to the cluster profile and not so much by this effect as by the critical mass of “additional benefits” from the partners<sup>380</sup>.

If we reveal and study the character of interconnections between the economic subjects it helps to identify the network forms of production organization and to evaluate the prerequisites for cluster formation in the regional economy. Ye.Turganbayev, M. Kozlova systematized scientific views of economists and specified three conceptual approaches to the identification of clusters and singled out the methods used.

1. The industrial clusters based on the theoretical principles of the economics of localization by Marshall and described in the works of Rosenfeld, Schmitz and Nadvi, Swann and Prevezer. In this approach, in order to identify the industrial cluster, the region specialization is determined using the location quotient method.

2. The industrial clusters are determined by means of establishing the intersectoral ties with the help of the tables “expenses – output”. Two major methods – the statistical cluster analysis and the discriminant analysis – as well the factor analysis by the method of main components are applied during the grouping of industrial branches in accordance with the similarity of their commodity specimens. This approach is characteristic for the works of Czamanski, O’hUallachain, Redman, Roepke, Bergman and Feser.

3. The concept of industrial clusters which includes a wide range of arguments: the economics of localization and urbanization, the internal effect of scale, the added value chain, technological innovations and so on. This concept elaborated in the works of M. Porter explains the incorporation of enterprises in the geographical space<sup>381</sup>.

The analysis of the existing methods of cluster identification demonstrates that the most precise and complete information about the existing interconnections can be obtained by using the factor analysis with the help of the method of main data components presented in the tables “expenses-output”. They enable to analyze the interconnections between the branches-producers of goods and services and the branches-consumers (without consideration of the effect of transport and trade intermediary margins), to reveal the dependence of domestic production and consumption on the foreign market.

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<sup>380</sup> Altukhova N. The mechanism of internal interaction in industrial clusters // Halytsky economic Visnyk (Messenger). – 2011. – №1(30). – P.102-106.

<sup>381</sup> Turganbayev E.M., Kozlova M.V. The identification of regional industrial clusters and the evaluation of their structural influence on the economy of the region // Electronic resource. - Access mode: <https://cyberleninka.ru/.../identifikatsiya-regionalnyh-industrialnyh-klasterov-i-otsenk...>

The symmetrical table “expenses-output” establishes the connections of the type “product-product”: the data about the consumption of the branch from other branches are given in the columns of the table, and in the lines – the data are given about the demand of other branches on the production manufactured by this branch.

The tables “expenses-output” are built on the basis of the model of intersectoral balance – the model of Leontyev which can be presented in the form the formula:

$$X = A \times X + Y,$$

where  $X = \begin{pmatrix} x_1 \\ \dots \\ x_i \end{pmatrix}$  is the vector of gross output;

$$A = \begin{pmatrix} a_{11} & \dots & a_{ij} \\ \dots & \dots & \dots \\ a_{i1} & \dots & a_{ij} \end{pmatrix}$$
 is the matrix of direct expenses;
$$Y = \begin{pmatrix} y_1 \\ \dots \\ y_i \end{pmatrix}$$
 is the vector of end use<sup>382</sup>.

The discussed approach is actively used in the developed countries of the world and in some CIS countries (Russia, Kazakhstan). At the same time, the Ukrainian statistics does not ensure the sufficient level of detailed data and does not make it possible to test this approach in the domestic regional social-economic systems. The complexity of obtaining similar statistical information conditioned the elaboration of various criteria for the cluster identification in the developed countries. For instance, N. Mikula and V. Tolkovanov suggest conducting questionnaires of the potential participants in the network associations in order to reveal and evaluate their interconnections<sup>383</sup>. It should be done during the investigation of the clusterization potential of the border regions. Besides, the Table 2.13 shows the review of the results of national investigations related to the identification and mapping of clusters in different countries of the world<sup>384</sup>. For the identification of clusters, it is common in the world and in the Ukrainian practice to calculate the localization quotient according to the formula:

$$LQ_{ij} = \frac{E_{ij}/E_{in}}{E_j/E_n},$$

where LQ is the localization quotient for the i-th branch of the j-th regions;  
 $E_{ij}$  is the amount of the employed in the i-th branch of the j-th region;  
 $E_j$  is the total amount of the employed in the j-th region;  
 $E_{in}$  is the amount of the employed in the i-th branch in the country;  
 $E_n$  is the total amount of the employed population in the country.

<sup>382</sup> Ibid.

<sup>383</sup> Mikula N.A., Tolkovanov V.V. Transborder cooperation: handbook. – Kyiv: Kramar, 2011. – P.96.

<sup>384</sup> Scoch A. The international experience of formation of clusters // Electronic resource. – Access mode: prodsea-kluster.at.ua/Mezdunarodopit.doc.

Table 2.13

The review of results of the national investigations on the identification and mapping of clusters

Country	Criteria for cluster identification	Amount of identified clusters
Austria	<ul style="list-style-type: none"> <li>- orientation at the customer, horizontal and vertical relations;</li> <li>- determination of competitiveness at the international level</li> </ul>	16 industrial clusters
Great Britain	Interviews with scientists and representatives of private sector, concentration of specialized workforce	154 (potential) regional clusters
Denmark	Interviews with 75 experts, quantitative indicators of form growth and export specialization	13 regional competent clusters and 16 national clusters
Spain	Local concentration of small and medium-sized business where firms cooperate on supplies to common customers; common cultural values	142 local industrial systems
Italy	Industrial areas are local labor systems: <ul style="list-style-type: none"> <li>- have a large number of jobs;</li> <li>- specialize in industrial sectors;</li> <li>- have high concentration of workforce</li> </ul>	199 industrial areas
Netherlands	Studying ties between suppliers of goods and services and their customers	12 big conglomerates of interconnected industrial regions
Portugal	Industrial areas with export specialization	33 regional clusters
Finland	Data about export policy and investments, studying intersectoral relations	9 key national clusters
France	Local system of production is characterized by: <ul style="list-style-type: none"> <li>- local concentration of small and medium-sized business;</li> <li>- local and medium-sized business is related to one or several branches of industry;</li> <li>- firms cooperate and compete;</li> <li>- availability of supporting firms;</li> <li>- common cultural norms and traditions.</li> </ul>	144 existing local systems of production and 82 are at the stage of creation

The value of  $LQ > 1$  points to the specialization of the region in the corresponding branch. For example, the calculation of this quotients for Kharkiv region made it possible to identify such branches of specialization in the region: operations with real estate, leasing, engineering and providing services to entrepreneurs; trade, repair, activity of hotels and restaurants; rendering communal and individual services; activity in the sphere of culture and sport; industry; education<sup>385</sup>.

<sup>385</sup> The organization of providing the creation of financial clusters of transborder cooperation : monograph / edited by Professor N.M. Vnukova. – Lviv: Institute of regional investigation of the NAS Ukraine, 2011. – P.41.

Besides the examined indicator, I. Bakushevych and I. Martynyak made the calculation of the specialization quotient for the regions of the volume of production of goods and services. This investigation was conducted in the process of studying the potential of clusterization in the western regions of Ukraine. According to the results of the calculations, the indexes of specialization were established which exceed the average indexes in Ukraine, e.g. in industrial production – in the Transcarpathian and Ivano-Frankivsk regions, in trade, repair of motor vehicles, household goods and objects of personal use – in the Volyn and Chernitsi regions<sup>386</sup>.

N. Mikula and V. Tolkovanov conduct the identification of transborder clusters according to three parameters:

- 1) the absolute amount of the employed people (10, 000 and more);
- 2) the degree of specialization;
- 3) the share of the employed in the branch in relation to the general amount of the employed population (from 3 per cent and more people employed in certain sector of the economy).

In this case the researchers consider each parameter as one “star”. The proposed parameters were used in the analysis and enabled to identify the availability:

- three-star transborder clusters;
- two-star transborder clusters;
- one-star transborder clusters at different stages of the life cycle<sup>387</sup>.

A. Yatsenko generalized the main analytical methods of the cluster identification in the regional social-economic system and analyzed their advantages and drawbacks (see Table 2.12)<sup>388</sup>.

Besides the calculation of the examined indicators, the scientists of different countries suggest their own approaches to the identification of territorial-sectoral associations on the basis of studies of the regional cluster potential. For instance, in the opinion of V. Moseyko and V. Fesenko, one of the major issues in the process of the regional cluster identification on the definite territory is to determine the branches which could represent the basis (the nucleus) of potential clusters. These scientists proposed a complex of parameters as indicators of clusterization. These parameters include both dynamic and static indicators.

The indicator of the static character R is the calculated value. It is suggested to use this indicator by the formula:

$$R = \frac{(N+1)-n}{N},$$

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<sup>386</sup> Bakushevych I., Martynyak I. The cluster initiatives in the Western region of Ukraine//The regions of knowledge in Eastern Europe: monograph, edited by I. Bakushevych. – Ternopil: TISIT, 2010. – P.196-208.

<sup>387</sup> Milula N.A., Tolkovanov V.V. Transborder cooperation: handbook. – Kyiv: Kramar, 2011. -p.98

<sup>388</sup> Yatsenko A.A. Theoretical aspects of the cluster analysis in the government management of regional development// Economy of the Crima. – 2011. – №1 (34). – P.96.

where N is the number of regions which are the main producers in the given branch, n – the place of the particular region among the regions which are the main producers in this branch.

Table 2.12

The main analytical methods of investigation of the regional industrial clusters

<b>Method</b>	<b>Advantages</b>	<b>Drawbacks</b>
Expert evaluations	Comparatively low expenses; detailed information	Absence of systematical gathering of information; absence of generalized data
Quotients of localization	Simplicity of calculations; can supplement other methods	Emphasis on the branches and sectors of the economic, not on clusters
Production intersectoral balances	Usually act as the main source of indicators in interdependence of branches and enterprises; detailed and comprehensive information	Do not take into account the role of accompanying institutional structures
Innovation intersectoral balances	Usually act as the main source of indicators of interdependence between branches and enterprises	Such balances are seldom published
Theory of graphs / network analysis	Obvious (graphic) analysis of interconnections	Limited choice of computer technologies
Special investigations	Flexibility during collection of necessary data	High expenses on investigation

As an indicator of dynamic character A it is suggested to consider the relative growth of production in certain branch:

$$A = G_{rg}/G_{av}$$

where  $G_{rg}$  is the regional growth of production in a years  
 where  $G_{av}$  is the average regional growth of certain kind of production a year in the regions which are its main producers<sup>389</sup>.

A. Bykova specified the following criteria for identification of the innovation cluster participants when she studied the potential for clusterization in Perm region of Russia.

1. The participation of enterprises in the regional business associations which can be regarded as one of the channels of cooperation suitable for evaluation.

2. The enterprise (business) has joint projects with universities, research institutes, other businesses located in the region. The choice of this criterion is caused by the fact that the internal innovation potential of the firm and its ability to external cooperation are described in the scientific literature as mutually supplementing properties which affect the level of innovativeness of the economic subject as a whole.

<sup>389</sup> Moseyko V.O., Fesenko V.V. The identification of regional clusters: methodological approaches // Regional economy: theory and practice. – 2008. – №7. – P.61.

3. The enterprise spends money resources on Research and Development. The advantages of this criterion are connected with the possibility of their estimating and measuring. Also, the advantages consist in the fact that the enterprises conducting Research and Development programs independently are recognized as more attractive partners for participation in the cluster interaction<sup>390</sup>.

G. Boush suggests identifying and investigating clusters with the use of the categorical model “End information flow”. In his opinion, the given approach makes it possible to conduct the identification of the cluster structures, proceeding from the understanding of their qualitative characteristics.

These characteristics are expressed by the following categorical parameters; logical level (LL), logical boundary (LB), transformation (T). In general, the procedure of identification of the territorial-sectoral associations according to this approach involves the purpose-oriented search for qualitative characteristics expressed by LL complex. Such characteristics in the cluster structures are present in enterprises, organizations and establishments of various orientations. In the opinion of G. Boush, a special advantage of the model “End information flow” consists in the fact that it is not obligatory to identify the cluster nucleus at the first stages. Besides, such approach to the identification of clusters enables to obtain their more exact description based on the understanding of qualitative characteristics of clusters extended by the parameters LB and T<sup>391</sup>.

We consider that a strong interaction inside the cluster testifies to the competitiveness of the network organization. The study of competitive positions in clusters by analyzing the interactions inside the network made it possible to reveal the sources of their competitive advantages.

Foreign and domestic scientists do not have a common approach to the understanding of the components of the cluster competitiveness. Some scientists regard that, depending on the order of organization of the internal structure, a peculiar system of the competitive values is formed in the association. For instance, O. Pantyushyna makes use of the methodology based on the evaluation of the production competitiveness of the linen cluster. In spite of existing objective drawbacks of this method, the scientist proceeded from the fact that the competitiveness of the enterprise (cluster) is higher, if their production competitiveness is higher.

Under the competitiveness of the linen cluster O. Pantyushina understands the ability of the cluster end production to satisfy the external demand and to enjoy the demands of the market which is external to this cluster. The condition of this method is the best satisfaction of internal demands for the intermediate types of production<sup>392</sup>.

The following main criteria of competitiveness were used:

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<sup>390</sup> Bykova A.A. The criteria for identification of participation in the regional innovative cluster // The collection of papers of VII All-Russian conference of young scientists devoted to institutional economics. – Yekaterinburg, 2009. – P.77-81.

<sup>391</sup> Boush G.D. The identification and description of clusters of enterprises with the help of the categorical model “The final information flow” // Vestnik (Messenger) of Tomsk state university. Series “Economics”. 2010. – №337. – P.133.

<sup>392</sup> Pantyushina O.V. The methodological basis for evaluating the competitiveness of the linen cluster elements // Economic and social changes: facts, tendencies, forecast. – 2011. – №3(15). – P.106.

- the criterion of the competitiveness of the main goods produced by the cluster (linen fabrics, flax seeds, flax fibres);
- the criterion of provision with flax seeds and flax fibres for the textile cluster sector; when the seeds and the fibres are produced by the agricultural and the flax-processing enterprises in the region<sup>393</sup>.

O. Pantyushuna proposed the formula for calculating the ratio of the competitiveness (in case of the linen cluster) which can be expressed as universal for other types of the territorial-sectoral associations:

$$C_{cl} = C_{n1} \times a_1 + C_{n2} \times a_2 + \dots + C_{ni} \times a_i ,$$

where  $C_{cl}$  is the cluster competitiveness;  $C_{n1}$ ,  $C_{n2}$ ,  $C_{ni}$  – the values of the criteria of competitiveness for each kind of the cluster's production;  $a_1$ ,  $a_2$ ,  $a_i$  are the ratios of criteria weight.

A. Tyshchenko and Yu. Tararuyev conducted the evaluation of competitiveness for the construction cluster enterprises which were formed in Kyiv region. The scientists made use of the methodology of integral evaluation. This methodology is based on the comparison of parameters which characterize the utilization of separate kinds of resources for construction enterprises. As a result, the integral taxonomic indicator was obtained as “the resultant force” of all features that characterize the investigated totality of construction enterprises.<sup>394</sup>

L. Syomina suggests conducting quantitative and qualitative analysis to evaluate the cluster competitiveness. The quantitative analysis of competitiveness envisages the determination of the market position for the enterprises which form the cluster at the sectoral, regional, national levels. The qualitative analysis of the cluster competitiveness includes the study of the availability and composition of the resource basis which is necessary to ensure the competitiveness of the enterprises – members of the cluster. The scientist stresses that the analysis of the quantitative and qualitative indicators should be integrated into the consolidated evaluation of the competitiveness which could be the foundation of the most efficient cluster policy.<sup>395</sup>

In general, the conducted investigations demonstrate that the efforts of the scientists are aimed at the search for the integrated indicator (the system of indicators). The calculation of such indicator(s) would enable to define the competitive advantages of the territorial-sectoral association and to work out the strategy of the cluster development in general on its basis.

In our opinion, every approach can be tested to evaluate the potential for clusterization of the domestic social-economic system. At the same time, without underestimating the value of the conducted researches, we believe that it is necessary to take into consideration the effect of the cluster activity on the competitiveness of the regional economy as a whole. Therefore, there

<sup>393</sup> Pantyushina O.V. The methodological basis for evaluating the competitiveness of the linen cluster elements // Economic and social changes: facts, tendencies, forecast. – 2011. – №3(15). – P.106.

<sup>394</sup> Tishchenko A.N. The evaluation of competitiveness of the construction cluster enterprises // Business-inform. – 2009. №3. – P.32-36.

<sup>395</sup> Syomina L.A. Cluster formations in the system of innovative-investment activity of the region // Izvestiya (News) of Altai state university. – 2011. – №2-1(70). – P.319-324.

is a need to determine the mechanism of the government regulation of the clusterization processes in the regional social-economic system.

Ye. Borodkina revealed the main drawbacks in the current practice of the cluster formation in Russia. These drawbacks include: a) the predominance of clusters founded on the branches of the traditional specialization in the regions limited in the territory and poorly oriented at the establishment and development of partnership with foreign companies; b) the role of the government in the processes of the cluster formation is limited; c) a low variety of the forms, techniques and tools in the management of the cluster formation applied by the government.

Such analysis made it possible to identify various roles of the government in the processes of the clusterization, in the regional economy: forecasting; financial, organizational, institutional, information support; creation of the supporting and compensating infrastructure<sup>396</sup>.

Besides, Borodkina elaborated the mechanism of the government management of the clusterization in regions. Such mechanism must provide:

- the full cycle of management (includes all kinds of activity connected with major managerial functions – planning, organization, control);
- the realization of the totality of effects expected from the cluster's activity;
- the operations of various subjects of management (the regional authorities, the local bodies of self-government, the management of the organizations – the cluster participants);
- the necessary and sufficient variety of forms, techniques and tools of management.

The structural composition of this mechanism is represented in the unity of four main blocks, each of them has an invariant component (general for any cluster) and a specific component (selective for each cluster).

1. The institutional provision which is represented by the institute of the government-private partnership, the prevailing forms and tools of which are used in relation to the specified cluster initiative. Its significant element is the specialized organization which carries out the program and purpose-oriented management of the clusterization processes. This specialized organization consists of the representatives of the authorities, the enterprises which are the potential cluster members, the leading experts of the region. The main aim of creating such organization is to realize the competitive advantages of the region by means of formation and development of clusters. In other words, from the very beginning such organization is not oriented at commercial success, therefore it is appropriate to make it a public organization.

2. The economic and organizational provision. Its major elements are strategies and purpose-oriented programs for the cluster formation and development; the regional order for the cluster production (services); the shared financing, tax stimulation of new kinds of innovative production and services; grants for Research and Development; the plots of land transferred

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<sup>396</sup> Borodkina Ye.V. On the approach to the evaluation of the Russian practice in regional management of the clusterization processes // Modern problems of development of economic subjects: proceedings of the 5<sup>th</sup> international conference. – Voronezh: Voronezh state pedagogical university, 2010. – Issue 2. – P.48-49.

for the implementation of investment projects connected with the organization of new production facilities in the cluster.

3. The information provision which includes the database on the cluster participants, the kinds and characteristics of production of clusters as well as the results of the monitoring of the clusterization processes in the region.

4. The scientific and personnel provision which involves the programs for training (retraining) of the personnel for the cluster participants; the system of the regional order for personnel retraining for clusters; the grants for doing Research and Development.<sup>397</sup>

Without doubt, the organizational mechanism of the cluster creation in Ukraine must be based on the cooperation between the state authorities, the government, the regions and the regional subjects. At the national level it is necessary to solve the primary tasks concerning the legal provision of the cluster operation, the training of specialists in the issues of organization of the cluster formation and operation. Other issues involve the elaboration and the legal guarantees for the mechanism of cooperation of the business structures, the methodological support of the regional initiatives on the cluster creation. At the regional level it is appropriate to analyze the leading branches of the region concerning the clusterization, including the neighboring regions. Such analysis should be done with the participation of the specialists in the cluster issues and with the support of the local authorities. Also, at the regional level the existing clusters should be identified, and the meetings with the managers of the potential cluster participants should be conducted. It is essential to elaborate and introduce the organizational and information technologies in order to accelerate the integration of enterprises and business in the regions. Other tasks at the regional level include the determination of the exclusive mechanisms for stimulating the development of the cluster structures according to the regional peculiarities and business demands; the creation of the business support infrastructure in the regions which could become the basis for further cluster formation and the improvement of the institutional environment.<sup>398</sup>

In general, as a result of the conducted research of the peculiarities of the cluster internal structure formation and the organization of the interaction of the business structures inside cluster we can make the following conclusions:

– while studying the cluster internal structure it is essential to select the “nuclear” group of territorial-sectoral association which helps to form the potential composition of the network organization nucleus;

– in the process of functioning, various kinds of internal cluster interactions emerge between the cluster members, and the stability of these relations testifies to the effective regional cluster policy;

– the investigation of the cluster competitiveness is directly connected with the evaluation of the competitive advantages of the region as an open social-economic system;

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<sup>397</sup> Borodkina Ye.V., I.E.Risin. The clusters of Boronezh region and the instruments of their state support // National interests: priorities and security. – 2009. – №22 (55). – P.21-25.

<sup>398</sup> Degtyaryova I.O. Scientific and practical aspects of applying the cluster approach in the management of competitiveness of Ukraine’s regions // State management: theory and practice. – 2011. – №1. – Electronic resource. – Access mode: <http://www.academy.gov.ua/ej/ej13txts/Degtyaryova.pdf>.

– the experience of functioning of the cluster associations in Ukraine testifies to the need of formation of the goal-oriented policy for the support of the production network forms which predetermines the necessity to build the mechanism of government management of the regional clusterization as a component of the social and economic progress.

### CHAPTER 3 CLUSTERS IN PROVISION OF INNOVATIVE DEVELOPMENT AND COMPETITIVENESS OF REGIONS

#### **3.1. The formation of the system of strategic management of innovative development of the region based on the principles of cluster technology\***

The issues of competitiveness have been paid much attention to by domestic scientists on different levels of formation and development of the national economy. These issues have become even more urgent at the period of transformation, when the economic agent that owned competitive advantages was the winner<sup>399</sup>.

The influence of world integration processes on the development of the economy of Ukraine has increased. It has caused the necessity of reconsideration of the role of regions in the process of formation of the national economic potential. The search for internal sources of territorial growth has become an inseparable constituent of the regional economic policy and requires implementation of new innovative forms of its realization.

There is no doubt that innovative development of the economy of a region is efficient only within the universal national strategy of innovative system formation which includes all necessary institutional, legislative, financial and other preconditions. First of all, the formation of the abovementioned preconditions is connected with exceptional authorities of the state center (taxation issues, foreign economic activity regulations, public property disposition etc.)

In case we ignore the peculiarities of separate regions, the necessity to concentrate in them sufficient amount of authorities and resources as independent subjects of innovative policy, we will weaken the motivating forces in the country and decrease the efficiency of mechanisms of the government regulation and support. These peculiarities are of great importance as the trend of polarization of scientific and innovative potential in a limited group of regions is being preserved. In order to cope with it we will need more than a decade.

The national economy transformation into the innovative way of development will require coverage of actually the absolute majority of the regions of Ukraine. This leads to certain contradictions. At the same time the realities of transformation period and stagnation in innovative sector prove that only gradual transformation is possible. In order to solve these tasks priorities should be given to several regions-leaders<sup>400</sup>. In this case it is important not to allow sufficient asymmetry of development level of certain

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\*The subchapter is coauthored with L. Rybchynska

<sup>399</sup> Senkov V. I. The strategy of innovation and sustainable development of regions with low natural resource potential in the near future // Electronic resource. – Access mode: <http://innconf.narod.ru/doc/title3.doc>.

<sup>400</sup> Senkov V. I. The strategy of innovation and sustainable development of regions with low natural resource potential in the near future // Electronic resource. – Access mode: <http://innconf.narod.ru/doc/title3.doc>.

regions in investment and innovative indicators. Innovative component should be taken into consideration in the process of economic reforms implementation. According to the analyses of branches of industrial complex of Ukraine as for technological production structure within regions, the majority of regions are on the fourth technological level. The only regions that managed to make transformations to the fifth and sixth technological structures are Kyiv, Kharkiv and Lviv regions<sup>401</sup>.

The choice of regions which will define priority directions for Ukrainian economy development and create preconditions for construction of national innovative system should correspond to the determination of general innovative strategy of the state. Unfortunately, the declared approach to determination of priorities of innovative activity is not optimal, moreover, the regional aspect of problem-solving concerning innovative development of the national economy is ignored.

In particular, the list of priorities described in 7 and 8 parts of the Law of Ukraine<sup>402</sup> "On Priority Directions of Innovative Activities in Ukraine" is not powerful enough for realization at the modern level of economic development. The main attention is concentrated on the support of traditional sectors of economy as they receive high profits from export and possess great potential for attracting private investments and credits for financing of innovative projects.

Thus, I.S. Kuznetsova<sup>403</sup> thinks that these branches may be regulated only by indirect methods. Only advanced branches require direct state support but they cannot develop as the result of high risks that is why they aren't attractive for investors. But these branches are the core of innovative development of the regional economy as they have great innovative capacity, create preconditions for realization of the policy of innovative development and provide regional programs of economic development with information.

Unfortunately, the existing order of selection and resource provision of innovative development reduces the appearance of internal sources of domestic economy growth and is not connected with the manifestation of innovative development of separate regions. It is due to the fact that guarantees of resource provision are absent in the process of realization of determined priorities. For example, one third of scientific and technical programs received less than a half of the planned financial resources, and almost one tenth of programs didn't receive financing at all.

In 2005 only 2 million hryvnias were allocated from the state budget to finance the government comprehensive programs of scientific technology development, and in 2006 the amount of financing was only 4 million hryvnias. Though the necessary sum of money was 141.7 million hryvnias annually<sup>404</sup>.

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<sup>401</sup> Fedulova L. Assessing the level of innovation and technological development of regions // Electronic resource. – Access mode: <http://old.niss.gov.ua/Monitor/oktober08/18.htm>.

<sup>402</sup> The Law of Ukraine "On priority directions of innovative activity in Ukraine" from 16.01.2003, № 433-IV // Electronic resource. – Access mode: [zakon.rada.gov.ua/cgi-bin/laws/main.cgi?nreg=433-15](http://zakon.rada.gov.ua/cgi-bin/laws/main.cgi?nreg=433-15).

<sup>403</sup> Institutional constraints of creation of the effective national – innovation system (NIS) and main tasks of the state policy for overcoming these constraints: scientific and analytical note. – Kyiv: Institute of Economics and Forecasting of NAS of Ukraine, 2008. – 17 p.

<sup>404</sup> Ibid. – 17 p.

The concept of national innovative system development (further NIS) has been determined. The aim of NIS development is the creation of conditions for labor efficiency and competitiveness of the domestic producers by means of improvement of wellbeing and provision of stable economic growth. This aim, according to the authors' opinion, can be reached in the following ways:

- the technological modernization of the national economy;
- the increase of innovative activity;
- the manufacturing of innovative products;
- the application of advanced technology and methods of economic activity management<sup>405</sup>.

The concept the NIS development fixes a platform which will provide the creation of competitive goods on the world market by implementation of three innovations:

- the market approach to innovative activity organization, the results of which will not be determined by efforts but by the received profits;
- the requirement of urgent transformation from branch to functional principles in the government management of innovative field;
- the capitalization of intellectual property as the mechanism of value increase of the fixed assets of economic entities and stimulation of the society to reproduction of intellectual capital of the nation.

Unfortunately, the realization of the declared innovations will not contribute to creation of preconditions for the formation of active mechanism of innovative development of the regional economy as a transparent social and economic system. The absence of evaluation of regional development priorities and their consistency with the strategy of the national innovative system development are impossible under the condition of realization of market approach to the organization of innovative policy in Ukraine. The transformation of the national economy to innovative way of development requires certain preconditions for innovative activity of certain regions and taking into consideration the necessity of innovative resources during the construction of the regional policy of innovative development.

L. Fedulova thinks that the increase of the role of regions in the development of their territories on innovative transformation basis reflects a new stage of the national innovative system formation. The development of territorial network models of organization of scientific and productive systems, application of the government and private partnership as one of basic mechanisms of interaction of the government and the business in innovative field are inseparable parts of the national innovative system<sup>406</sup>.

Competitive advantages in the process of realization of the innovative policy of regional development may be created deliberately. It is

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<sup>405</sup> The concept of national innovation system, approved by the Cabinet of Ministers of Ukraine on June 17, 2009, № 680-p // Electronic resource. – Access mode: <http://www.in.gov.ua/index.php?get=226&id=1533>.

<sup>406</sup> Fedulova L. Assessing the level of innovation and technological development of regions // Electronic resource. – Access mode: <http://old.niss.gov.ua/Monitor/oktober08/18.htm>.

caused by the fact that natural resources lose their importance as competitive advantage during the process of transformation from the economy which is based on natural resources consumption to the economy which is based on knowledge. At the same time, advanced infrastructure, qualified work force, and special efficient supportive institutes become of primary importance.

The regions represent unities of economic interests and may use advantages of inner-territorial connections and mutual activity (synergy) among the participants of business networks<sup>407</sup>. The importance of interaction and communication in innovative processes is increased by geographic proximity as key advantage of regional economies. This creates objective preconditions for taking into consideration all necessary peculiarities of construction and ways of economic development of separate regions during transformation period into the innovative way of development of the economy of Ukraine in general.

D.V.Kotov offers to build a simplified model of innovative development of national economy for creation of optimal levels of innovative development management. Scientific and technical progress is realized as elaboration and implementation of separate technologies in separate firms. Enhancing of innovative technology implementation leads to changes in the efficiency of branch production, the appearance of scientific, technical, social, environmental and economic effects. In territorial aspect, the processes of innovations diffusion lead to changes of organizational, technical, social and economic levels of territories development which are influenced by the enterprises implementing innovations. Finally, the innovation implementation effect is manifested on the level of the national economy, which can be observed by means of comparison of macro-economic data.

Thus, the model of building an efficient management system of innovative development of the national economy can be presented as interaction of four levels:

- the national level (national innovative system). It unites, directs and coordinates;
- the regional level. It creates conditions and provides development;
- the cluster level. It causes innovative growth;
- the enterprise level. It determines and maintains “points of growth”<sup>408</sup>.

The formation of a chain of innovation spread in the economy – ‘enterprise – group of enterprises – region – country’, on the one hand, gives possibility to emphasize levels of management of innovative development; on the other hand, it determines the place of the regional innovative policy in the innovative chain. According to the abovementioned algorithm, the level of implementation of innovative activities by the enterprises which form the economy of certain territory is basic for innovative development of a region. P.T. Bubenko uses the term “readiness of enterprises of a region for innovation implementation” in his research of innovative potential of a

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<sup>407</sup> Kotov D. V. The problem of management of the economy’s innovative development: state, region, cluster // Oil and gas business. Electronic scientific journal. Issue 1/2010. – Electronic resource. – Access mode: [http://www.ogbus.ru/authors/Kotov/Kotov\\_1.pdf](http://www.ogbus.ru/authors/Kotov/Kotov_1.pdf).

<sup>408</sup> Ibid.

region for definition of the abovementioned processes<sup>409</sup>.

In the world economy one or several business units which act in coordination and apply development of advanced technology in production process are called 'point of growth'. Accordingly, the innovative development of the region should be supported by the existing 'points' and stimulated by potential 'points' of economic growth in order to implement internal potential of the region as an open social and economic system to greater extent.

We can differentiate between the factors which are favorable for the regionalization of "points of growth" and transfer accents in innovative development into the region:

- the mutual existence of different manufacturers that offer services in time and are flexible to meet the consumer needs;
- the study effect which appears due to the attraction of regional producers to different spheres;
- the appearance of local funds of workforce with the concentration of specific skills and techniques;
- the unified institutional infrastructure which is important for efficient work of local social and economic system;
- the development of informal connections between regional economic participants<sup>410</sup>.

The advantages of regional innovative systems cannot manifest by themselves because regionalization creates preconditions for innovative development but doesn't provide development itself.

For successful innovative development it is necessary to support "points of growth" on the regional level by means of the cluster creation. S.Tikhomirov thinks, that regions, being the basis for industrial clusters, provide opportunities for innovative development of the national economy<sup>411</sup>. The region may have one or several clusters. It is natural that dynamic development, production and branch differentiations lead to clusters growth and their unification.

Having analyzed modern paradigms of regional development, A.M. Scoch determined the place of the cluster policy in innovative development of the regional economy (see. table. 3.1)<sup>412</sup>.

Combining principles of territorial and sectoral membership, regional associations of enterprises possess the following advantages:

- They make it possible to determine specialization of the regional economy and create preconditions for innovative development of territorial and production systems.
- They promote activation of internal investments and attraction of external investments (both national and foreign).

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<sup>409</sup> Bubenko P. T. Evaluation of innovative potential of regions based on the taxonomic method / P.T. Bubenko, M. Vladimirov // *Business Inform.* – 2009. – № 4 (2). – P. 86-88.

<sup>410</sup> Kotov D. V. The problem of management of the economy's innovative development: state, region, cluster // *Oil and gas business. Electronic scientific journal.* Edition 1/2010. – Electronic resource. – Access mode: [http://www.ogbus.ru/authors/Kotov/Kotov\\_1.pdf](http://www.ogbus.ru/authors/Kotov/Kotov_1.pdf).

<sup>411</sup> Tikhomirov S. A. The innovative direction for regional development // *Innovations.* – 2005. – № 7. – P. 31-36.

<sup>412</sup> Skoch A. V. The place of clusters in modern concepts of forming regional economic policy // *Electronic resource.* – Access mode: <http://independent.academy.net/science/tetradi/12/skoch.html>.

- The allocation of resources is within regional system.
- The development of market infrastructure is oriented first of all at provision of local consumers. It takes into consideration their tastes and preferences.
- The preconditions for integration of enterprises of small and medium-size businesses to national and international markets are created:
- The application of available scientific and educational potential in the region makes it possible to implement advanced achievements and technologies in the production process<sup>413</sup>.

In modern literature the cluster is determined as territorial and sectoral voluntary association of enterprises which have close cooperation with scientific establishments and local authorities. Their aim is to increase competitiveness of their own products and economic growth of a region<sup>414</sup>. At the same time there are some definitions similar to the definition of cluster. Let's have a look at some of them.

The territorial and production complex (TPC) is a group of enterprises within a territory. The enterprises are connected by the operation of raw materials and energy processing. Contrary to the cluster, TPC has technology connection between enterprises and availability of vertical integration of enterprises from the process of extraction of raw materials to their full processing. Industrial grounds, industrial unit, industrial region make a complex of fixed property and infrastructure.

This provides conditions for efficient work of small and medium-size enterprises and is run by a single operator.

There may appear infrastructural, cooperative and agglomerative effects for enterprises-residents. Infrastructural effect is connected with lower costs for creation and maintenance of infrastructure; cooperative effect is connected with possibility to decrease transportation and technological costs for enterprises located within the territory; agglomerative effect is connected with the economy of production costs.

A special economic zone (SEZ) is determined as a part of a territory which has special mode of implementation of entrepreneurial activity. SEZ is added by effects of industrial grounds, industrial units and industrial regions by special functioning conditions (taxation, customs and administrative costs decrease).

Technopark and technopolis are industrial grounds and industrial unit that concentrate enterprises of high technology around university and research centers. They are characterized by strict requirements regarding innovative activity of enterprises – residents. They also provide special services which support development of small innovative enterprises and efficient transfer of technology. High technology clusters may be created within technoparks and technopolises<sup>415</sup>.

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<sup>413</sup> Voynarenko M. P. A clusterforming potential of Khmelnytsky region: technologies and tools / M. Voynarenko, L. Rybchinska // *Regions of Knowledge in Eastern Europe: monograph / the scientific edition I. Bakushevych.* – T.: TISIT, 2010. – P. 68-78.

<sup>414</sup> Voynarenko M. P. Clusters as growth poles of regional competitiveness // *Economist.* – 2008. – № 10. – P. 27-31.

<sup>415</sup> Trofimova O. V. On the formation of innovative clusters in the regional economy // *Scientific Bulletin of the Ural Academy of Public Administration.* – 2010. – № 2 (11). – Electronic resource. – Access mode: <http://vestnik.uapa.ru/issue/2010/02/10/>.

Table 3.1

## The place of cluster policy in modern paradigm of national development

Nature of Paradigm	Place of Cluster in Paradigm
<i>Region as quasistate</i>	
Region is relatively separate subsystem of national economy. It takes into consideration the world trend of transformation of more functions and financial resources to regional level. Interregional economic interactions are implemented within associations of economic interactions.	As a matter of fact, Ukrainian regions are not separate subsystems. Opportunity of the targeted cluster formation is absent within regional policy. Competitive clusters may appear as a result of creation of powerful horizontal connections between regions. Since efficient development of interregional integration is probable without support of the regional center, clusters won't play sufficient part in the realization of the regional policy.
<i>Region as quasi-corporation</i>	
Being an economic entity, the region competes with other regions, national and international corporations at the markets of production of goods and services.	Big regions may become catalysts in the development of interregional integration and the creation of competitive clusters in this paradigm. There exists a risk for the cluster-forming enterprises from the weak regions to get into dependent position from the regional enterprises – initiators of the cluster formation.
<i>Region as market</i>	
Peculiarities of different markets functioning within a region are researched.	The task to expand the market on the basis of development of interregional integration is not of primary importance in this case. Thus, only interregional clusters have perspectives.
<i>Region as a social unit</i>	
The region is oriented to improve the wellbeing of its population, quality of education, health care, cultural values and environment.	It doesn't solve the problems of a region and is passive. Preconditions for realization of efficient cluster policy are absent.

Even after the determination of similar notions there are some unclear peculiarities. According to these peculiarities we should distinguish clusters from other notions. It's reasonable to apply an approach for improvements of given forms of production suggested by I.V. Pilipenko. He used the criterion of independent appearance of forms of production organization as the first criterion of classification. According to this criterion we can differentiate structures which are created independently as a result of market forces activities; and those which are created artificially as a result of theoretical and practical research made by the regional or local authorities.

The prevailing size of a company in production system was used as the second criterion. It is combining of small and medium-size enterprises, enterprises of all sizes, average and big and exceptionally big enterprises. As a result of combining of the two abovementioned parameters, we receive classification of different forms of territorial organization of production,

where differences between them become obvious (see table 3.2)<sup>416</sup>.

Table 3.2

Classification of forms of spatial organization of production.

Size of enterprise	Way of formation	
	Structures created in autonomous way	Structures created by authorities
Small and medium-size enterprises	<ul style="list-style-type: none"> <li>– industrial regions;</li> <li>– local and regional clusters (for example, Italian industrial districts)</li> </ul>	<ul style="list-style-type: none"> <li>– techno park;</li> <li>– scientific park;</li> <li>– business-incubators;</li> <li>– innovative and technological centers;</li> <li>– territorial and branch clusters</li> </ul>
Small, medium-size and big enterprises	<ul style="list-style-type: none"> <li>– industrial regions with a 'core' – big enterprise and small and average suppliers and subcontractors around it;</li> <li>– industrial regions with a 'core' – state enterprises and independent suppliers and subcontractors around them</li> </ul>	<ul style="list-style-type: none"> <li>– techno-polis;</li> <li>– territorial and sectoral clusters</li> </ul>
Medium-size and small enterprises	<ul style="list-style-type: none"> <li>– groups of big and medium-size enterprises which are not connected by technology, which are plants of foreign transnational companies</li> </ul>	<ul style="list-style-type: none"> <li>– territorial and production complexes</li> </ul>
Big enterprises	<ul style="list-style-type: none"> <li>– agglomeration of vertically integrated enterprises;</li> <li>– clusters in old industrial regions</li> </ul>	<ul style="list-style-type: none"> <li>– territorial and production complexes</li> </ul>

According to the following classification, we can state that clusters are structures which are formed independently. Artificial formation of clusters may be possible only in terms of certain innovative, territorial and branch preconditions when creation of the cluster model of regional development allows taking advantage of territorial potential to full extent.

The following conclusion consists in the determination of the sizes of enterprises which are cluster participants. In our opinion, two polar cases are possible. The first case is typical for European clusters: the cluster is a group of small and medium-size competitive enterprises with a weak single center. This is a regional cluster, i.e. space agglomeration of similar and interconnected economic activity which forms the basis for local environment, contributes to obtaining knowledge and stimulates different forms of study and adaptation. The clusters of this type usually consist of small and medium-size enterprises and their success is due to the power of social budget and geographical proximity. Another peculiarity of such territorial and branch unifications is in the fact that firms are less connected than in industrial clusters.

The second case is connected with the formation of the cluster of big enterprises with a single center, powerful cooperation and without

<sup>416</sup> Pilipenko I. Conducting cluster policy in Russia (Annex 6 to the Annual Economic Report 2008 All-Russian public organization "Business Russia" "Strategy 2020", from the economy of directives to the economy of incentives // Electronic resource. – Access mode: [http://www.biblio-globus.ru/docs/Annex\\_6.pdf](http://www.biblio-globus.ru/docs/Annex_6.pdf).

competition within the structure. This model is typical for heavy industry in old industrial regions. It should be mentioned that this type of cluster differs from TPC by economic interest in the creation of association and existence of innovative backgrounds of functioning. In this case the cluster is more than a TPC, it is a network structure which includes representatives of the authorities, businesses, public organizations in a region which are concentrated around the core of competitive economic activity. The cluster is the network structure with vertical and horizontal connections between enterprises of the main branch and production and infrastructural services. It is an industrial cluster focused on competition within its sector. It consists of different participants, resources and activities which are united for development, production and sales of different goods and services. The critical mass in a chain of added value makes firms more competitive, as they have profitable mutual labor market and other favorable conditions. The abovementioned differs much from the domestic conceptions about territorial and branch complexes which are, as a rule, monolithic and don't integrate servicing productions. The level of infrastructure development in these clusters, as a rule, is not well developed<sup>417</sup>.

The biggest difference of clusters from other special forms of production organization is innovative character and flexibility of specialization of the association. All clusters possess innovations. That is why economic literature distinguishes such a type of cluster as innovative. There are different explanations of its specific character. The most alternative is the statement that the innovative cluster consists of scientific and research centers, business incubators, techno-parks and other structures.

Practically, modern regional cluster systems are the totality of interconnected enterprises on the territory of a region, united in a single chain of creation of added value. These enterprises as a rule perform the structural role in the economy of a region. The character of development of territorial and sectoral complexes in Ukraine is grounded by integration of sectoral structures interests and major economic entities of the regional social and economic development.

The role of clusters in the modernization of the regional economy is presented in Fig. 3.1<sup>418</sup>. As we see in the figure, the main criterion of formation of territorial and sectoral associations on the regional level is availability of multi-level system of mutual interests between the enterprises-participants of the structures, local authorities and elements of institutional infrastructure of a region.

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<sup>417</sup>Trofimova O.M. On the formation of innovative clusters in the regional economy // Scientific Bulletin of the Ural Academy of Public Administration. – 2010. – № 2 (11). – Electronic resource. – Access mode: <http://vestnik.uapa.ru/issue/2010/02/10/>.

<sup>418</sup>Matytsyn V. Modeling investment parameters in the structure of the innovative potential of regional cluster // Regional Economy: Theory and Practice. – 2008. – № 28 (85). – P. 39-47.

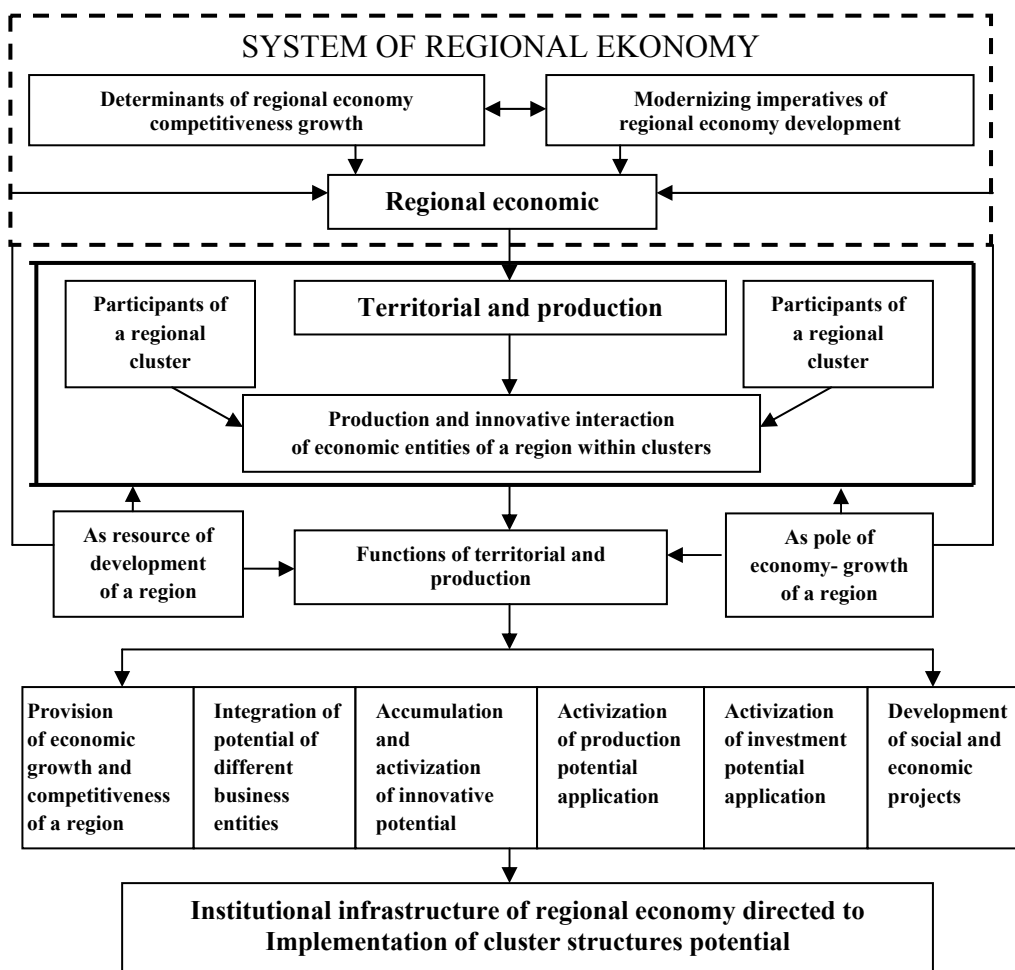


Fig. 3.1. The role of clusters in the modernization of the regional economy

G.M. Stashevskaya thinks that the key factor of innovative cluster creation in a region is “critical mass” preconditions and availability of the following:

- small, medium-size and big enterprises which specialize in this field;
- research center which provides fundamental scientific base of innovative ideas and projects;
- educational establishments which provide training and retraining of qualified specialists for enterprises of the innovative cluster;
- big enterprise or enterprises which may test and realize innovative ideas and projects in industrial standard;
- centripetal dynamics among potential participants of a cluster;
- demand for innovative production of a cluster both at internal and external markets;
- region orientation at realization of innovative programs and projects<sup>419</sup>.

The general algorithm of innovative cluster formation in the

<sup>419</sup> Stashevskaya G. N. Innovation cluster as the core of an innovation-oriented economy // Innovations. – № 6. – 2009. – P. 112-117.

economy of an old industrial region is presented in Fig. 3.2<sup>420</sup>. We should state that clusters are the structures which may be formed both independently and artificially in case there are certain preconditions. In case of absence of historically formed and grounded preconditions for artificial cluster formation in a region (which is an aim of the first stage of the given algorithm), it will result in creation of TPC.

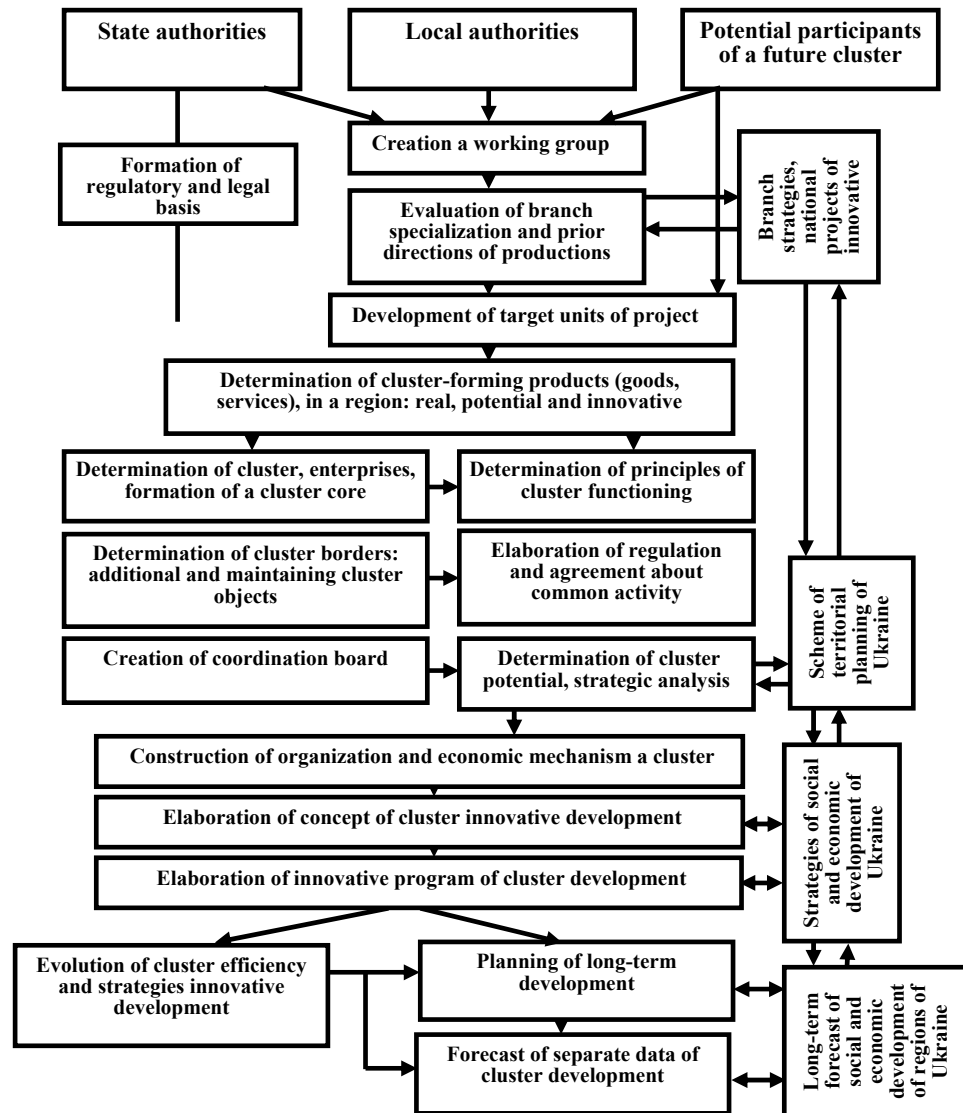


Fig. 3.2. The general algorithm of innovative cluster formation in the region.

The algorithm in the Fig. is characterized by the following peculiarities:

1. The algorithm of the regional cluster formation in general can be presented as consistent change of the stages: the organization problem formulation and elaboration of legal regulations; the determination of participants and borders of the cluster and the analysis of future structure potential; the creation of the cluster functioning in different sections; the

<sup>420</sup> Trofimova O. M. On the formation of innovative clusters in the regional economy // Scientific Bulletin of the Ural Academy of Public Administration. – 2010. – № 2 (11). – Electronic resource. – Access mode: <http://vestnik.uapa.ru/issue/2010/02/10/>.

elaboration of efficiency increase of the given mechanism.

2. Each of the abovementioned stages of the innovative cluster formation should be supported by the government.

3. In terms of realization of the first stage, the sectoral analysis of the region is made. The analysis is based on integration of regulative and legal base of future cluster structure and branch strategies, the regional target programs, the regional investment programs and the national projects on the level of the region.

4. In term of realization of the second stage, the determination of participants and borders of the cluster should be implemented on the basis of integration of project documents and schemes of territorial planning of the region.

5. The elaboration of the concept and program of innovative development of the cluster should be connected with the strategy of social and economic development of the region and territories of the cluster participants.

D.A. Hart suggests consideration of connection types between the participants of regional interactions in order to analyze influence of innovative clusters on development of regional social and economic systems. He distinguishes four types of innovative clusters: the connected clusters, the new industrial zones, the innovative environment and the neighboring clusters (Table 3.3)<sup>421</sup>.

The connected clusters are the oldest type of clusters, their operational characteristics were described by Weber (1909) and Marshall (1925). The connected clusters represent groups of companies located not far from each other in order to decrease costs. According to Weber, entrepreneurs create their firms in the regions where transportation costs and employees salary are the lowest.

The goods produced at the end of the nineteenth century and at the beginning of the twentieth century were heavy, i.e. had low correlation of costs to value. The transport expenses made the most important part of aggregate expenditures and internal market and regions were the main sales market. At the same time Weber and Marshall denied that the more complicated the goods would be the higher would be correlation of salary costs and aggregated expenditure. Thus, the access to labor market would become an additional priority for entrepreneurs. As soon as salary costs exceeded transport costs, a rational entrepreneur would take into consideration the location of his firm, based on expenditures decrease in labor payment. The situation has been changing. New factors have appeared connected with general economic development. These factors are the following: creation of internal production connections; wholesale purchases and sales in order to reduce stock; increase of information exchange between companies and surrounding territories.

Thus, the concept of connected clusters has formed with time. In most cases companies were dependent on each other. They depended on their production connections, absence of single production direction, as most of the companies were representatives of small or medium-size business.

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<sup>421</sup> Hart D. Innovation clusters: basic ideas // Electronic resource. – Access mode: <http://www.innosys.spb.ru/?id=886>.

The method of their work within the cluster reminds of the concept of “mysterious land”, described by Adam Smith. In this method every participant tries to maximize his own profit and receives involuntary but favorable result from general economic profit.

Table 3.3

Basic characteristics of regional innovative clusters	
Connection type	Cluster characteristics
<i>Type A. Connected clusters</i>	
<ul style="list-style-type: none"> <li>– regional resources of production, branch, work force;</li> <li>– non-commercial external environment;</li> <li>– maximal information stream;</li> <li>– high level of internal production connections</li> </ul>	<ul style="list-style-type: none"> <li>– location: in a city, in the center of a city;</li> <li>– fast reaction to innovations;</li> <li>– flexibility;</li> <li>– simple system of admission and leaving a cluster</li> </ul>
<i>Type B. New industrial zones</i>	
<ul style="list-style-type: none"> <li>– commercial and non-commercial external environment;</li> <li>– stable commercial connections, including transport and information connections between firms;</li> <li>– good relations between companies;</li> <li>– stable production</li> </ul>	<ul style="list-style-type: none"> <li>– combination of big enterprises and enterprises of small and medium-size business;</li> <li>– location: outside of a city;</li> <li>– macro-international trade;</li> <li>– influence on innovations by means of planning of actions of producers and suppliers;</li> <li>– stable relations</li> </ul>
<i>Type C. Innovation environment</i>	
<ul style="list-style-type: none"> <li>– relations based on trust between participants;</li> <li>– high risk of projects with common targets;</li> <li>– high level of commercial and non-commercial connections between firms</li> </ul>	<ul style="list-style-type: none"> <li>– location: outside the city;</li> <li>– importance of social capital; важливість суспільного капіталу;</li> <li>– high level of ‘inclusion’ in a region</li> </ul>
<i>Type D. Neighboring clusters</i>	
<ul style="list-style-type: none"> <li>– comparatively close location;</li> <li>– high innovations;</li> <li>– stronger external than internal connections;</li> <li>– serial production, consumer oriented</li> </ul>	<ul style="list-style-type: none"> <li>– enterprises of small and medium-size business and microfirms;</li> <li>– location: outside the city;</li> <li>– microinternational trade;</li> <li>– region as a place of location not a part of a production system</li> </ul>

According to D.A. Hart, the connected clusters are a miniature-working model of principles of neoclassical economics with a great number of sellers and buyers, none of them is big enough to control prices and free information exchange<sup>422</sup>. The connected clusters found effective ways to manage risks caused by innovative development of the regional economy. They developed fast reaction to innovations that appear due to activity of qualified personnel. The clusters had good internal commercial relations and

<sup>422</sup> Hart D. Innovation clusters: basic ideas // Electronic resource. – Access mode: <http://www.innosys.spb.ru/?id=886>.

also were open for other firms. It was easy to enter such a cluster as well as to leave it. There exists one more reason that forms this type of cluster. It is related to risks and uncertainty connected with innovative activity in general. Being closely connected the companies entering a cluster could decrease risks by means of dividing them between themselves.

New industrial zones make the second type of innovative clusters. New industrial zones are usually science intensive. It means they often work in the fields of advanced technology, such as computer production, information technology and microelements. They often rely on scientific research when they develop new products. Contrary to the A type clusters, new industrial zones produce relatively small and lighter goods which have high correlation of values to weight. As a result, transportation costs are not the main issue for entrepreneurs when they choose location of their enterprises.

Transportation costs are not the main problem, but delivery terms and reliability are of primary importance. Consumers all over the world need immediate delivery of goods produced by these clusters.

The goods should be transported and delivered fast to the market by air. The speed of delivery of the goods is the main concern of new industrial zones. There also always exists the risk of being left behind by competitors. The speed of innovation promotion is the key factor in this case. Besides, only high qualified personnel works at the enterprises of this cluster. Thus, regarding operational costs, the key issues are information and high speed of transportation.

Besides, B type clusters as distinct to A type clusters consist of enterprises of different size: from transnational corporations to representatives of medium-size and small business. Big companies often create long-term relations with their smaller suppliers for their mutual projects. In some cases their cooperation may last for decades. The relatively stable system of supply makes it possible to manage risks of innovative activity by means of innovation control, long-term planning and production management called "close club".

The description of the third type of cluster, which is innovative environment, is based on research of the GREMI group, the group of European research of innovation environment of scientists. They highlight importance of social capital in innovative activity. In innovative environment social relations are developed both between separate participants, who work in the same company and between employees of different companies. These connections are mainly based on previous joint labor experience. These clusters are usually located on the territory of a city or a town and relations between their participants and firms have been made for many years. According to Kapello, "accumulative and collective process of study stimulates innovation process by means of informal information exchange and special knowledge" (Kapello, 1999). The process of study can be made in different ways: by means of information exchange or by the employee transfer from one firm to another.<sup>423</sup>

There are some parallels between the innovation environment clusters and the connected clusters. No doubt, these both types of clusters

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<sup>423</sup> Hart D. Innovation clusters: basic ideas / D. Hart // Electronic resource. – Access mode: <http://www.innosys.spb.ru/?id=886>.

are based on enterprises of small and medium-size businesses located within a town and they both rely on the personnel skills and techniques. It means that enterprises are closely connected with the region they are located, but they have some differences. C type clusters promote innovations faster, they react to innovations faster and have close cooperation with each other for their general, middle-term, long-term innovation aims. The economic entities in C type cluster manage the risks of innovative activity by means of their division in the syndicate.

All the abovementioned clusters concentrate their attention on different internal connections between firms and separate participants of innovation activity. These connections include commercial and non-commercial relations and belong to social capital (well trained and qualified personnel); homogeneous capital (efficient transport and communicative systems); financial capital (company's assets, venture capital, public grants and loans). Clusters make regional production network. There exist close relations between personnel of producing firms and the region where they are located. Thus, firms and regions are inseparable.

The operation work of neighboring clusters is quite different. They demonstrate a higher level of internal heterogeneity regarding production management (Hart and Simma, 1997; Rabelotti and Shmits, 1999; Kapello, 1999). The analysis of these clusters showed that all connections within territorial and sectoral association are limited but external connections are well developed. The neighboring clusters have this name because they are located at a relatively small distance but they don't form regional production network as in three abovementioned types of clusters. They are not bound to the region they are located in.

The neighboring clusters are usually formed outside big cities. Members of a cluster possess high innovative potential and develop special products sold all over the world.

These clusters usually have stable customers, dealers who support innovations. So, innovative activity is influenced more by "demand intensity" than by "technical progress". According to the theory of sets, there exists a division between integration economy, regional production network and D type subgroup. The latter belongs to other model.<sup>424</sup>

The necessity of integration of parameters of efficiency evaluation of the cluster functioning and the region development data is also of great importance.

Thus, in order to succeed, the strategy of regional development and the strategies of separate clusters should be well coordinated. It is stated that not only the necessity of development of certain cluster should be registered in the strategy and industrial policy of a region but there should exist a consensus between the business and the administration of a region about the cluster development. In this case the roles of the business and the authorities are different but supplementary. The cluster approach which was applied in the research of competitiveness, should be implemented in other problem solving tasks:

- the analysis of competitiveness of a region and a branch;
- as the fundamentals of regional industrial policy;
- the elaboration of regional development programs;

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<sup>424</sup>Hart D. Innovation clusters: basic ideas // Electronic resource. – Access mode: <http://www.innosys.spb.ru/?id=886>.

- as the innovative activity incentive;
- as the small and medium-size business interaction.

No doubt, the cluster approach is one of the most efficient tools of innovative development of a region. At the same time the regional innovation system cannot be reduced to one or several clusters because their functioning should be supported by other organizations that belong to institutional infrastructure.

The complex character of regional innovative systems on the basis of the cluster approach lies in the fact that the cluster has to unite and connect interests of different sides involved in the process of clusterization, stimulate their development taking into consideration different, sometimes incompatible interests of the participants of the cluster. Besides, in terms of the cluster approach there should be developed a common cluster policy in the region on every level of authority (regional, national). The policy should coordinate the programs and actions of the clusters, otherwise the idea of the cluster approach on the territory may not be realized. A.I. Tatarokin and Y.G. Lavrikova determined the main elements of the cluster policy directed at innovative development of a region. (Fig. 3.3)<sup>425</sup>.

Let's examine the advantages of the clusterization in the innovative development management. One of the most important features of a cluster in a general model of production and cooperation interaction of economic entities is the factor of innovative direction. Clusters, as a rule, are formed in conditions of "promotion" of engineering and production technologies and further emergence on new favorable "market niches". A lot of scientists state that some competitive branches as a result of the cluster interaction facilitate development of their suppliers and consumers. The medium-size and small enterprises make up satellites around big groups and become their suppliers. The diversification of key cluster enterprises facilitates attraction of new branches into the cluster by means of implementation of innovation technology of parent companies.

The innovation development is managed by innovative infrastructure. Similar to the model of innovative development management system, four levels of innovative infrastructure are distinguished: national (state), regional, cluster and the level within the firm. Despite the principal criticism of the national level of innovative activity management and support, the government should perform some of the following functions:

- create legal foundation for innovative processes (protection system of copywriter and intellectual property);
- raise funds for scientific research and innovations;
- coordinate innovative activity;
- stimulate implementation and competition of innovations, insure risks of innovations;
- provide personnel for innovative activity;
- provide social and environmental direction of innovations;
- regulate international aspects of innovative processes<sup>426</sup>.

<sup>425</sup> Tatarokin A. I., Lavrikova G. The cluster regional policy // Electronic resource. – Access mode: [www.prompolit-press.ru/0808.files/doc/3.doc](http://www.prompolit-press.ru/0808.files/doc/3.doc).

<sup>426</sup> Kotov D.V. The problem of innovative development of the economy: state, region, cluster // Oil and gas business. Electronic scientific journal. Issue 1/2010. – Electronic resource. – Access mode: [http://www.ogbus.ru/authors/Kotov/Kotov\\_1.pdf](http://www.ogbus.ru/authors/Kotov/Kotov_1.pdf).

The key functions in this list are legal foundation, fund raising, international cooperation and partly personnel provision. Other functions should be performed on the level of the region and the cluster. Thus we can see the concentration of key functions of the state management, the creation of conditions for regions in terms of national innovative system.

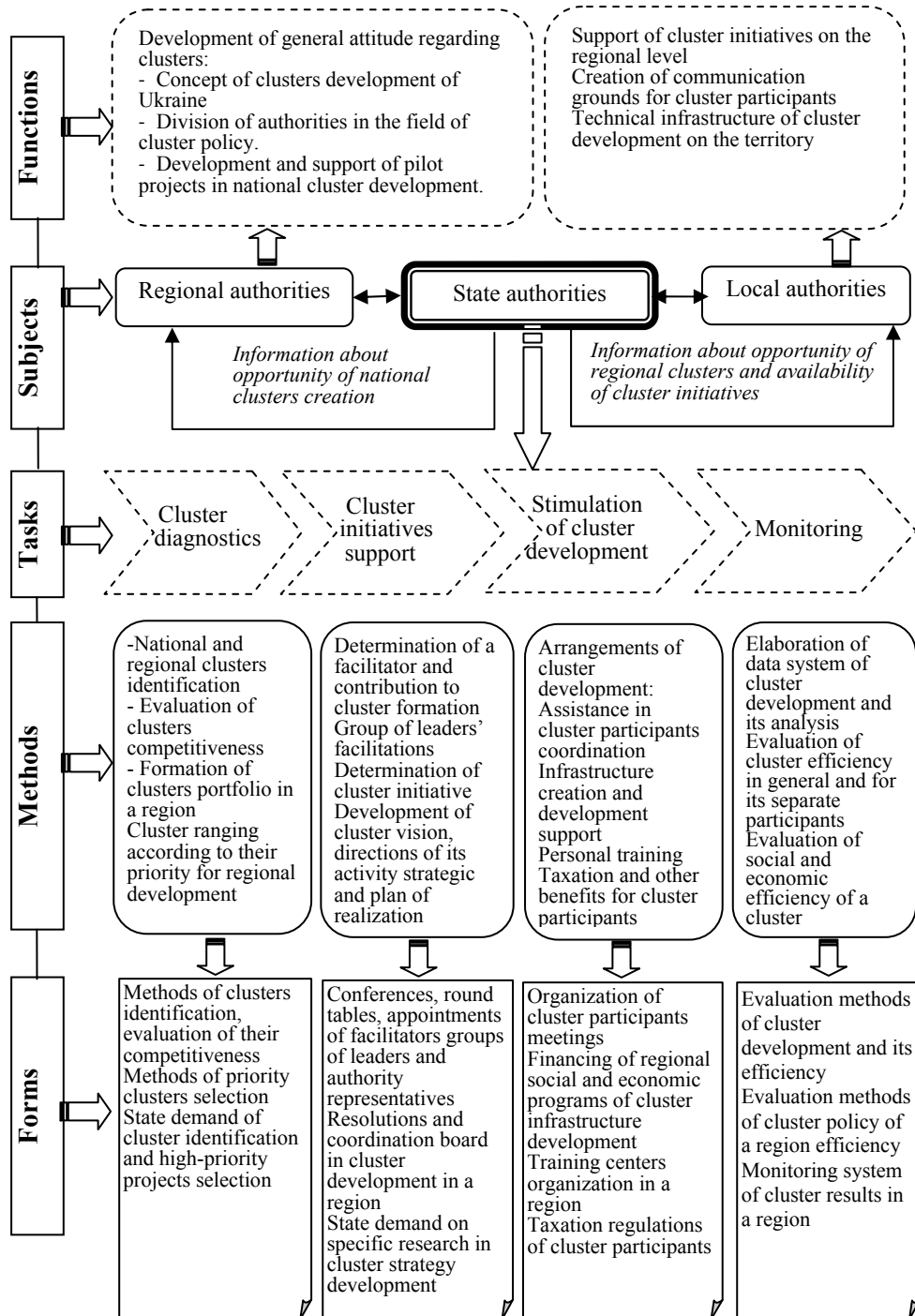


Fig. 3.3. Basic elements of the cluster policy for innovative development of a region

The creation of some organizations on different levels has to lead to the creation of “points of growth” which will contribute to the formation of innovation economy. The national innovative system should provide the creation of infrastructure of regions and possess the following features:

- the distribution throughout the regions which can solve the tasks of full innovative cycle by means of development of innovative and cooperative clusters or separate innovative structures;
- the universality which makes it possible to provide realization of innovative projects in production or service sectors of the economy;
- the constructive structure directed to final result;
- a high level of scientific and technical potential support;
- the personnel provision and opportunity of constant improvement and retraining of the personnel of innovative infrastructure;
- a high level of tools that facilitate obtaining of the final result;
- the flexibility that provides adaptation of innovative infrastructure to market demand and international situation<sup>427</sup>.

The cluster infrastructure is formed in order to combine the interests of branches, represented in a cluster, and provide the best innovative mode for the development of separate firms. The regional infrastructure is formed in order to provide and support favorable innovative environment on the territory of social innovative activity by means of balanced development.

The national innovative infrastructure aims at regulation of interregional innovative balance by means of creation of special economic and legal modes of functioning of the regional and cluster innovative infrastructures, the regulation of international aspects of innovative activity. That is the main infrastructural task of creation of international innovative systems for the knowledge-based economy is in scientifically grounded costs distribution and division management authorities between the regional innovative infrastructures and the clusters<sup>428</sup>.

The construction of any innovative infrastructure will not provide innovative development of the regions and the national economy in general. The developed infrastructure is only able to facilitate economic development and regulate it by means of preferences and restrictions given in terms of the national policy. The innovations developed and implemented by the regions can have internal-cluster and internal-firm basis but development of innovative process in the region is determined by managerial and organizational decisions based on innovative management.

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\* The subchapter is coauthored with L. Rybchynska

<sup>427</sup> Kotov D.V. The problem of innovative development of the economy: state, region, cluster // Oil and gas business. Electronic scientific journal. Issue 1/2010. – Electronic resource. – Access mode: [http://www.ogbus.ru/authors/Kotov/Kotov\\_1.pdf](http://www.ogbus.ru/authors/Kotov/Kotov_1.pdf).

<sup>428</sup> Ibid.

### **3.2. Evaluation of cluster-forming potential of a region from the viewpoint of innovative development**

In conditions of increased competition the enterprises evaluated advantages of interregional cooperation and necessity of regional market protection.

Economic entities have realized that application of the cluster technology may promote the implementation of regional potential to the fullest extent. Competitive advantages are transformed into important management tool, and enable programming of social and economic development of a region.

The cluster processes during the period of recession (the second half of the 20<sup>th</sup> century) were characterized as spontaneous, with an informal character of relations between participants. They were also aimed to meet the internal needs of the association. Today the situation has changed and the clusters have gained legal features and transparency of functioning. Initiative and innovation have become major principles of the cluster functioning.

Having determined the leading role of clusters in the process of revival of the national economy, our scientists connected the processes of clusterization with necessity of consolidation of the regional model of economic development. Being based on the principles of economic motivation of enterprises, clusters promote the implementation of scientific and educational potential of a region better than any other forms of organizations.

The works of native and foreign scientists have been dedicated to the issue of clusterization. Despite diversity of problems and approaches to solve them, taking into consideration national peculiarities of entrepreneurship, many of them require further research. The issue of evaluation of the cluster formation potential of a region is one of them.

This work aims at evaluation of the cluster formation potential of a region by means of research of the existing clusters and readiness to create new ones. Taking into consideration numerous approaches to the cluster definition and classification, we take the abovementioned definition of a cluster as territorial and sectoral voluntary association of enterprises which have close cooperation with scientific establishments and local authorities and aim to increase competitiveness of their goods and economic growth of a region<sup>429</sup>. According to this definition, we will research one of directions of the cluster classification. They are divided into two types.

1. Mainly sectoral clusters. We can follow the existence of a chain of added value in this type of a cluster. Correspondingly, sectoral features of association are more marked than territorial features. Sectoral clusters are characterized by the absence of exact territorial borders. Their activity may spread far from the borders of a region or even a country. The main aim of sectoral clusters is minimization of transaction costs at every stage of a chain of added value.

2. Mainly territorial clusters. These clusters are concentrated on certain territory. Territorial features of association are dominant in

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<sup>429</sup> Voynarenko M. Clusters as growth poles of regional competitiveness // Economist. – 2008. – № 10. – P. 27-30.

comparison with sectoral clusters. Mainly territorial clusters are characterized by availability of exact borders of a cluster (region, country, group of countries). The main aim of the cluster activity is obtaining competitive advantages of every participant by means of favorable location. Mainly territorial clusters are manifested in the following forms:

- resource cluster (access to limited resources);
- innovative cluster (access to advanced technology);
- intellectual cluster (staff potential, information infrastructure) etc.

Denoting the leading role of clusters in the creation of regional strategy of economic development, it is possible to find out the competitive advantages of a region by means of evaluation of the cluster-forming potential. In our opinion, the cluster-forming potential of a region involves solving of two important tasks: identification of the existing clusters and determination of the potential clusters.

The identification of the existing clusters is done by means of quantitative and qualitative set of instruments. Table 3.4 shows the main instruments of quantitative analysis of the cluster identification by E. Bergmann and E. Fezer. Their methods were implemented and spread in foreign practice<sup>430</sup>.

Table 3.4

Instruments of quantitative analysis of cluster identification  
by E. Bergmann and E. Fezer\*

Set of instruments	Evaluation of instruments	
	Advantages	Disadvantages
<i>Micro-level</i>		
– survey of local people; – Delphi-methods; – focus-groups; – experts analysis; – research of localization coefficients	Suitable for application under certain conditions: when leading branches are distinguished in a region; when the mechanisms of competitive advantages for certain enterprises during their interaction with other enterprises are unknown.	Not productive for clusters on the regional level, as they don't make it possible to create integral view on development of a region because they are intensive.
<i>Methods of inter-branch cluster analysis</i>		
– matrices of inter – sectoral balance analysis (goods exchange); – matrices of inter – sectoral balance analysis (innovation exchange); –network analysis	Profitable in the situation of uncertainty, for example, when regions tend to find some mechanisms of interaction and potential alliances between the developed and developing branches	Organization of statistic data for implementation of inter sectoral methods of cluster analysis is not available in Ukraine.

\*Composed and adopted by the author according to the sources.<sup>431</sup>

According to micro-level approach, clusters are groups of enterprises

<sup>430</sup> Bergman E., Feser E. Industrial and Regional Clusters: Concepts and Comparative Applications // Electronic resource. – Access mode: <http://www.rri.wvu.edu/WebBook/Bergman-Feser/chapter4.htm>.

<sup>431</sup> Bergman E., Feser E. Industrial and Regional Clusters: Concepts and Comparative Applications // Electronic resource. – Access mode: <http://www.rri.wvu.edu/WebBook/Bergman-Feser/chapter4.htm>; Markov L. Management the performance of regional high-tech clusters / L. Markov // Region: Economics and Sociology. – 2007. – № 2. – P. 20-34.

which produce similar goods (i.e. they are representatives of the same branch of economy) and have formal and informal connections. Clusters are characterized by chains of suppliers and consumers but the explanation of added value creation in such chains is less important for the cluster identification than the characteristics of connections between the participants.

That is the macrolevel research is the most popular method of analyses of mainly branch clusters. However, the methods of analysis of intersectoral clusters are used for identification of mainly territorial clusters. The availability of exact territorial borders permits to determine not clearly formed mechanisms of interaction and potential formations in conditions of full uncertainty.

In conditions of the Ukrainian reality, while identifying clusters on the regional level, without objection of usefulness of quantitative methods of research, we can highlight some obstacles for their implementation.

– The abovementioned methods of identification involve existence of indicators in order to make conclusions of the cluster existence. This proves the statement that the cluster should “express itself”, but the statement was criticized even by the devoted supporters of methods of quantitative identification.

– The local borders of a cluster do not coincide with the borders of administrative formations in which statistic information is gathered.

– The necessary organization of statistic data is not available in Ukraine on the level of territories. At the same time the methods of intersectoral branch cluster analysis require balance on the level of separate regions with detailed branch information.

– Clusters are of dynamic nature and, accordingly, they require regular monitoring of their activities and character of their internal quality connections<sup>432</sup>.

Despite existing obstacles on the way to application of quantitative methods of identification of the regional clusters, the method of coefficients has become very popular in Ukraine. In particular, the calculation of coefficients of specialization permits comparison of growth rate of production volumes, attracted investments, new technology, within branches in every region and in Ukraine as a whole. The order of application of coefficients of specialization for identification of the regional clusters is depicted in Fig. 3.4. as the following algorithm of logical actions and arrangements.

Having taken the average meaning of coefficients of every branch of economy as 1, we receive:

– if the value of coefficient of regional branch specialization  $C_{av}$  exceeds analogical index in Ukraine  $C_u$ , then this branch is export oriented:

$$C_{av} > C_u \rightarrow \textit{export-oriented branch}$$

– if the value of coefficient of regional branch specialization is less than analogical index in Ukraine, then this branch is import oriented:

$$C_{av} < C_u \rightarrow \textit{import-oriented branch}$$

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<sup>432</sup> Rybchinska L. A. Evaluation of the clusters-forming potential // Visnyk (Messenger) of Khmelnytsky National University. Series "Economics". – 2009. – № 6, v. 1. – P. 50-55.

–specialization if the value of coefficient of regional branch specialization is rather low, (it shouldn't exceed 0.25 according to different calculations), then goods of a branch are used for internal needs of a region:  
 $C_{av} < 0,25 \rightarrow$  branch is oriented at the region's internal demands

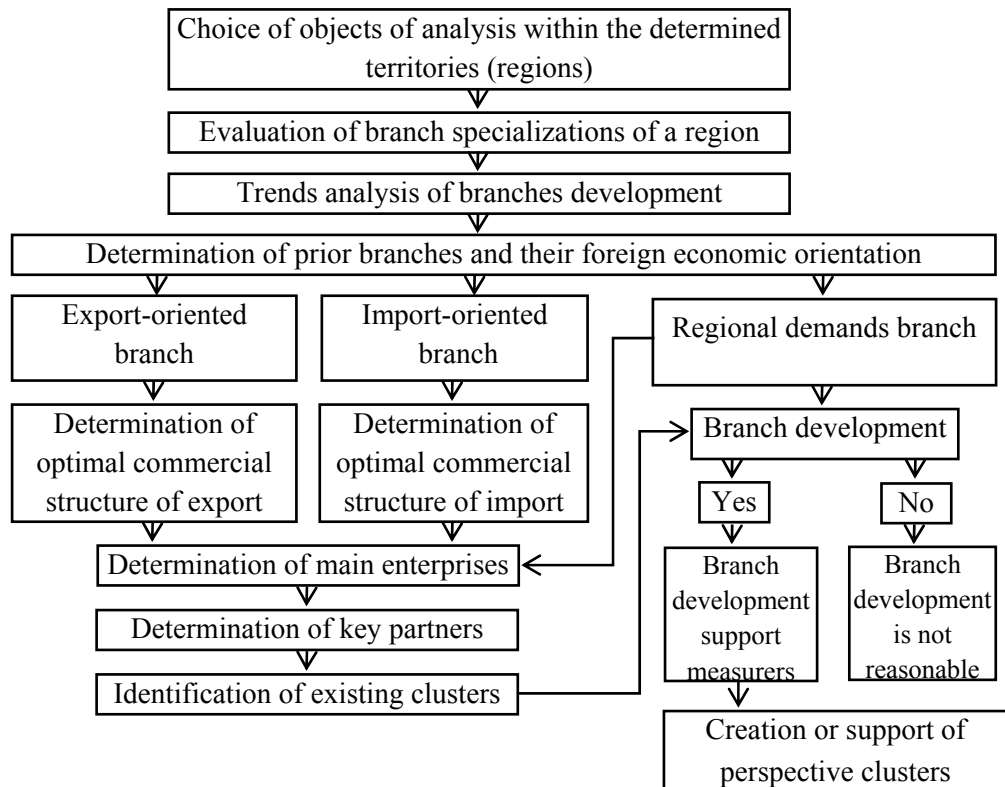


Fig. 3.4. Algorithm of application of quantitative analysis of cluster identification

The support of branches with low level of specialization and initiation of cluster formation in them is not economically grounded, as goods of these branches do not influence gross regional output to a great extent. These branches play, as a rule, the role of infrastructural elements of a region when the mainly territorial clusters are formed.

We assume, that mezo-level techniques of the clusters identification together with information acquisition should acquire important quality characteristics which may be obtained by means of survey, interview of participants of association and other methods of information acquisition. In this case integrative approach should be applied as it helps to coordinate opinions of all the interviewers.

There exist certain conditions which influence the cluster formation in the regions both in positive and negative ways in Ukraine. The increase of economic factors and the decrease of administrative factors are an important advantage of the cluster management of regional economy development. The significance of the regional authorities is of importance only at the first stages of the cluster formation. These stages are some of the

following: the evaluation of foreign economic complex of a region, the choice of the most perspective clusters and their formation, the necessity of taking into consideration the interests of regional development. At the next stages the role of regional authorities loses its significance but the laws of market economy, stimulating development of the most profitable enterprises play the main role. The support of the most important clusters becomes the main role of the regional authorities<sup>433</sup>.

The negative factors are low quality of business climate and level of development of associative structures (chambers of commerce, industrial associations). They don't accomplish the task of elaborating priorities of the regional economy development; short-term planning is widely applied, whereas the evaluation of quality of realization of the cluster technology can be made only in 5-7 years.

If we count on the cluster development, we should take into consideration the following collateral facts.

- The effect of enterprise blockage, i.e. cluster members. We can't exclude that separate enterprises can be more competitive than the cluster ones.
- The threat of the cluster hyperspecialization which may lead to deceleration of activity of its participants.
- The excessive cluster "branding". A lot of regions may use a cluster brand: using the name of a cluster brand for new initiative they may be confident in attracting additional investors<sup>434</sup>.

In order to overcome the negative consequences of influence on cluster formation in a region, we suggest taking into consideration the existing connection between the level of specialization of a region and the branch efficiency (Fig. 3.5).

As we can see in the figure, we can distinguish four main types of cluster formations depending on the level of specialization of a region.

1. "Clusters-leaders" are associations characterized by high level of specialization of a region and branch efficiency. As a rule, these are the formed advanced clusters which possess good demand and supply basis, available stable connections between participants of the association, high level of investment needs, working system of innovative provision, developed infrastructure support and information database. The clusters of this type are adoptive to market needs and don't require the state support and coordination of their development.

2. "Stable clusters" are associations characterized by a high level of specialization of a region but rather low level of branch efficiency. These clusters are on their maturity stage and are characterized by the good product choice, insignificant volumes of attracted investment resources, effective system of consumer needs monitoring. In case of appearance of the clusters of this type, the local authorities should determine necessary

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<sup>433</sup> Bludova N. S. Regional clusters as the way of managing the foreign economic complex in the region // Vestnik (Messenger) of the North Caucasus State Technical University. – 2004. – № 2 (13). – Electronic resource. – Access mode: <http://www.ncstu.ru>.

<sup>434</sup> Butenko A. I., Lazareva Ye.V. A phenomenon of cluster formation in an innovative economic model of the region // Electronic resource. – Access mode: <http://www.investplan.com.ua/index.php?iid=3&operation=9>.

activities for the increase of competitive advantages of a cluster and make decisions of possible directions of the cluster reorganization.

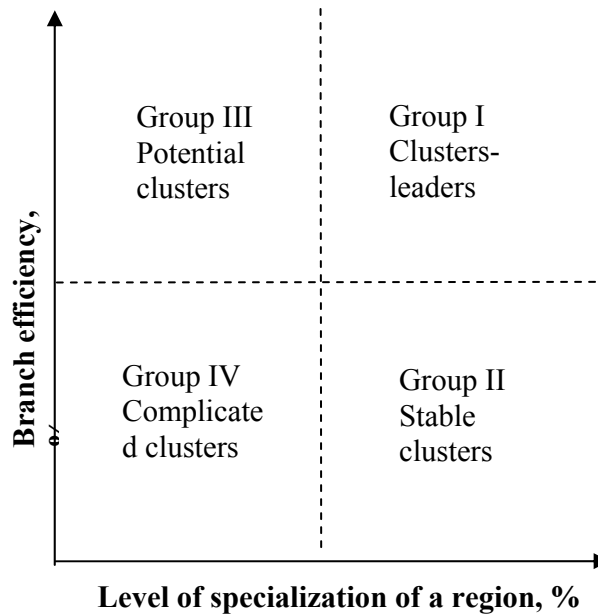


Fig. 3.5. Types of clusters depending on the level of specialization of a region and branch efficiency

3. “Potential clusters” are associations characterized by a low level of specialization but a high level of branch efficiency. These clusters are on their formation stage; they require the government support, attraction of investment resources, application of innovative advanced technology and attraction of skilled and qualified personnel.

4. “Complicated clusters” are characterized by a low level of specialization of a region and a low level of branch efficiency. Since cluster activity is directed to meet internal market needs these productions are characterized by high proportion of the government order, low profitability and volumes of attracted investments. Their products are standardized.

The regional policy of support of the cluster development should be directed to support of ‘cluster leaders’, ‘stable clusters’ and ‘potential clusters’. The determination and support of potential clusters is a very important component of the cluster-forming potential of a region. The regional policy of facilitation of the cluster development, on the one hand, should be directed at identification of potential clusters in a region, on the other hand, it should provide formation of a single background for comparison of cluster activities in a region as you can see it in Fig. 3.6<sup>435</sup>.

In our opinion, the regional support of the potential cluster development should be realized by means of elaboration of the concept of the cluster formation and management and the formation of a system of a project management of the cluster development on the basis of a network model of interaction. The evaluation of the cluster marketing potential is of great importance, in particular, the analysis of production portfolio of

<sup>435</sup> Markov L. S. Management of the performance of regional high-technology clusters // Region: Economics and Sociology. – 2007. – № 2. – P. 20-34.

enterprises which make the end products, analysis of clients database, competitive analysis of cluster enterprises by major types of goods, etc. The government activity should be directed at coordination of the cluster development strategies and development strategies of every participant of association.

According to S.N. Bludova, during the process of study of the cluster formation potential in a region, it is necessary to identify regional opportunities in cluster policy realization and the cluster initiatives support<sup>436</sup>. The identification of regional opportunities involves evaluation of such components of business climate as production facilities, quality and level of specialization, conditions for competition, strategic development and demand; connected or supportive branches.

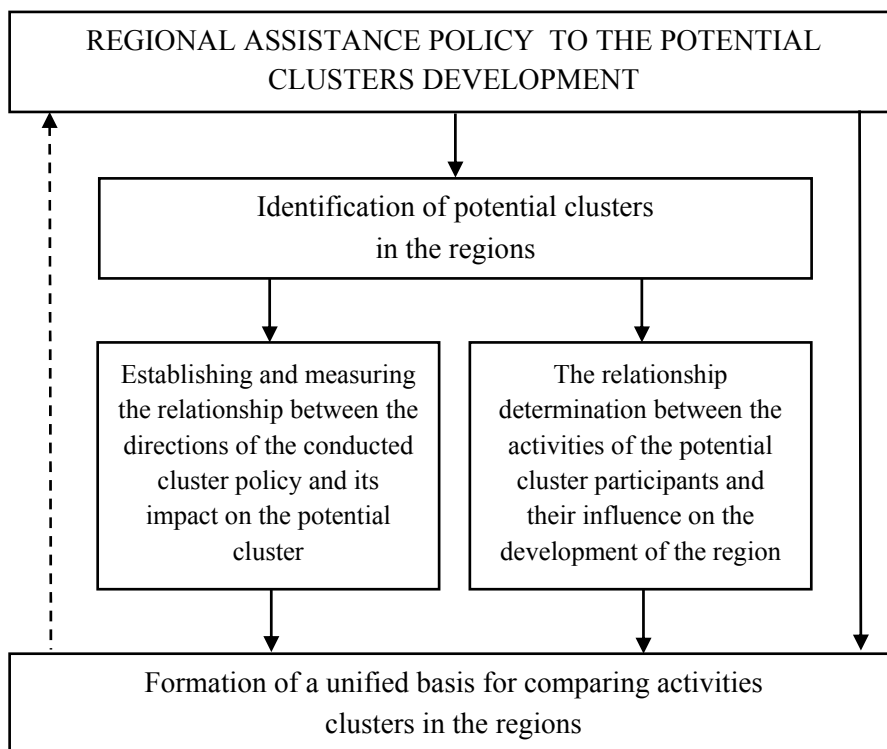


Fig. 3.6. Directions of regional policy of promotion of potential cluster development

The study of regional opportunities enables determination of priority sales markets which must provide the inclusion – of the region into the system of world economic ties and facilitates export increase with higher interest of added value. It is impossible to organize maximal cluster support in a region at the first stage of the cluster formation. Consequently, the formation of first priority clusters should be determined and supported. These may be both import and export-oriented clusters.

The study of regional opportunities as for the cluster formation is

<sup>436</sup> Bludova S. N. Regional clusters as the way of managing the foreign economic complex in the region / Vestnik (Messenger) of Bulletin of the North Caucasus State Technical University. – 2004. – № 2 (13). – Electronic resource. – Access mode: <http://www.ncstu.ru>.

connected with evaluation of level of competitiveness of a region. A. V. Yermishyna suggests three stages of analyzing the stability and evaluation of regional potential of the cluster formation:

- quantitative analysis of competitive stability, i.e. determination of market position of branches of a region;
- qualitative analysis of availability and structure of resource basis necessary for provision of regional enterprise competitiveness in certain regions, i.e. the conditions of competitive stability;
- determination of those sectors of economy which may contribute to the creation of competitive advantages of a region, i.e. the analysis of potential clusters<sup>437</sup>.

The first stage characterizes the level of specialization of a region, the second one is connected with the evaluation of branch efficiency. The research of potential clusters can be made according to the results of the first two stages and involves the study of institutional organization of clusters as well as internal motivation and clusters support. Taking into consideration the given cluster classification, we may evaluate regional opportunities of their formation (Table 3.5). It is necessary to analyze major advantages of clusterization for innovative development of a region when we discuss a policy of the government stimulation of artificial creation of territorial and sectoral clusters characterized by low level of clusterization. The efficiency of cluster approach is determined, first of all, by the ability to create of a complex vision of the government policy of regional development taking into consideration potential of regional economic subjects. In the end, the development of economy of regions by means of clusterization facilitates capital investments, technology, direct investments which bring intellectual resources, management skills, etc. to a region. K.V. Yekimova and Y.V. Fedina distinguish several economic effects as a result of artificial cluster formation. These effects are manifested on the regional level:

- transaction costs decrease: the cluster formation in a region is a tool that makes it possible to decrease transaction costs by the government;
- production volume: expansion of the cluster localization brings new market opportunities and this leads to a region enrichment; the latter will influence development of other branches of the country;
- coverage: implementation of multi-functional factor at different enterprises is connected with the regional budget decrease, directed to finance this factor of production;
- anti-trigger: the regional authorities become a coordinator of artificial sectoral cluster which provides opportunity to control finance resources; it leads to stable positive results;
- synergetic: the growth of efficiency of regional development as a result of the sectoral cluster formation<sup>438</sup>.

The study of ways of the cluster formation in a region requires research of clusters interaction in order to find out the optimal ways of management of the process of innovative development of the territory.

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<sup>437</sup> Yermishina A. V. Competitiveness of the region // Electronic resource. – Access mode: <http://www.cfin.ru/management/strategy/competitiveness.shtml>.

<sup>438</sup> Yekimova K. The organizational-economic mechanism of interaction between participants of regional economic artificial cluster // Vestnik of Chelyabinsk State University. – 2010. – № 6 (187). – Economics. Issue 26. – P. 179-183.

Table 3.5

Evaluation of regional opportunities and directions of the government support in formation of territorial and productive clusters

<b>Clusterization potential</b>	
<b>High</b>	<b>Low</b>
<i>Leaders</i>	
High rate of branch growth in combination with high share of GRP and high potential of clusterization characterize independently formed clusters which don't need the government support.	High rate of branch growth in combination with high share of GRP and low potential of clusterization shows strategic importance of a branch in development of national economy; due to lack of natural stimuli to clusterization, the active government support can lead to obtaining additional competitive advantages in a branch.
<i>Stable</i>	
High share of GRP in combination with high potential of clusterization creates natural advantages for members of a cluster and determines strategic importance for a region; at the same time low rate of branch growth requires government support in innovative development of branch enterprises.	High share of GRP causes importance of branch during the process of formation of regional product and determination of regional development strategies. But low rate of branch growth and lack of natural stimuli to clusterization cause necessity of innovative influence, on the one hand, and activation of cluster movement on the other hand.
<i>Potential</i>	
High potential of clusterization proves that the branches form specialization of economic system; in combination with high rate of cluster growth they create the basis of the regional economy. At the same time, low share of GRP means that some branches due to the importance, require powerful government support, attraction lots of resources and advanced technology.	High rate of branch growth means that these branches under the conditions of investment stimulation and attraction of skilled and qualified personnel are able to provide a high share of GRP. Initiation of cluster formation in these branches following the principle "from up to down" will lead to internal sources of regional economy growth.
<i>Complicated</i>	
Complicated clusters are characterized by low rate of branch growth in combination with low share of GRP though they have high potential of clusterization. The government support of cluster formation is possible only under the conditions of importance of branch development for a region, accordingly, production of these types are characterized by high share of government order, low profitability and volumes of the attracted investments.	Low rate of branch growth in combination with low share of GRP and low potential of clusterization don't create preconditions for clusters formation; activity of branch enterprises is directed to meet internal market needs.

A.A. Leontiev thinks that management of the cluster interaction is based on systematic approach of organization of relations between participants of innovative process. The basis of management model of

internal and external cluster interconnections is a statement that the participants of clusters will interact with the most competent partners if they are well motivated<sup>439</sup>.

Management of interactions between clusters becomes important when a cluster project involves symbiosis of technological solutions from different branches of specialization of the participants in order to reach a general aim. Management of interactions between clusters involves: establishment of non-material connections between clusters; planning of interaction frequency between participants of different clusters; determination of key efficiency indicators; organization of cluster innovative and broker measures which facilitate cooperation memorandum between the cluster leaders; control of interaction; motivation of interaction.

Management of internal cluster interactions is very specific contrary to management of interaction between clusters.

V.V. Semenchuk states that coordination within a cluster should, on the one hand, be guaranteed by means of the cluster development strategy, on the other hand, it should take into consideration the main management tasks, which require coordination within association, criteria and methods of the cluster activity results management and coordination of its participants<sup>440</sup>.

A.E.Zhabenko thinks that interaction between the subjects within an industrial cluster is a system of relations between participants of an industrial cluster, realized by means of different forms within stable organization structure which takes into consideration the role of every subject in the economic process<sup>441</sup>.

Since interactions are performed within a cluster, specialization is the same for all participants. Every participant should perform special functions that will operate in cluster projects, for example, a higher educational establishment prepares personnel, innovative and technological centers provide commercialization of technology elaboration and transfer.

The most prevailing forms of interaction between the subjects within an industrial cluster are: economic, logistic, information, legal and organization interaction<sup>442</sup>.

The idea of economic interaction lies in the implementation of common productive activity directed to obtain some income by means of application of available resources of the industrial cluster. In this case economic interaction may be realized in two ways: by means of technological cooperation and by common realization of development projects.

The main directions of improvement of institutional environment of logistic interaction of participants in the industrial cluster are the realization of a program of internal logistic convergence between participants of

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<sup>439</sup> Leontiev A. V. The development of innovative entrepreneurship based on the cluster approach // *Creative Economy*. – 2008. – № 8. – P. 45-47.

<sup>440</sup> Semenchuk V. V. The formation of regional clusters of innovative development // *Management and economics in modern systems: Materials of All-Russian scientific-practical conference March 21, 2008 / Center for Applied Research*. – Volgograd: OOO "Globus", 2008. – Part 1. – P. 105-109.

<sup>441</sup> Zhabenko A. Classification of types of intersubjective interaction in cluster formations // *Current economic and legal problems of the modern Russian economy*. Issue 4. – M.: INION RAS, 2009.

<sup>442</sup> Ibid.

integration interaction. Information interaction in the association is directed at information application by participants of an industrial cluster, regulation of information access, provision of a full cycle of information exchange between subjects – participants of an industrial cluster.

The idea of legal interaction consists in common elaboration and adoption of different documents that restrict some authorities which describe ethic norms of participants conduct during production activity, and define forms and order of financial relations. The organizational interaction represents different forms of participation of representatives of some of members in management organs of other participants.

The management of internal cluster interactions stipulates:

- The formation of innovative solutions for the cluster leaders (selection of innovative companies that deal with development and implementation of technology in a leading company). The abovementioned solutions should initiate cooperation of different cluster participants with a leading company within a cluster.

- The planning of efficiency indicators of common innovative activity of participants within a cluster;

- The planning of appointments in order to establish partnership relations between businessmen and top managers of innovative organization in a cluster.

- The planning, maintenance and controlling of innovative projects realized by the cluster participants.

Irrespective of the character of enterprise strategy, every subject of a cluster is only a part of interaction process and his interests may be different from interests of other subjects of association. According to V.M. Korabelnikov and D.V. Kostyukevich, the principles of interaction within a cluster are stipulated by principles observed by members of the association (Table 3.6)<sup>443</sup>.

In case of deliberate formation of the company cluster, new strategies will be realized; they'll be oriented at network relations within a cluster. Y.V. Vinokurova states that subcontracting and outsourcing belong to similar strategies. Subcontracting and outsourcing differentiate key competences and focus attention on them<sup>444</sup>.

Subcontracting process requires availability of a major enterprise 'contractor' and many small and medium-size enterprises 'subcontractors'.

Contractors and subcontractors make an agreement. According to the agreement, a contractor commits one or several enterprises (subcontractors) to produce component parts, accessory necessary for production of a final good.

Outsourcing admits this type of interaction. In this case "external" enterprise selling its goods or services to a customer gets involved into "management circuit" of a customer as a subdivision preserving legal and organizational independence.

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<sup>443</sup> Korabelnikov V. M., Kostyukevich D.V. The classification of interaction of enterprise structures in the regional cluster // Current problems of economy, politics and law. Collection of scientific works. – Murmansk: Murmansk Academy of Economics and Management, 2008. – P. 72-82.

<sup>444</sup> Yekimova K. V., Fedina E.V. The organizational-economic mechanism of interaction between participants of regional economic artificial cluster // Vestnik of Chelyabinsk State University. – 2010. – № 6 (187). – Economics. Edition 26. – P. 179-183.

Table 3.6

## Principles of interaction within a cluster

<b>Principles</b>	<b>Principles content</b>
Exchange of activity results	Ability to apply exchange of activity results brings an opportunity for interaction participants to manage resource scarcity.
Competitiveness	Results of competition are unknown at the beginning, but every participant can compete, sharing limited benefits with other subjects of business.
Compromise	Meeting one's needs business subjects have to take into consideration interests of other subjects of entrepreneurship by means of exchange of activity results.
Uncertainty	There are diversities of entrepreneurship activities in a regional cluster. Any activity can be well planned in advance as there is necessity of freedom of choice of every participant of cluster interaction.
Association	Efficiency of entrepreneurial activity of subjects of cluster interactions is influenced by their ability to implement business principles, business interests; business objects structures and make agreements with potential partners.
Rationality	Since subjects of cluster interaction make decisions under risk conditions, every decision should be well grounded, rational and calculated.
Resource scarcity	Scarcity of resource of cluster interaction participants causes necessity of interaction of business subjects.
Value	Subjects of cluster interaction can compare their own costs with incomes and evaluate efficiency of their interaction.
Responsibility	A choice made by any subject of interaction obliges him to perform all the obligations and becomes a reason for long-term development of the system of cluster interactions.
Synthesis	Realization of economic interests of participants of cluster interactions leads to synthesis of the private and the social which is reflected in their interests and actions.
Resource concentration	Development of cluster interactions shows itself in constant mastering of all types of resources by subjects of cluster interactions.
Creativity or innovation	Creativity shows itself by means of mastering new technologies of product making, services, operations and other forms of activity of subjects of cluster interactions.
Systematic integration	Systematic integration of subjects of cluster interactions, their business interests, targets and actions facilitates transformation of conflict interests into internal source of independent development of a regional cluster with good relations.
Systematic self-organization	Systematic self-organization of business and management on microeconomic and macroeconomic levels is a necessary condition of stable development of cluster interactions as a basis for regional cluster development.

Contrary to usual cooperation when an enterprise buys readymade goods, outsourcing involves buying services of performing (technological) operations. Outsourcing becomes an element of the strategy of an enterprise and at the same time it is one of directions of promotional policy of a cluster.

In Ukraine under the conditions of restructuring most big enterprises had to refuse from non-strategic production and start subcontracting. The

most successful enterprises managed to develop their production and became major subcontractors able to compete both on the internal and foreign markets. As a result of restructuring big enterprises will be formed gradually, they will be located geographically to agglomeration of supplement enterprises that work in the same direction with the main contractor, i.e. artificial clusters. As a rule, the cluster expands during the process of formation and facilitates stable development of the main enterprise as well as the economy of a region.

In general, the domestic market of subcontract relations can be characterized as the one which is not well developed, closed, not transparent, without regulations and efficient infrastructure. At the same time subcontracting relations between small and big enterprises develop and are quite promising. The efficiency of outsourcing is connected with the level of development of subcontract market and its regulation.

Y.V. Vinikurova underlines that different organizations such as special regional centers of subcontracting, centers of commercialization of scientific research, associations of regional producers, coordination boards, centers of technological development, etc. may take responsibility for coordination and assistance in making connections between enterprises of a cluster<sup>445</sup>.

The research of the cluster formation potential of a region has shown that:

- the tools of business development approved in the world practice cannot be applied for the cluster identification to the full extent;
- the regional policy of the cluster technology support should be directed at both support of the existing clusters and creation of new ones;
- the study of regional opportunities of the formation of territorial and branch clusters will help to determine the potential of clusterization of social and economic system.
- the management of cluster interactions involves finding out optimal ways of management of the region's innovation development.
- only coordination of actions of entrepreneurs, local authorities and educational establishments of a region can help to overcome negative trends of development of the domestic economy.

No doubt, the cluster policy realization on the regional level requires a differentiated approach. The creation of the cluster concept of regional development should take into consideration the level of economic development of a territory; facilitate motivational factors of integration transformations and determine efficient ways of influence on activity organization in a cluster.

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<sup>445</sup> Yekimova K. V., Fedina E.V. The organizational-economic mechanism of interaction between participants of regional economic artificial cluster // Vestnik of Chelyabinsk State University. – 2010. – № 6 (187). – Economics. Issue 26. – P. 179-183.

### **3.3. Using cluster framework for enhancing the level of investment attractiveness and competitiveness of the regional economy**

As of today the cluster approach to regional development becomes one of the basic methods of the government economic policy realization, the most efficient and adequate market mechanism, the tool for the support of the national business in the global competition. The conducted research has shown that clusters play an important role in forming the innovative policy of the region. The evaluation of the cluster-forming potential of the territory from the position of the innovative development of the social-economic system enabled to establish a tight interrelation between the mechanisms of cluster interactions and separate elements of the regional strategy of the social-economic development. These elements include the investment policy and the level of competitiveness of the region's economy.

The investments are the integral part of the regional economy development. The high potential of the investment appeal enables to form certain competitive advantages of the regional system development, and its rating, in the opinion of the national analysts, is the most adequate way of measuring the level of the regions' competitiveness at the market of the investment resources. Creating the complex of conditions for carrying out the investment activity in the territory, discovering and enhancing the existing ones and the creation of the new competitive advantages of this region is one of the main tasks of the region's investment strategy.

In the conditions of the resource deficit at the investment market the country's regions are in a constant state of competition. G.V. Marchenko singles out the two types of interregional investment competition:

1) among the regional authorities for the attraction of the investments into the region;

2) between enterprises and clusters, that are in this region and other business structures in other regions or countries<sup>446</sup>.

But one should take into account the fact that there also exists an intraregional competition for the investment resources among certain enterprises and regional institutions. For instance, some enterprises that are in the region, compete directly for the investment resources in their different forms: capital investments, credits, investments into equity capital, leasing etc. Competition takes place not only with the enterprises of other regions, but also inwardly – with the enterprises of the same region. The latter form of competitive activity negatively influences socio-economic development of a region and is undesirable for the regional authorities. Not denying its positive competitive role (especially among regional organizations), in many cases it results in the development of some economic agents in a region to the detriment of the others, thus weakening the economic power of a region. Therefore the task of the regional authorities in attracting the investor is twofold. On one hand, it is necessary to create the maximal attractiveness of the region for foreign investments capacity of external investments and reinvesting the regional ones by creating favourable investment and business climate. On the other hand, it is necessary to

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<sup>446</sup> Marchenko G.V. Investment attractiveness of regions as the factor of competitiveness / G.V. Marchenko // Electronic resource. – Access mode: [www.hse.ru/ic6/report05.doc](http://www.hse.ru/ic6/report05.doc). – P.2.

regulate intraregional competition for investments, supporting it within certain producer "stimulating" scope.

L. M. Rodionova and R. F. Khairulin consider that investments currently are limited not only by supply but also by demand, i.e. the reason of insufficiency of investments, necessary for restructuring the economy of the country and of separate regions lies not only in the deficit of resources, absence of investing institutes or low level of knowledge development in this area. The development of investments is restrained by a weak demand from businessmen – their direct consumers in a real sector of the economy. The demand for investment, in its turn, is rather low because the businessmen consider that profitability of the new types of activity will not cover the cost of corresponding capital investments<sup>447</sup>.

In our opinion using the cluster mechanisms of intraregional and interregional cooperation will enable to more efficiently use the intraregional potential while building the strategy of increasing the investment attractiveness of the territories. Undoubtedly, in Ukraine quite logical prerequisites and conditions have already been formed for the realization of the cluster concept of enhancing the investment image of national regions.

– Within the framework of tough international and interregional competition the leadership in the field of investments can be attained only by means of concentrating efforts and the mechanisms of increasing strategic efficiency development of territories. Clusters are the complex form of consolidation of efforts of parties concerned, directed at the achievement of competitive advantages.

- The authorities and the business structures today are interested in active introduction of world initiatives in creating clusters, as the planned economic strategy of the development of national regions can be realized only at the compromise of interests and actions of the authorities and business, the possible form of which is stimulation of the development of the existing clusters and the creation of artificial clusters on the basis of large corporations (including the state – owned ones).

Taking into account the accumulated experience of the clusters functioning in Ukraine, we have defined the basic conditions, without which the creation and development of the cluster structures becomes practically impossible. The essence of this conception lies in realizing five necessary conditions (five "I") for the cluster to be realized as a viable, all-sufficient, successful and effective organizational structure. Firstly they are as follows.

1. Initiative – initiative and influential people from among businessmen, power representatives, public organizations, educational establishments, are capable, with their authority, intellect, organizational capabilities and knowledge, to unite, to interest and – in practice-to prove the usefulness of clusters both for their members and for a region.

2. Innovations – new products and technologies in organizing manufacture, providing sales, management and financing are capable to open new possibilities in a competitive activity.

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<sup>447</sup> Rodionova L.N., Khairulin R.F. Clusters as a form of investment resources integration // Oil and gas business. Electronic scientific journal. Issue 1/2006. – Electronic resource. – Access mode: [http://www.ogbus.ru/authors/Rodionova/Rodionova\\_4.pdf](http://www.ogbus.ru/authors/Rodionova/Rodionova_4.pdf). – P. 3.

3. Information – availability, openness, knowledge exchange, databases and web-page creation, that enable to get advantages in the access to the markets of the supply of labour tools, their distribution, qualified labour force etc.

4. Integration – assumes the use of new technologies of cooperation on branch and territorial levels for the support of science and bodies of power.

5. Interest – provides the basic terms of vital functions and the development of an enterprise or public structure, necessarily envisages the presence of a personal interest of the participants of the cluster associations in their receiving economic profit (Fig. 3.7).<sup>448</sup>

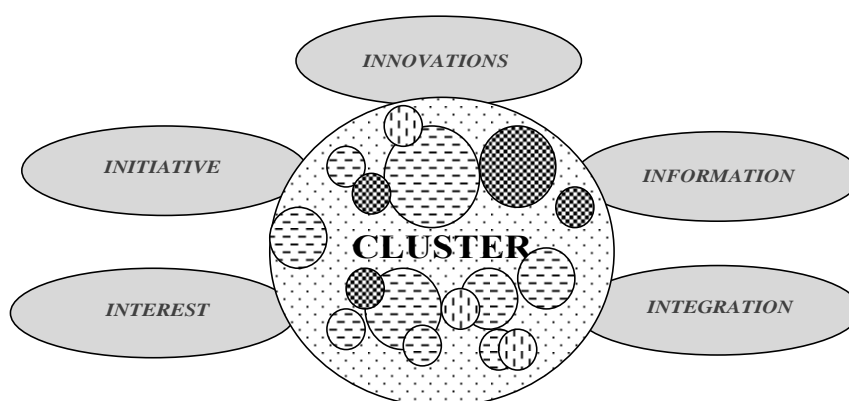


Fig 3.7. Necessary conditions of cluster creation

The peculiar features of the cluster successful operation, as a rule, can be:

- presence of close intercommunication between enterprises that make the participants of clusters more powerful compared with those enterprises, that work on their own;
- co-operation and collaboration, that are the stimuli for the search of new, more perfect methods of work;
- orientation to the necessities of the market, that is the main factor of defining the general strategy of enterprises;
- providing the accordance of the strategy of every separate manufacture, the general strategy of the region's development;
- stimulation of the development of small and medium-size business, the most mobile and flexible constituent of the market economy.

Moreover, the research has showed, that the conditions of clusters creation and functioning, especially at the association of small enterprise structures, can be at the same time the conditions of investing the promising projects on the basis of cluster technologies.

As it is impossible without the initiative to realize even the simplest, the most primitive project or to attract at least any investments; only new, original, non-standard innovative ideas can get an investor's interest. Only

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<sup>448</sup> Voynarenko M. Innovative development of industrial enterprises analysis and evaluation : monograph / M. P. Voynarenko, A. B. Cherep, L.G. Oleinikova, O. V. Cherep. – Khmelnytsky: KhNU, 2010. – 444 p.

the integration of the efforts of the authorities, business and institutions (scientific, educational, public organizations) can be the condition of the successful attraction of the investments to this territory (a city, a district, a region). Without the information exchange about the potential possibilities of a region, its priorities, investment attractiveness and prospects of development it is impossible to get at least any investment support from potential investors; and finally, only the economic interest from the invested capital can guarantee the successful realization of any real investment project (Figure. 3.8).<sup>449</sup>

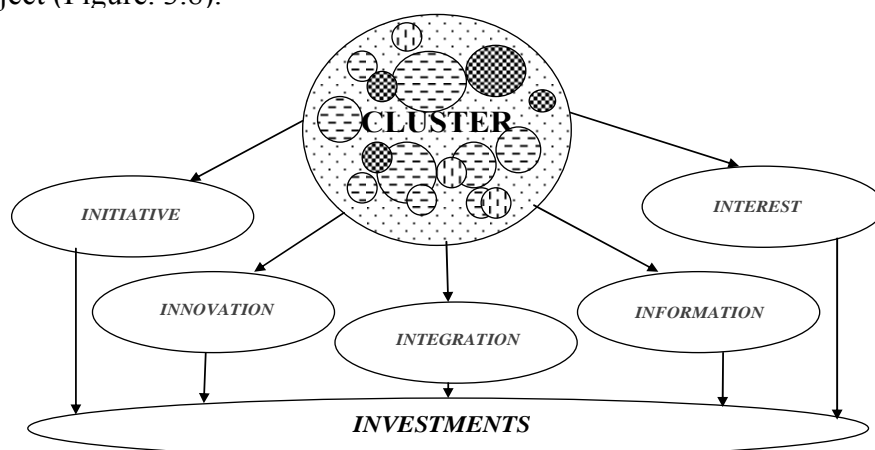


Fig 3.8. Conditions of investment on the basis of cluster technology

In the opinion of L.M. Rodionova, R.F. Khairulin, the activity of a cluster, must be aimed first of all at the generation of new investments, i.e. the creation of "additional investments" that are the basic strategy of the cluster development.<sup>450</sup> For the estimation of the realized measures efficiency it is necessary to periodically conduct the estimation of the cluster influence on the development of the investment potential of an enterprise.

A. Koloshin suggests estimating the influence of the cluster on the environment by the analysis of investment resources redistribution directions, spatial concentration of the increase and effects of investment flowing into the territories (table. 3.7)<sup>451</sup>.

Examining the practice of the cluster approach application in the developed countries and the developing countries, it is necessary to single out the following important moment: there are no single universal approaches, and charts of territorial-branch cluster development.

<sup>449</sup> Voynarenko M.P. Clusters as growth poles of regions' competitiveness // The Economist. – 2008. – № 10. – P. 27-31.

<sup>450</sup> Rodionova L.N., Khairulin R.F. Clusters as a form of investment resources integration // Oil and gas business. Electronic scientific journal. Issue. 1/2006. – Electronic resource. – Access mode: [http://www.ogbus.ru/authors/Rodionova/Rodionova\\_4.pdf](http://www.ogbus.ru/authors/Rodionova/Rodionova_4.pdf) (p. 3).

<sup>451</sup> Koloshin A. The analysis of the foreign experience of the enhancement of sectorial, regional and national competitiveness through the development of clusters / A. Koloshin, K. Razgulyaev, Yu. Timofeyeva, V. Russinoff // Electronic resource. – Access mode: [http://www.politanaliz.ru/articles\\_695.html](http://www.politanaliz.ru/articles_695.html). – P. 29.

Table 3.7

Evaluation of the cluster development influence  
on the forming of the territory's investment potential

<b>Influence of the cluster on the surrounding territory</b>	<b>Measured influence</b>	<b>Ways of evaluation</b>
Redistribution of investment resources	The improvement of the availability of investment resources in other industries of economy	Research of the sources of investment attractiveness of the firms, that do not belong to the cluster Analysis of the cost of investment resources for the cluster and separate enterprises
Spatial concentration of increased investment attractiveness	Spatial distribution of the effects of investment attractiveness increase for the cluster-related enterprises	Forming groups of indexes, that will allow to analyse the concentration of investment attractiveness increase inside the cluster
Effects of investments flowing in the territory	Direct or indirect effects of the cluster influence on the development of other economy components	The research of the firms that are or are not included in the cluster. The construction of an "additional investments" chain

Every state develops own approaches to the cluster formation and their management and, accordingly, in its own way organizes the activity of the government bodies, responsible for the realization of the national strategy of investor attraction to a certain territory.

A unifying moment during the realization of the cluster policy of regional innovative development is the fact that a way to the success of this or other territory in every separately taken country lies in finding those poles of increase (unique commodities, services, deposits, "know-how", branch and territorial advantages), that would be able to take the economy of a region (district, city, area) to the highest levels of civilization development and national welfare increase.

The pole of increase in the practice of economic activity manifests itself most distinctly in traditional geographical space and is generally based on industry branches. And this is the basic principle of creating business structure cluster models.

Namely the branches of industry influence the development of other branches of the economy, including service businesses in the regions.

The research, conducted by us in this direction, results in conclusions, that cluster model formation in the economy lies between two conditionally outlined "triangles": cluster-forming – three "C" and cluster-supporting – three "S" (Fig. 3.9).

The first triangle that substantially influences the formation of clusters includes the following three "C" : concentration, communication and competition, and the second, favourable for the quality changes as a

result of clusters creation – three "S": specialization, collaboration ("s" letter in Ukrainian) and synergy.<sup>452</sup>

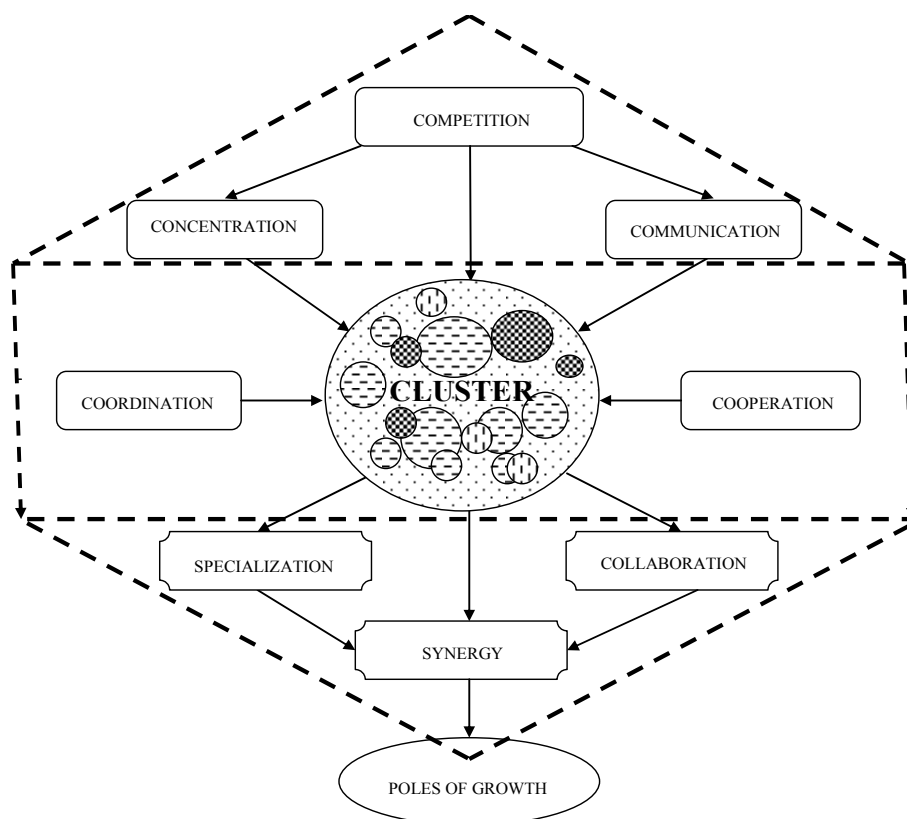


Fig 3.9. Components of cluster associations successful functioning

Three "C" are the additional conditions of globalization, which objectively lead to the appearance in separate administrative-territorial units of new formations of the cluster type. Because the concentration, as the process of concentrating capital goods, workers, scientific research, information systems etc. on certain territories or enterprises, assists in multiplying the efforts of the abovementioned factors for providing the leading positions of the industry in this region and the creation of preconditions for the future poles of increase. Communication assumes the presence of the process of regular information exchange between the permanent participants of the cluster associations.

Depending on the peculiarities of relations and the cluster association structure, different types of communications can be used in practice. From vertical ones – when the data flows are passed between lower and higher levels of control system, to horizontal ones – when the information exchange takes place between the identical subdivisions and services of enterprises according to hierarchy level, the participants of the

<sup>452</sup> Voynarenko M.P., Rybczynska L. A. Cluster-forming potential of Khmel'nitsky region: technology and tools // Regions of Knowledge in Eastern Europe : monograph / Scientific editorship I.V. Bakushevych. – T.: TISIT, 2010. – P. 72-73.

cluster associations. And a very important place in this triangle is taken by competition, as an economic rivalry and fight between enterprise structures (manufacturers), including the mediators, for the most advantageous conditions of production and sales (of commodities and services), and especially for the maximal acquisition of income from their economic (financial-economic) activity. The competition in clusters, on the one hand, assists in integrating within the scope of one industry of the enterprises, interested in the success of business development in the region, on condition of dividing the spheres of influence and the distribution of market niches of the corresponding products among the participants of the cluster. It assists in the development of intrasectoral competition, which intensifies the struggle between goods manufacturers in one industry for lowering the cost, prices, quality of products improvement, expansion of products distribution markets, etc. And, on the other hand, providing the high quality of the goods, manufactured by the cluster participants at lower expenditures, the rivalry positively influences the increase of competitiveness on external markets of both the cluster associations and the region as the whole.

Three “S” (specialization, collaboration (“s” – in Ukrainian) and synergy) are the factors, derived from three “C”, which can provide effective functioning of the cluster models in the economy of one or another region. Specialization within the framework of clusters is viewed in a classical variant, i.e. it is one of the forms of production organization, when the enterprise or its subdivisions are oriented towards the production of separate products or their parts. As well as another variant, when the specialization, as a result of concentration, leads to the increase of produced goods quality through unification, application of new technologies and equipment, professional advanced training of workers, etc.

Collaboration in clusters assumes combining the efforts for general actions of separate enterprises, firms, companies (having partially matching economic interests) with the aim of protection against serious losses in the process of competitive activity and for the acquisition of additional profit. At this, different cluster models in different industries, naturally, can use different types of collaboration, as for example: strategic collaboration (coordination of activity in most important directions of investments, innovative and scientific policy); at preproduction (common implementation of marketing research, sophisticated research of designer’s work, search for resources, product markets etc.) and productive one (common deliveries of materials, raw materials, participation in the production of sophisticated goods etc.). And, finally, combining the efforts and the results of specialization and cooperation in the cluster structures leads to the appearance of synergy – a new productive force or qualitatively new sources of development, enhancing functional efficiency, as a result of joining separate parts, elements, and factors into the single system due to the so-called systems effect (emergentism). Neither the modern technique nor modern technologies, no matter how perfect they are, can separately carry out the overwhelming majority of the economic welfare and only their association can cause the appearance of new productive force that several times exceeds the productivity of each of them, taken separately. Herein lies the key to the success of the cluster model application in the economy, as the forming of new poles of increase in separate regions and territories.

It is important to mention, that exceptionally important conjunctive elements of unifying processes between three "C" and three "S" at different stages of the cluster associations formation are coordination and cooperation. Coordination as the constituent managing element is used in the cluster models for the concordance of the actions of different system parts. In the basis of coordination lies the logic of performing manufacturing and managing functions. Coordination in the system of production assumes the development of interdependent plans of processing material flows both inside the cluster and beyond its limits, and in the managing system – coordination of the actions of contractors, subdivisions or whole enterprises. Cooperation essentially can be used as a micromodel of the cluster associations, as it is the voluntary association of property (different objects and forms), and also the labour for the achievement of general aims in different spheres of economic activity. As the association of the property subjects (small manufacturers, workers, office workers, consumers etc.) and the property (money, costs of labour and production, including land), and also different types of intellectual property (patents, licenses, know-how), information resources enables to form effective cluster structures in separate regions.

An effective cluster policy enables to form competitive clusters. Traditionally the cluster cannot be represented by a mechanical sum of enterprises and organizations that form such networks. The generic feature of the cluster is the acquisition of synergetic effect due to the activity of its integral enterprises. That is, it can possibly happen, that a social or business network has been created, but it has not resulted in the formation of a cluster. For example, in 1994 in Portugal M. Porter's group singled out 33 clusters; however a few years later it became clear that the ineffectiveness of the conducted state policy in many clusters is explained by the fact that the allocated clusters either initially were not competitive, or were rather simple accumulation of unrelated firms<sup>453</sup>. So, as the experience shows, cluster "branding" can result in the unjustified government spending for the realization of the initially ineffective cluster policy, and can also mislead potential private investors. Thus, the formation of the regional innovative system and the creation of clusters should be examined not as independent concepts of regional development, but as the constituents of the unified mechanism of regional policy realization, which complement each other, and each of the mechanism constituents can and must become the catalyst of interregional integration.

L.M.Chainikova and V.M. Chainikov consider the competitiveness of the cluster as the ability to use the potential of macrotechnologies for acquiring multiplicative effects on all levels of vertical integration of goods and services production that meet the requirements of world and internal markets, and the increase of definite advantages, due to the leadership in production technologies, optimization of the forms of organizing and

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<sup>453</sup> Pilipenko I.V. Conducting cluster policy in Russia (Annex 6 to the Annual Economic Report 2008 All-Russian public organization "Business Russia" "Strategy 2020", from the economy, "directives" to the economics of "incentives") // Electronic resource. – Access mode: [http://www.biblio-globus.ru/docs/Annex\\_6.pdf](http://www.biblio-globus.ru/docs/Annex_6.pdf) (p. 10).

managing the sales as a basic condition of the potential increase of competitiveness.<sup>454</sup>

And, finally, it is possible to agree with A.V. Scoch, who considers that it is quite unnecessary to attach the competitiveness of the cluster to the rhombus of competitive advantages, as M. Porter singled out the determinants of competitiveness on the basis of analyzing the developed countries, that is why not all of them can be applied for the developing countries. For the developing countries, in determining the cluster competitiveness it is more characteristic to use the analysis of traditional factors – labour, land and capital<sup>455</sup>.

In the opinion of A. Koloshin, competitive regional clusters must have the following characteristics:

- a steady (leading) position at the regional market: the competitiveness of the cluster, undoubtedly, depends both on its share at the regional market and on the increase of this share;

- the technological advantage in the industry and the capacity for innovations: the ability to realize scientific and technical developments and the ability to turn the technological advantage into the successfully realized products, is characteristic for all successful clusters (even for the industries that are in the phase of maturity or recession, where the rates of technological changes are limited);

- the ability to self-renovation: clusters must carry out the activity on self-support and in self-government<sup>456</sup>.

The decomposition of the enumerated signs into the constituents simplifies the process of the cluster competitiveness estimation. The variants of elements selection and the offered means and calculations of their measuring are given in table 3.8.

The following symbols are used in a table:

$Q_k$  – general production volume of goods (services) of the cluster members;

$Q_n$  – goods (rendered services) production volume of the region's enterprises, that are not included in the cluster;

$Q_p$  – general goods (rendered services) production volume in a region;

$M_t$  – amount of regional markets at which the products are sold (services are provided) of the cluster members in the studied period;

$M_{t-1}$  – amount of regional markets at which the products are sold (services are provided) of the cluster members in the previous period;

$Q_{et}$  – export volume of the produced goods (rendered services) of the cluster members outside a region and (or) the country in the studied period;

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<sup>454</sup> Chainikova L.N., Chainikov V.N. Enterprise competitiveness: course book. – Tambov: Tambov Tech. Univ. Press, 2007. – P. 24.

<sup>455</sup> Skoch A.V. The Place of Clusters in Modern Concepts of Regional Economic Policy Formation // Electronic resource. – Access mode: <http://independent-academy.net/science/tetradi/12/skoch.html>. – P. 11.

<sup>456</sup> Koloshin A. The analysis of the foreign experience of enhancing sectoral, regional and national competitiveness through the development of clusters // Electronic resource. – Access mode: [http://www.politanaliz.ru/articles\\_695.html](http://www.politanaliz.ru/articles_695.html). – P. 29.

Table 3.8

Variants of estimating different aspects of regional clusters competitiveness

Index for the evaluation	Measuring method	Calculation formula
<i>Position at the market</i>		
Leading positions at the regional market	Leading share of a cluster at the regional market	$\frac{Q_e}{Q_o} > \frac{Q_i}{Q_o}$
New sales markets development	Increase of the number of new markets, where there are firms-participants of the cluster	$M_t - M_{t-1} > 0$
Access to a national and world markets	Increase of the volumes of internal and (or) external export of the cluster's end products (services)	$Q_{et} - Q_{et-1} > 0$
<i>Technological leadership and the capability for innovations</i>		
Level of the conducted research developments	Demand for the research developments, conducted inside the cluster at regional, national and world markets by the enterprises – non-members	$R_t - R_{t-1} > 0$
The capability of the cluster for the introduction of innovations and manufacture of new types of products	The amount of the new manufactured types of products; the analysis of the advantages of new product types before the existing products; research of the demand pattern for the existing and new types of products	$\frac{P_t}{Q_e} > \frac{Q_t}{Q_e}$ $P_i$
The capability of the cluster members for technical modernization and the introduction of innovations into the production process	The amount of new technological lines, processes, innovative approaches and productive decisions which were introduced by the cluster members	$T_t - T_{t-1} > 0$
<i>Update capability</i>		
Formation of new enterprises	Increase of the amount of the cluster participants	$C_t - C_{t-1} > 0$
Attraction of foreign participants	Increase of volume (and quality) of the attracted foreign investments within the cluster	$I_t - I_{t-1} > 0$
Share of economic activity in a region	The increase of the cluster's products (services) share in a gross regional product	$\frac{\sum_{i=1}^n VRP'_e}{VRP'_p} > \frac{\sum_{i=1}^m VRP'_{e-1}}{VRP'_{p-1}}$

$Q_{et-1}$  – export volume of the produced goods (rendered services) of the cluster members outside a region and (or) the country in the previous period;

$R_t$  – the amount of research developments sold by a cluster to the enterprises – non-members in the studied period;

$R_{t-1}$  – the amount of research developments sold by a cluster to the enterprises – non-members in the previous period;

$P_t$  – the volume of manufacture of new products (services rendered) by the cluster members in the studied period;

$Q_t$  – production volume of the earlier existing types of products (rendered services) by the cluster members in the studied period;

$T_t$  – the amount of new technological lines, processes, innovative approaches and productive decisions implemented by the cluster members in the studied period;

$T_{t-1}$  – the number of new technological lines, processes, innovative approaches and production decisions implemented by the cluster members in the previous period;

$C_t$  – the number of the cluster participants in the studied period;

$C_{t-1}$  – the number of the cluster participants in the previous period;

$I_T$  – the volume of the attracted foreign investments by the cluster participants in studied period;

$I_{T-1}$  – the volume of the attracted foreign investments by the cluster participants in the previous period;

$\sum_{i=1}^n VRP_{\hat{e}}^t$  – the volume of gross regional product, which is manufactured by the members of the cluster in the studied period;

$\sum_{i=1}^m VRP_{\hat{e}}^{t-1}$  – the volume of gross regional product, which is manufactured by the cluster members of the cluster in the previous period;

$VRP_p^t$  – the volume of gross regional product in the studied period;

$VRP_p^{t-1}$  – the volume of gross regional product in the previous period.

The conducted research shows that in the conditions of strengthening the competitive activity between regions for the volumes of attracted investment resources, the tasks of revising the existing regional policy instruments and searching for the new ones become top priority. No doubt, the state authorities and business structures are nowadays interested in the active introduction of the world initiatives in creating and realizing the cluster concept of regional development. As it was mentioned before, the competitive advantages of the country are created and basically realized on the regional level, it is exactly the regions that become the main object of public innovative policy through the creation of the system of competitive clusters.

We must agree with the fact, that the cluster policy introduced in all Ukraine's regions is not an additional instrument of the government control, but rather a new approach to the use of the available instruments. According to its potential and structure the cluster policy appears to be that very complex of measures, which can assist in solving the main task: to provide

the increase of the investment attractiveness and competitiveness of the national economy through the development of competitive markets, the acceleration of development of small and medium-size business, the stimulation of the initiative locally and the activation of cooperation between the government, business and scientific organizations.

### **3.4. Institutional provision of regional economy in the formation of potential of the cluster systems**

Revealing the potential of clusterization of regional economies as open socio-economic systems must be accompanied by the construction of the proper institutional support. It is considered that the set of instruments of institutional restructuring is not a constant value, and the composition of its constituents can be corrected in accordance with the stages of performing the strategy of regional development. When forming the instruments of the system of institutional support it is desirable to select such of them, the action of which is directed at the increase of the general level of competitiveness of the socio-economic system and the increase of its competitive advantages on the innovative basis. On the whole the system of institutional support of the regional economy is possible to represent as constructive cooperation of its two subsystems: the institutional-legal regulation of the policy of the regional development and the organizational support of economic transformations on the innovative basis.

The subsystem of the institutional-legal regulation of the policy of regional development must determine the character of the conducted reforms and provide their legislative support. Undoubtedly, it is easier for local authorities on the basis of the analysis of the territory's current activity to form a complex of tasks, the solution of which will assist in increasing the competitiveness of the region's economy and the increase of the level of its investment attractiveness. The basic tasks of institutional-legal regulation of the policy of the regional development must include: 1) the creation of institutional preconditions for the economy's innovative development; 2) the support of the mobilization of the region's internal resources; 3) the development of interregional collaboration; 4) realization of the potential of cluster initiatives.

It is possible to agree with S. M. Buhay and E.V. Schepansky, that Ukraine continues to be at the stage of forming the institutional structure of the regional development support. On the basis of the analysis of EU countries' economies, the scientists defined two types of institutional structure: the first type is related to the fact that the solution of the problems of regional development is the prerogative of a separate central organ of executive power and is characteristic of the economies of France, Great Britain and Italy; the second type is characteristic of the economies of Sweden and Denmark and foresees the attraction to the management of regional development processes a few branch ministries, mainly those, that deal with the problems of economic development, social protection, transportation, ecology etc<sup>457</sup>.

It is emphasized about the importance of change in the institutional-legal platform of regional economy's formation in the national strategy of regional development for the period up to 2015 (further the national strategy), the implementation of which lies in the government support of four strategic tasks realization: 1) the increase of competitiveness of regions and strengthening their resource potential; 2) maintaining the development

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<sup>457</sup> Buhay S.M., Schepansky E.V. Formation of the institutional structure of the support of regional development in Ukraine // University scientific papers of Khmelnytsky University of Management and Law. – 2006. – № 1 (17). – P. 285.

of human resources; 3) the development of interregional collaboration; 4) the creation of institutional conditions for regional development<sup>458</sup>.

For the realization of strategic tasks the national strategy foresees the use of such instruments: concluding contracts related to the regional development, the development of programs of overcoming the depressed conditions of separate territories, the government's special purpose programs, the regional development strategies and the programs of socio-economic and cultural development. The experience of introducing the defined priority directions of regional development shows, that among the mentioned instruments for the forming of cluster systems' potential, the conclusion of contracts related to regional development and the development and approval of the regional programs of socio-economic and cultural development are mostly used.

For the solution of the urgent issues of providing a balanced socio-economic development of regions and the definition of the mechanisms of overcoming the disproportionate development of the territories, the effective use of the economic potential of the regions, the enhancement of their investment attractiveness and competitiveness, promoting joining of the efforts of the state power organs and the local government bodies in the solution of these issues under the guidance of the President of Ukraine the consultative-advisory organ – the Council of Regions<sup>459</sup> was created.

The basis for concluding the contracts about regional development is the coordination of the territories development priorities and the definition of the mechanisms of collaboration for the sake of their increase. We should note, that this instrument is actively used both on interregional and on sub-regional levels. The positive example of setting up the interregional collaboration is the experience of Donetsk region, the leaders of which concluded the agreements about collaboration with such regions of Ukraine, as the city of Kyiv, the Autonomous Republic of Crimea, Dnepropetrovsk, Ivano-Frankivsk, Kirovograd, Lviv, Ternopil and Kherson regions.

In September 2011 Lviv and Odessa regional councils signed the agreement about an interregional collaboration, the aim of which is strengthening economic and socio-cultural ties. The agreement foresees the trade and economic collaboration; cooperation in the fields of culture, physical culture, sport and tourism, social protection of family and youth, education, health care; in the field of agricultural production, territory and town-planning, transport connection, housing and communal services, participation in the activity of the European regions, etc.

On the sub-regional level in 2011 the agreements about the interregional collaboration in trade and economic, scientific and technical and humanitarian spheres were signed between the districts of the Autonomous Republic of Crimea: Chernomorsk and Pervomaisk, Dzhankoi and Rozdolne, Simferopol and Kirov districts, between the cities Saki and

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<sup>458</sup> National Regional Development Strategy for the period up to 2015: approved by the Cabinet of Ministers № 1001 of 21.07.2006 // Official site of Ukraine's Verhovna Rada. – Electronic Resource. – Access mode: <http://zakon3.rada.gov.ua/laws/show/1001-2006-%D0%BF/print1330502252121901>.

<sup>459</sup> Charter of the Council of Regions, approved by Decree of the President of Ukraine № 533/2010 of 9.04.2010e // Official website of the President of Ukraine. – Electronic Resource. – Access mode: <http://www.president.gov.ua/documents/10849.html>.

Sudak, Dzhankoi, Armyansk, Krasnoperekopsk.

The regions of Ukraine actively joined the processes of clusterization of the socio-economic systems, marking the selected priority industries for the application of cluster technologies in strategies and territorial development programs. During 2010–2011 a number of areas and cities defined cluster technologies as the leading instruments of regional development, the fact that was reflected in the following normative documents.

1. The strategy of economic and social development of Sumy region for the period up to 2015 "New Sumshchina – 2015"<sup>460</sup>, the first strategic direction of which was defined as the creation of economic clusters in the separate subindustries of agro-industrial complex, aimed at the development of a self-contained high-technology agricultural production and at the creation of environmentally friendly competitive products, and also building clusters the aim of which is the creation of self-contained cycles: from the production of construction materials to ready-constructed housing and its servicing. For the realization of these tasks the creation of four clusters in the agricultural– industrial sub-industries has been planned (grain-growing, sugar-beet, milk clusters, pig breeding cluster), and clusters in the building industry. For each of the clusters the nuclei and the interconnection plans between the potential participants of the association were developed. The analysis of the cluster development possibilities enabled for each kind of activity to work out the forecast of basic indexes of their development through the carrying out of the annual increase estimation: production volumes of the cluster participants; the jobs quantity; the salary size of enterprise workers, who are the members of the territorial-branch association; volumes of the attracted investments and all level budgets income.

2. The strategy of steady development of Kharkiv region up to 2020<sup>461</sup>, with which the stages of identification and forming of cluster structures were developed and the basic models of cluster development were considered. In the sectoral orientation, according to the selected methodological approach, in Kharkiv region five basic cluster structures were identified that have the potential for development: gas and oil production and their refining; growing, processing of agricultural produce and foodstuffs production; light industry; building and production of construction materials; high-technology; scientific-educational; health care; housing and communal services; transport-trade-logistic one.

3. The strategy of economic competitiveness increase of Dnepropetrovsk region: the clusters of construction industry and

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<sup>460</sup> The strategy of economic and social development of the Sumy region up to 2015 "New Sumschina – 2015" // The official website of Sumy regional administration. – Electronic Resource. – Access mode: [http://www.state-gov.sumy.ua/docs/komitet\\_ekonom\\_pitan/strateg\\_ns2015.html](http://www.state-gov.sumy.ua/docs/komitet_ekonom_pitan/strateg_ns2015.html).

<sup>461</sup> Sustainable Development Strategy of Kharkiv region up to 2020 // The official website of the Kharkiv Regional State Administration. – Electronic Resource. – Access mode: <http://kharkivoda.gov.ua/uk/article/static/id/243>.

agriculture<sup>462</sup> (hereinafter referred to as the strategy of competitiveness), which envisaged the increase of territory's competitiveness through the realization of two pilot projects in the clusters creation. By corresponding normative documents the organizational structure of clusters was developed, their potential participants were determined, the key factors of territorial-branch association increase were established and the list of obstacles on the way to consolidating the cluster model of territorial development was formed. Besides the strategy of competitiveness, in 2011 a complex strategy of development of Dnepropetrovsk region was approved for the period up to 2015<sup>463</sup>, in which in the development of SWOT-analysis of clusters forming the potential "possibilities" of regional development were considered, and also concrete mechanisms of the further introduction of agricultural and building clusters are defined.

4. The strategy of economic and social development of the Autonomous Republic of Crimea for 2011-2020 (hereinafter referred to as the strategy of the development of the Autonomous Republic of Crimea), which among the priorities of the region's development within the framework of "modernisation" envisaged the implementation of such cluster-oriented strategic purposes:

- the introduction of the intensive model of economic growth, which is based on the restructuring of economy with the purpose of increase of the share of products with high value-added cost and the formation during 3-5 years of competitive clusters in sanatorium-resort and tourist spheres, agriculture and food industry of the region, in machine-building and shipbuilding industries, in energy and other sectors;

- the development of the potential of interregional cooperation is the transformation of collaboration with other regions of Ukraine into the key factor of the economic growth acceleration of the Autonomous Republic of Crimea through interregional clusters formation;

- the development of the region as a national as well as international center of tourism and recreation by creating international tourist and recreational clusters;

- the provision of the controlled and balanced spatial development is the levelling of the interregional disproportions, the balanced development due to territories zoning and formation local centers of development on the cluster basis;

- the support for the creation of innovative-oriented associations on the basis of leading educational establishments, scientific and financial establishments, enterprises with the further forming of steady regional innovative clusters on their basis.

In "Strategy of the development of the Autonomous Republic of

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<sup>462</sup> The strategy of economic competitiveness of Dnepropetrovsk region: clusters of construction industry and agriculture // The official website of the Dnepropetrovsk Regional State Administration. – Electronic Resource. – Access mode: <http://adm.dp.ua/OBLADM/Obldp.nsf/%28DOCWEB%29/D02D2C9A551475C9C2257880006B2904?OpenDocument>.

<sup>463</sup> Integrated Development Strategy of Dnepropetrovsk region up to 2015 // The official website of the Dnepropetrovsk Regional State Administration. – Electronic Resource. – Access mode: <http://www.adm.dp.gov.ua/OBLADM/Obldp.nsf/%28DOCWEB%29/997A3C4197D4380EC225788E0047C2D3?OpenDocument>.

Crimea” the accent has been placed on the introduction of cluster principles of economic organization, which require the application of special measures related to the support of the cluster development. They will include the following:

- the development of the concept of regional clusters development in the Autonomous Republic of Crimea with the purpose of the increase of competitiveness level of the region’s economy, taking into account the features of geopolitical location and natural-resources potential of the territory;

- the development of the methodology of forming regional and local clusters in accordance with regional features, and also the methodologies of estimating the efficiency of their functioning, taking into account the international experience;

- organizing and holding conferences, seminars for the participants of clusters, that would create the conditions for the information and experience exchange, and would assist in collaboration development;

- the substantiation of the necessity of allotting government subsidies for the development of regional clusters;

- the support for small and medium-size businesses as the basic participants of the cluster;

- the assistance in the promotion of investment projects which will be realized within the framework of regional clusters, which meet strategic priorities of the region and envisage the increase of competitiveness of the participants of territorial-branch association;

- the development of institutional environment that assists in initiating and supporting the development of regional and international clusters, provides the information co-operation between the public and the local self-government authorities, international partners and the cluster participants;

- the development of technology commercialization mechanisms, innovations stimulation by the support of collaboration between research organizations and cluster enterprises;

- the assistance in the promotion of the products of regional clusters’ participants to the foreign markets by providing legal and methodological support of the activity of their export constituents, the organization of exhibitions and fairs;

- the assistance in the promotion of the cluster’s brand by attracting direct investments and the participation of the government in organizing and realizing advertizing measures and campaigns.

5. The strategy of the city of Kyiv’s development up to 2025, which defined the list of potential competitive clusters in such directions: pharmaceuticals and medical technologies; engineering and precision mechanical engineering; the regional and international IT outsourcing; the center of culture and tourism; regional logistic center; the center of the commerce of CIS and Central and Eastern Europe (raw material agricultural products); scientific-educational center of civil aviation. Besides this, the key measures were defined related to the initiation and support of clusters forming, among which especially important is the creation of business-incubators, the development of clusters support mechanisms, the active attraction of investors.

6. In Donetsk region the program "Donbas 2025: strategy for the

future" was offered, developed by the consulting company "Monitor Group" within the project framework of regional economic development of the "Effective management" Fund<sup>464</sup>. Having analyzed over 40 cluster initiatives in different spheres of economic development of Donetsk region, the research group selected two most competitive clusters for the further detailed analysis: the metallurgical cluster and the cluster of agriculture and food industry.

Setting the list of barriers on the way to the consolidation of the cluster models of economic development in these industries, the analysts developed a number of recommendations, focusing at which will enable to promote the level of innovative attractiveness of the intersubject cooperation participants.

In general, the conducted analysis of the system of the institutional-legal support of realizing cluster initiatives shows that the regions of Ukraine actively use the available software tools for the reflection of key tasks of clusters forming. And that is why just the opinion of I. O. Degtyaryova is reasonable, there is no necessity to separately draw up the local programs of cluster development. The formation of cluster structures must become one of the strategic tasks of regions and must be reflected in today's strategies and programs of socio-economic development. But it should not complicate a not so simple system of regional development documents.<sup>465</sup>

The importance of measures for the support of the cluster initiatives that are realized at the level of regions, is also demonstrated by the fact of inclusion in of the criterion "Level of business-clusters development" as one of the indexes for the estimation of factors related to the innovative development of territories as a constituent of the integral index of regions' competitiveness, which is annually taken into account and published by the Fund "Effective management" with the support of the World Economic Forum. According to the analysts there the first five regions-leaders in forming business-clusters in 2010 were determined: I place was taken by Dnepropetrovsk region; II place was taken by Luhansk area; III place was taken by Donetsk region; IV place was taken by Crimea; V place was taken by Kharkiv region<sup>466</sup>.

In 2011 insignificant changes took place in top-5 leaders in the support of the cluster initiatives in the regions: I place was taken by Donetsk region; II place was taken by Dnepropetrovsk region; III place was taken by Zaporizhzhya region; IV place was taken by the Autonomous Republic of

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<sup>464</sup> Donbass 2025: Strategy for the future // Official site of "Effective Management" Fund. – Electronic resource. – Access mode: [http://www.feg.org.ua/docs/ Donetsk\\_Monitor\\_Doc\\_Final\\_RUS.pdf](http://www.feg.org.ua/docs/Donetsk_Monitor_Doc_Final_RUS.pdf).

<sup>465</sup> Degtyaryova I.O. Scientific and practical aspects of cluster approach use in the management of the competitiveness of Ukraine's regions // Public Administration: Theory and Practice. – 2011. – № 1. – Electronic Resource. – Access mode: <http://www.academy.gov.ua/ej/ej13/txts/Degtyaryova.pdf>.

<sup>466</sup> Donbass 2025: Strategy for the future // Official site of "Effective Management" Fund. – Electronic resource. – Access mode: [http://www.feg.org.ua/docs/ Donetsk\\_Monitor\\_Doc\\_Final\\_RUS.pdf](http://www.feg.org.ua/docs/Donetsk_Monitor_Doc_Final_RUS.pdf).

Crimea; V place was taken by Kharkiv region<sup>467</sup>.

Besides the subsystem of the institutional-legal regulation, we included into the system of the institutional support of the cluster development of regional economy the subsystem of the organizational support of economic transformations on the innovative basis. On the whole, the subsystem of the organizational support is directed at the creation of institutes in the socio-economic system, the action of which is directed at the support of cluster initiatives in the region and the assistance in cluster formation. The analysis of preconditions of the creation of clusters in Ukraine shows, that regions actively apply a set of tools of the organizational support of the clusters forming process. As it was already mentioned, we have a positive experience of creating territorial-sectoral associations on the basis of public organizations, among which we would like to single out the activity of the Association "Podillya First" (Khmelnitsky region), the Regional public organization "First agrarian cluster" (Chernivtsi region), the Coordinating council of the cluster of folk textile trades "Ecological perspective", the cluster of "Suzirya" (Ivano-Frankivsk region), NPO "Association of sustainable development of Sevastopol "Aura" (Sevastopol).

At the same time, in the elaboration of the projects of potential clusters development in the regions there is a groundwork related to the formation of the other objects of the system of institutional support of territorial-sectoral associations formation. For example, in Dnepropetrovsk region the positioning of building and agriculture cluster will be carried out by the competitiveness council with the support of working groups of clusters, and also with the support of regional investment attraction agency<sup>468</sup>. In Donetsk region there are also plans of creating the competitiveness council, however it is foreseen that it will cooperate with the executive committee which will directly work with the cluster nuclear groups<sup>469</sup>.

During the positioning of the cluster approach the use of such institute as the creation of regional development agencies (further referred to as – RDA) has become very popular in the regions. Today there is no unified approach to the determination of optimal organizational structure and the ownership type of RDA. The world practice gives the examples of the successful functioning of regional development agencies both as public organizations and as the state form of ownership or with the use of private capital. The most important thing is that the activity of such organizations should be directed at the creation of favourable conditions for the comprehensive innovative development and the support of the proper level of competitiveness of the subjects of regional cooperation.

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<sup>467</sup> Ibid.

<sup>468</sup> The strategy of economic competitiveness of Dnepropetrovsk region: clusters of construction industry and agriculture // The official website of the Dnepropetrovsk Regional State Administration. – Electronic Resource. – Access mode: <http://adm.dp.ua/OBLADM/Obldp.nsf/%28DOCWEB%29/D02D2C9A551475C9C2257880006B2904?OpenDocument>.

<sup>469</sup> Donbass 2025: Strategy for the future // Official site of "Effective Management" Fund. – Electronic resource. – Access mode: [http://www.feg.org.ua/docs/Donetsk\\_Monitor\\_Doc\\_Final\\_RUS.pdf](http://www.feg.org.ua/docs/Donetsk_Monitor_Doc_Final_RUS.pdf).

For the determination of RDA's essence M. Lendel suggests using two approaches, which are distinguished depending on their roles in different countries. The supporters of the first approach assert that by means of the term "regional development agency" it is possible to generalize all structures, except the authorities and private enterprises, which are involved into the process of certain territories' development (company, locality, region), i. e. this term is used as a unifying one for the terms "special institutes of territories' development", "special institutes of spatial development". The second one, the so-called "classic" approach, perceives the agencies of regional development as the structures, created on the basis of the principles of partnership between private, state and public sectors with the purpose of a comprehensive solution of certain territory's problems<sup>470</sup>.

According to the criterion of the ARDA's founders (Association of Regional Development Agencies), such types of agencies are distinguished:

- agencies created and financed by a national government;
- agencies created in the process of regionalization and decentralization of management as separate subdivisions (agencies) of regional or local bodies of power;
  - formally autonomous organizations, created with participation of and financed by the regional or local bodies of power;
  - agencies created by partnership of local public, social or private institutes (regional organs of power, municipalities, chambers of commerce, associations of employers, private enterprises, banks, public organizations) in the form of associations or joint-stock companies<sup>471</sup>.

S. M. Buhayi and E. V. Schepansky, having analyzed the European experience of organizing RDA, distinguished their two kinds.

a) The first one – the organizations, which are powerful national and regional institutions that concentrate their activity on the implementation of the wide range of tasks, especially at granting administrative services both on national and on regional levels. In these cases RDA are government organizations and can fully or partly be financed from the state budget. Such type of agencies of regional development is characteristic, for example, for Czech Republic, France and Great Britain.

b) The second kind – the organizations that appeared due to local or regional initiative. In most cases they are non-governmental establishments (as "associations", joint-stock companies). Their participants, as a rule, are regional (local) bodies of executive power, business structures, trade unions, chambers of commerce, other non-governmental organizations. Basic attention in their work is paid to the problems of the development of specific territories. Among examples, that correspond to this type of agencies, it is possible to name the corresponding organizations which operate, for

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<sup>470</sup> Lendel M. New institutional arrangements for the regional development in Europe // Electronic resource. – Access mode: [www.univ.uzhgorod.ua/static/ndi/idurr/lendel.doc](http://www.univ.uzhgorod.ua/static/ndi/idurr/lendel.doc).

<sup>471</sup> Sanzharovsky I. The analysis of the feasibility of creating Regional Development Agencies in the Zaporizhzhya region // Electronic resource. – Access mode: [http://www.rgd.org.ua/resources/additional\\_res/Zaporizhzhya\\_RDA\\_study\\_powerpoint\\_presentation\\_2008\\_UKR.pdf](http://www.rgd.org.ua/resources/additional_res/Zaporizhzhya_RDA_study_powerpoint_presentation_2008_UKR.pdf).

example, in Italy or Spain<sup>472</sup>.

The differentiation of approaches to the RDA's definition and setting their primary objectives and strategic tasks in the international practice stipulates the ambiguous interpretation of the necessities of forming such institutes in Ukraine. For example, the activity of Rivne's agency of regional development is directed at the achievement of the following goals: attraction of investments into Rivne region; development of innovative potential; introduction of energy-saving technologies; development of tourism.

The set goals are achieved by providing professional consulting services to private companies and bodies of power as well as the region's communities; by the support of strategic projects in innovative-investment development, by the introduction of energy efficient technologies and tourism; by the increase of the awareness of business and region's communities in the field of innovations, energy saving and tourism<sup>473</sup>.

The goal of the activity of Volyn regional public organization "Agency of regional development "Volyn" is the assistance in the development of market reforms, practical realization of definite projects of restructuring in the region and softening negative social consequences that appear during the adaptation of the region to the market economy. The basic tasks are the realization of the international projects, aimed at social adaptation of the region's population to new socio-economic terms; distribution of the international educational programs in the region; the development of suggestions and plans to assist structural, social and economic reformation in the region, etc<sup>474</sup>.

The strategy of the activity of Chernihiv regional agency of regional development "Vector" is directed at the help to the members of territorial communities to realize their purpose in a modern life and the responsibility for the future by the support and development of public initiatives. Such measures will assist in socio-economic development of the region, upgrading life standards, measured by increased welfare, by the comfort in the society of the vulnerable groups of population, by the environment quality. With this purpose the organization conducts the operation, directed at the increase of the civil activity as well as the self-organization of local communities and at the support of the development of small and medium-size business, attracting investments, and especially at the assistance to general economic development of a particular city or region<sup>475</sup>.

The regional public organization "Regional development agency "Donbas" (operates on the territory of Donetsk and Luhansk regions) was created with the purpose of meeting and defending social, economic and other legal interests of its members and for assistance in the development of

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<sup>472</sup> Buhayi S.M., Schepansky E.V. Formation of the institutional structures of regional development support in Ukraine // University scientific papers of KhUUP. – 2006. – № 1 (17). – P. 287.

<sup>473</sup> Official website of the NGO "Rivne Regional Development Agency" // Electronic resource. – Access mode: <http://rivne-development.org>.

<sup>474</sup> Official Site of the Volyn Regional Public Organization "Regional Development Agency "Volyn" // Electronic resource. – Access mode: <http://ard-volyn.civicua.org/statut.html>.

<sup>475</sup> Official site of Chernihiv Regional Development Agency "Vector" // Electronic resource. – Access mode: <http://www.vektor.cn.ua>.

market reforms, practical realization of definite projects of structural reformation in the region and softening of negative social consequences, which appear during the region's adaptation to the market economy, by means of educational activity.

With the aim of organizing the work of RDA in Ukraine and their transformation into the focal centers of strategic planning and the support of territories' development projects that would provide the effective intersectoral collaboration of the authorities, the business, and the public and would create a new quality economic environment, the Association of regional development agencies was created in 2001. We should note, that if at the beginning of its activity this establishment united 17 RDAs of different regions of Ukraine, today their amount exceeds 43 agencies<sup>476</sup>.

For the coordination of work of RDAs in Ukraine the Institute of civil society in 2011 developed the draft of typical regulations about the regional development agency<sup>477</sup>, in accordance with which it was planned to create only one RDA in every region. Besides this, the following functions and tasks of such establishments are envisaged:

- the development according to their own initiative or by the commission of the Council of ministers of Autonomous Republic of Crimea, regional Kyiv and Sevastopol city state administrations of the projects of the region's development strategy and the plan of their realization;

- the realization of the preselection of projects that meet the priorities of the region's development strategy, and their presentation for the approval to the coordinating council of regional development;

- ensuring the realization of the programs and projects of regional development, in particular those ones that are supported by the National regional development fund;

- the organization of events of regional development, forming of the investment attractiveness of the region, bringing in the investment into the region's economy.

The Ukrainian scientists, having analyzed the techniques and technologies of clusters formation, which are most often used in domestic practice, suggest complementing the existent list of the cluster institutional infrastructure. For example, I.O. Degtyaryova deals with the problem of forming the government-private partnership institute (further referred to as – GPP) as the institutional and organizational alliance between the government and the business with the purpose of economic development and the increase of the organizations' competitiveness, providing regional and national competitiveness. She considers that in practice the role of GPP in the clusterization of economy is expressed in the general development and financing of the corresponding cluster projects (for example, the project of cluster initiative development, creation of infrastructure, organizing of

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<sup>476</sup> Official website of regional public organization "Regional development agency "Donbass" // Electronic resource. – Access mode: <http://www.ard.dn.ua>.

<sup>477</sup> The typical regulation of the Regional Development Agency (Project 20.06.2011) // Official site of the Civil Society Institute. – Electronic resource. – Access mode: <http://www.csi.org.ua/www/?p=2395>.

the priority cluster for the region's economy, etc)<sup>478</sup>.

I.V. Bakushevych, while researching spatial aspects of the self-organization of the regions' innovative activity under the conditions of mesoeconomy's knowledge development, emphasizes the importance of creating scientific parks as the institutional infrastructure of clusters. In the opinion of the researcher, besides the necessity of introducing innovative organizational structures, the modern approaches to forecasting territorial development are impossible without the use of marketing innovative approaches to doing business, which include: integrated marketing, marketing of relations, marketing of knowledge and innovations, branding of places, territories, regions<sup>479</sup>. We will note, that in November 2011 on the basis of I. Puluyi Ternopil National Technical University the scientific park "Innovative-investment cluster of Ternopil region" was opened, the aim of which, in the opinion of the organizers, lies in the development of scientific-technical and innovative activity of Ternopil region's enterprises, in the effective and rational use of present scientific potential, material-technical basis for the commercialization of the results of scientific research and their introduction at national and foreign markets.<sup>480</sup>

The instruments of the cluster institutional infrastructure may also include the innovative centers, created in the regions of Ukraine, business-incubators and centers of technology transfer. Their innovative orientation and striving to collaborate with enterprises, financial institutions, authorities of regions is the first step in establishing the cluster forms of production organization. In the national economy each of the mentioned instruments of institutional infrastructure has been tested, at the same time the most popular is the practice of creating business-incubators at scientific and educational establishments of the region. The program of creating business-incubators in Ukraine was initiated as early as in the September of 1997 by the Institute of world technologies research of Loyola college (the state of Baltimore, USA). Within the framework of realizing pilot projects of business-incubators creation in Kyiv and Kharkiv the work was conducted in such directions:

- consulting businesspeople;
- the development and examination of innovative business plans;
- the comprehensive assistance to the enterprises that operate in the field of technological business, in particular, the study and analysis of their activity, assistance in realizing projects, development of innovative and investment projects, marketing research;
- the realization of intensive business-training of enterprise leaders

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<sup>478</sup> Degtyaryova I.O. Scientific and practical aspects of the cluster approach in the management of Ukraine regions' competitiveness // *Public Administration: Theory and Practice*. – 2011. – № 1. – Electronic resource. – Access mode: <http://www.academy.gov.ua/ej/ej13/txts/Degtyaryova.pdf>.

<sup>479</sup> Bakushevych I.V. Spatial aspects of self-organization of regions innovative activity in terms of knowledge mesoeconomy development // *Innovation Economy: All-Ukrainian scientific-production Journal*. – 2011. – № 7. – P. 3.

<sup>480</sup> In Ternopil there was inaugurated science park "Innovation and investment cluster of Ternopil // The official website of Ternopil regional council. – Electronic resource. – Access mode: <http://www.obl-rada.te.ua/diyalnist/novyny/u-ternopoli-urochysto-vidkryly-naukovyy-park-innovatsiyno-investytsiynyy-klaster-ternopillya.html>.

the professional retraining and retraining their employees, scientists and specialists, related to the following subjects: "Commercialization of scientific and technological developments", "Innovative marketing and management", "Computer technologies in business", "Business psychology" and others;

– the assistance to small business in the obtaining of investments and credits, the expansion of commercial possibilities in Ukraine and abroad, the search of business partners, assistance in creating joint ventures;

– the technological business-incubation (providing housing, office equipment and communication (telephone and the Internet) means for perspective technological companies on the favourable terms)<sup>481</sup>.

The use of such innovative instruments, as business-incubators, was also practically realized in other regions of Ukraine. For example, in Ternopil region there functions the foundation "Business-incubator of Ternopil Region". Within the framework of realizing the project "Increase of enterprise potential of the border region by creating the institutions of enterprise support", which is carried out by the regional fund of enterprises support in Ivano-Frankivsk region in the collaboration with the regional consultative-informative center of Preshov city (Slovakia), three business-incubators operate in Ivano-Frankivsk region – in Rohatyn and Horodenka towns<sup>482</sup>. In July of 2011 in the press-centre of Cherkasy regional state administration the memorandum was signed about the formation of the "Information platform "Cherkasy business-incubator" between the authorities, scientists and the leaders of public associations of businesspeople. The partners agreed to provide the subjects of entrepreneurial activity, the potential participants of Cherkasy business-incubator with high-quality consultative, informative, legal, marketing, educational, and communication services<sup>483</sup>. With the purpose of coordinating the activity of business-incubators in Ukraine the association of business-incubators and innovative centers was created that today involves 58 legal entities and 110 individuals, including 7 foreign members<sup>484</sup>.

The determination of the constituents of organizationally-institutional support of creating clusters in the region must not be limited to the establishment of formal institutions and organizations, the activity of which is directed at the increase of territories' competitiveness level. Regional economy as an open socio-economic system presents a complex network system, in which the competition and cooperation of formal as well as informal relations provide its effective functioning.

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<sup>481</sup> Program of business incubators development in Ukraine // Electronic resource. – Access mode: <http://www.wtec.org/loyola/bid/bidtour-ukr.html>.

<sup>482</sup> Official website of the foundation "Business Incubator of Ternopil region // Electronic resource. – Access mode: <http://tisit.info/bit/misiya>; opened in Rohatyn business incubator // Electronic resource. – Access mode: <http://odtrk.if.ua/2011/11/2/>.

<sup>483</sup> Memorandum of forming information platform "Cherkasky business incubator" // Electronic resource. – Access mode: <http://www.cci.neocm.com/pbi.html>.

<sup>484</sup> Official site of Ukrainian Association of Business Incubators and Innovation Centers // Electronic resource. – Access mode: <http://www.novekolo.info/ua/about/index.html>.

### 3.5. Cluster mechanism of ensuring increased competitiveness of economic systems

The problems of competitiveness have been given much attention by national scientists at various stages of formation and development of the national economy. However, these issues were of particular importance during the transformation period when the economic agent that had a competitive advantage won<sup>485</sup>.

The success of the participation of competing subjects in competitive processes largely depends on macroeconomic conditions created by the government, as well as the ability to open and hold competitive advantages, which are formed and accumulated at the mesolevel (industry, company, firm) and implemented at the microlevel (goods and services). Before the 1990s, virtually the entire spectrum of strategies was limited to obtaining competitive advantages through a combination of market and resource orientation. To ensure stable operation of the economy of the region, first of all, it is necessary to form and combine resources in an optimal way, since it gives competitive advantages in the manufacturing sector.

There is no doubt that modern competitive advantages can be ensured due to advantages in production technology, management, promotion of goods and so on. However, the world experience of the most successful economies functioning shows that high competitiveness and steady economic growth are provided by dynamically changing competitive advantages, especially new and nontraditional ones, which are based on scientific and technical achievements, innovations at all stages of the production cycle – from goods creation to their distribution from producer to consumer. According to the concept of “the competitive advantage of nations” by Michael E. Porter, competitiveness of the country has four determinants of which the “national diamond” is formed: the demand conditions, the conditions of factors of production, the strategy of the firm, companies, enterprises and their structure, the related industries and supporting enterprises (Fig. 3.10). It is the interaction of all these factors that provides an opportunity to ensure the competitiveness of the national economic systems.

According to another global competitiveness rating of 134 countries in the world, published by the World Economic Forum (WEF), despite the financial crisis, the USA retained the first place in the world. The second and third places also remained unchanged – Switzerland and Denmark.

According to AC "Strategy" the general Global Competitiveness Index (GCI) in 2008-2009 in CIS was the following: Russia – 4.31 (51<sup>st</sup> place), Kazakhstan – 4.11 (66<sup>th</sup> place), Azerbaijan – 4.1 (69<sup>th</sup> place), Ukraine – 4.09 (72<sup>nd</sup> place), Belarus – 3.95 (82<sup>nd</sup> place), Georgia – 3.86 (90<sup>th</sup> place), Moldova – 3.75 (95<sup>th</sup> place)<sup>486</sup>. Such low indices of global competitiveness of the former Soviet Union countries emphasize the problem of forming competitive national economy. The research results are of special interest, it is based on of the informal survey that was conducted

<sup>485</sup>Porter M. International competition. – Moscow: International relations, 1993. – 896 p.

<sup>486</sup> Romanchuk Ya. The competitiveness of Belarus is ranked // Electronic resource. – 2010. – Access mode: <http://www.b-info.by/news/1150/index.html>.

among scientists in May 2007 – the participants of programs Courants du Monde (France) and EU and European economic zone (Belgium), which strongly testify that in the process of continuous structural changes the factor of effective institutions and innovation as the basis of competitiveness becomes more and more important<sup>487</sup>.

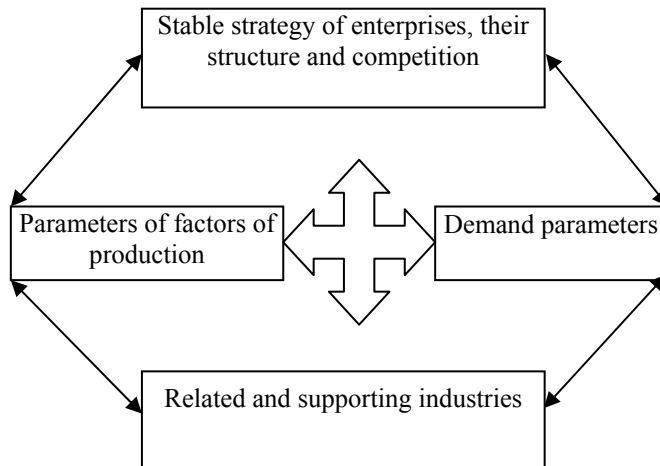


Fig. 3.10 Porter's<sup>488</sup> diamond model of competitive advantage of nations

Therefore, in the present conditions, it is necessary to form new approaches to the economic foundation of concepts and strategies of development. The trends of globalization which are characteristic of the global economic system, strengthening of levels of international competition became the objective conditions for changing the paradigm of competitiveness management that is based on the transition from traditional industrial policy to new innovative one based on clusters.

Companies around the world are increasingly being forced to compete not only and not so much in productivity as in terms of the ability to innovate. The current model of economic system development implies achievement of the applied result using multiple nonlinear interactions of different companies, universities, scientific-research institutions and non-governmental organizations.

However, the national scientific and industrial regional complexes are mainly disparate organizations that are not connected to each other by cooperative and even more integration links. Single common projects of scientific and research organizations and industrial enterprises cannot be considered as an economic development strategy of scientific and industrial complexes. The negative factors that reduce the competitiveness of the national economy include a low level of innovation implementation, obsolete equipment and a difficult economic situation of most industries. Nowadays innovation activities and related research and scientific as well as design developments require immediate government support. The more the government is interested in stimulation of innovation at the enterprises, the

<sup>487</sup> Porter M. International competition / Translated from English – Moscow: International relations, 1993. – 896 p.

<sup>488</sup> Porter M. International competition . – Moscow: International relations, 1993. – 896 p.

more chances it has to reach a new level of economic development of the national economy.

The plan for long-term development of the national economy envisages increasing its competitiveness in both traditional and new high-tech sectors, a breakthrough in improving the quality of human capital and labour productivity dynamics, in advanced development of high-tech industries and the transformation of innovative factors into a primary source of economic growth. Carrying out these tasks requires the establishment of system of closer co-operation between the government, the business, the science and the education via the use of effective tools of innovation development, among which an important role has to be played by the cluster approach. Clusters turned out to be especially useful in stimulating innovation as their structural characteristics and logic of development are well-combined with the characteristics of modern innovation processes.

Regional economic systems in which there are no clusters are not competitive in the world market in the long run. Clusters are more likely to provide the appropriate level of competitiveness in the global marketplace than individual regions. An important distinguishing feature of the cluster is its innovative orientation, since it creates a critical mass of knowledge and generates innovation stream that provides a competitive advantage. Innovations always appear at the intersection of different disciplines and “difference in knowledge stimulates innovation.”

The cluster approach is not a symbiosis of various technological inventions, but a system of dissemination of new knowledge, focused on creating conditions for effective interaction between different economic agents and stimulating new business structures that support innovation – stable and dynamic competitive advantages of a high order.

A specific feature of the cluster approach is informal institutional environment (mutual trust, traditions of cooperation, norms of communication, regional culture), that defines the scale and dynamics of the process of interactive learning and the formation of local production, communication and social networks.

The imperative of formation, evolution and effective functioning of clusters is creation of a “triple helix”<sup>489</sup> of social and economic relations in the region, i.e. providing with a comprehensive systematic and efficient interaction in the triangle “manufacturing sector – intellectual infrastructure (universities, research centers, etc.) – management (governmental agencies and non-governmental organizations that form the strategy for regional development and possess a broad range of specific tools and methods to promote local innovation activity)”. These close communication links between members of the triple helix synthesize creative environment of the region in which new knowledge is generated directly in the production process.

The cluster includes companies that cooperate but also compete with each other. As M. Shersheva states: “As a part of networking, interaction, cooperation and competition are no longer mutually exclusive concepts,

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<sup>489</sup> Etzkowitz H. The Dynamics of Innovation: From National Systems and “Mode 2” to a Triple Helix University Industry Government Relations / H. Elzkovicz, L. Leydesdorff // Research Policy. – 2000. – № 29. – P. 109–123

there are new concepts such as “win-win situation” or the concept of “competitive cooperation”<sup>490</sup>.

The cluster mechanism for improving the competitiveness is based on the effective combination of competition and cooperation, which exist in different planes but are complementary, especially in innovation processes. The interaction with the internal user of the cluster is based on competition with the outside user, as a rule, in co-operation with the use of supply and distribution of a single logistics window. At the global market clusters are present as single agents of network and competition, which enables them to act as equals and resist destructive tendencies of global competition.

The dialectical unity of competition and cooperation of the cluster members extends the traditional limits of economic benefits. In today's high-tech environment it is more advantageous to raise the technological level of the entire business system than seek to win in the competitive struggle.

As a result of interaction between the cluster members the highly competitive main industries are the most favorable for the development of the network of suppliers and customers, including those from other sectors of the modern economy.

Medium-size and small businesses are formed around the major groups and become their suppliers. Diversification of key enterprises of the cluster enables to create new industries, using technology and know-how of their parent companies. In the world practice, there has been a tendency, which is characteristic even for large companies: to focus on key areas, giving to others, including small enterprises, the production of intermediate goods and main and additional services. For this reason the cluster creation has a powerful impact on small businesses, contributing to their industrial-innovative orientation and the achievement of a new qualitative level of technology, organization and management of production in other sectors of economic activity.

In the knowledge-based economy, which is defined by science intensive traditional industries and emerging industries, companies are looking for a competitive advantage in the ideas and talented personnel that requires geographic proximity to skilled colleagues, best suppliers, evaluating consumers, highly qualified human resources, researches and development tools, as well as industry leaders. Special industry knowledge and “know-how” are accumulated and distributed through the entrepreneurial sectors and innovative companies. The cluster approach transfers faster to the companies the information about the benefits in technology and changes in benefits of buyers and consumers. It is not accidental that it reduces the cost of transactions.

Intangible assets are the indirect benefits of the cluster approach as they are not transferred directly into the balance, but potentially they have even greater impact than direct benefits. The benefits of these assets come from a mobile workforce and knowledge sharing among firms through formal and informal discussions with participants, suppliers and customers.

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<sup>490</sup> Clusterization of enterprises: status and prospects / edited by E.V. Semenova // Almanac "Science. Innovation. Education". – 2008. – Issue 7. – 312 p.

According to M. Porter's works about the cluster problems there are three main groups of cluster characteristics as factors increasing the competitiveness of economies<sup>491</sup>:

1. Clusters increase productivity of enterprises in the area where they were created. These changes occur due to the following factors:

- better access to the labor force and suppliers;
- access to specialized information;
- complementarities of products which consequently become more attractive to consumers;
- access to institutions and public goods;
- better motivation for managers who want to gain the respect of local colleagues.

2. Clusters speed up the rate of innovation and determine their direction, so this circumstance provides the foundation for future economic growth. The achievement of this effect is provided by the following:

- better understanding of the market;
- the ability to implement rapid changes and sufficient flexibility;
- lower costs of the experiment;
- pressure from the competitors and other manufacturers of the cluster.

3. Clusters stimulate the creation of new businesses, and this fact helps to increase and strengthen the cluster. These processes occur due to the following factors:

- there are noticeable niches for new businesses;
- there are essential raw materials, component parts and labor force;
- the creation of a new business is a part of a chain of positive feedback.

In addition, the members of the cluster make investments in specialized but related technologies, infrastructure, human resources, and it leads to a massive emergence of new firms. Thus, clusters are the cause of major investments, that is they become more than the sum of its parts.

In the developed countries, clusters are characterized by diversified institutional structure, usually in addition to the company-producers, it includes:

- local providers of specialized services, equipment and accessories;
- local providers of consulting, training and educational programs;
- a large number of non-governmental organizations.

International experience demonstrates the importance of clusters in the development of regional and national economies that is proved by the following factors.

1. Clusters provide positive effects. External effects are connected with the fact that the actions of one firm affect the other firms. In the cluster, benefit extends to all areas of relationships:

- new producers, that are coming from other industries, accelerate the development of the whole cluster, encouraging the growth of scientific research and development;

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<sup>491</sup> Clusters and innovation development of Ukraine / Ukrainian Fund of entrepreneurship support // Electronic resource. – Access mode: [http://gov.ua/ckfinder/userfiles/files/lib\\_bissnes/klasterS.pdf](http://gov.ua/ckfinder/userfiles/files/lib_bissnes/klasterS.pdf).

– there is a free exchange of information and the rapid spread of innovations through the channels of suppliers or customers who have contacts with many competitors due to network cooperation;

– the relationships within the cluster lead to new methods of competition that promotes the creation of innovation.

2. The cluster form of business organization results in creation of a special form of innovation – “the gross innovative product”. The integration into the cluster based on vertical integration creates not a spontaneous concentration of various scientific and technological inventions, but a system of dissemination of new knowledge and technologies. At the same time the most essential condition for the efficient transformation of inventions into innovations and innovations into competitive advantages is to create a network of stable relations between all participants in the cluster. The connections within the international technological cooperation are especially important, as they contribute to the formation of international clusters. Clusters create conditions for the formation of regional innovation systems.

3. For the whole economy of the country or the region clusters act as “points of growth” of the domestic market and development of international market. The presence of the whole cluster of industries accelerates the process of creating the factors of competitive advantages through common investments (within the network of cooperation and public-private partnership) in the development of technology, information, infrastructure and education.

4. The major producers in the cluster create the demand for logistical resources and services. The interaction within the cluster provides the development of outsourcing when small and medium-sized businesses produce goods, works and services for key economic subjects of the cluster, thereby contributing to the development of small and medium-sized businesses in the region, which increases its competitiveness.

5. The competition between producers in the cluster leads to deepening of specialization in the cluster, finding new niches and expanding the cluster, resulting in the formation of new business entities, which increases the profitability of regional production, solves problems of employment and enhances the integration potential of the region.

6. Clusters are one of the forms of providing institutional transborder cooperation in trade, agriculture, tourism, transport, infrastructure, that contributes to the economic development of frontier areas.

7. The development of clusters increases the interaction between industries and thus contributes to multiplication of growth. Internal competitors in the cluster become partners while entering a foreign market by developing common marketing programs and providing export growth. All this contributes to the overall socio-economic development and rise of competitiveness of regions and the national economy.

International experience shows that in the major developed economies, most cluster initiatives that have been enacted in recent years are proposed by local or regional authorities. In the smaller developed countries and in most developing countries, national governments play an important role in cluster initiatives, especially where local and regional authorities cannot be a true partner to the private sector. In the countries, where the centralized decision-making is a norm, the vast majority of

decisions about clusters are made at the national level. A relatively recent phenomenon was the emergence of foreign cluster initiatives supported by supranational governmental organizations, particularly in the European Union<sup>492</sup>.

According to the diversity of approaches and forms of implementation of the cluster policy in Europe, there are following models of its implementation<sup>493</sup>:

1. The creation of competitive advantages in key sectors of the national economy (it is characteristic of unitary countries with developed economies such as France, Finland, Slovenia).

2. The stimulation of regional development based on the formation of innovation networks (it is particularly characteristic of federal countries with developed economies, such as Germany, the Netherlands).

3. The formation of clusters on the basis of the development of market environment, business support infrastructure, building networks of cooperation between business, science and government (it is implemented in the countries of Central and Eastern Europe, including Poland, Hungary).

The main competitive advantages of cluster policies in foreign countries are presented in Table 3.9. These data show that the main advantage of cluster-based policy is the creation of compatible industrial-research centers.

Table 3.9

Advantages of Cluster Policy

<b>Competitive advantage</b>	<b>Country</b>
Making interaction and correlation of cluster structures of the public sector	Austria, Denmark, the Netherlands
Innovative development	Czech Republic, Hungary, Poland
Development of information centers	Denmark, the Netherlands
Creation of compatible industrial-research centers	Belgium, Denmark, Finland, Spain, Sweden, Switzerland, the Netherlands
Formation of development programs of cluster structures	Finland, the Netherlands, Germany, UK
Development of institutional structures in the industry	Finland, Canada

In Ukraine the legislation has been formed that establishes organizational– legal forms of business associations and existing conditions for the formation of new production systems in different economic activity

<sup>492</sup> Enright M. J. Enhancing the competitiveness of SMEs in the global economy: strategies and policies / M. J. Enright, I. Flowes-Williams // Organization for Economic Cooperation and Development : conference for Ministers responsible for SMEs and Industry Ministers, Bologna, Italy, 14–15 June 2000. – 2000. Electronic resource. – Access mode: <http://www.oecd.org/daf/corporate>.

<sup>493</sup> Demchenko V. V. Current tasks of institutional support for implementing the cluster approaches in Ukraine / Economical sciences: collection of scientific papers. Series: Regional Economy. – 2010. – Issue 7 (27). – Part 2. Electronic resource. – Access mode: [http://www.nbuv.gov.ua/portal/soc\\_gum/en\\_re/2010\\_7\\_2/30.pdf](http://www.nbuv.gov.ua/portal/soc_gum/en_re/2010_7_2/30.pdf).

and there is also the experience of cluster creation and development. Despite the growing interest in new production systems and a series of measures aimed at improving the competitiveness of Ukraine and its particular regions, the number of clusters in the country is increasing slowly.

This occurs due to the following factors<sup>494</sup>:

- insufficient normative support of system of measures connected with development of clusters in Ukraine;
- imperfect program-target provision of implementation of the cluster strategies;
- lack of sufficient information to ensure the establishment and functioning of clusters in Ukraine;
- low interest of small and medium-sized businesses to unite in large production systems;
- little experience of the cluster functioning in Ukraine;
- imperfect development of the institutional environment of business support and support for innovation application;
- absence of investors due to lack of investment attractiveness of the regions;
- lack of proper cooperation between government, business and science.

One of the key problems in the implementation of the cluster approach in Ukraine is the low level of trust between the business and the government. The government must involve large and small businesses, research institutions, non-governmental organizations and associations to participate in the process of cluster development strategies and integrate them into the process of its implementation.

The formation of clusters is largely determined by the level of development of market infrastructure, environment, business support and the ability of businesses to self-organization. For the countries with the developed market economy it is characteristic to have a high “density” of business support institutions, regional and innovation development. Specialized institutions of regional development and “intermediaries” are becoming increasingly important for cooperation between government, business and the public.

For the formation of clusters in Ukraine it is important to create the regional specialized institutions that are capable to coordinate effectively and professionally the processes of development. In this context such a tool for regional development as the regional management deserves special attention.

Nowadays only a small percentage of companies in Ukraine are or have passed the stage of informal clustering. Thus, the problem is that by restructuring production it is necessary to ensure coordination of activities of all parts of the technological chain and to attract large financial resources

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<sup>494</sup> Demchenko V. V. Current tasks of institutional support for implementing the cluster approaches in Ukraine // *Economical sciences: collection of scientific papers. Series: Regional Economy.* – 2010. – Issue 7 (27). – Part 2. Electronic resource. – Access mode: [http://www.nbu.gov.ua/portal/soc\\_gum/en\\_re/2010\\_7\\_2/30.pdf](http://www.nbu.gov.ua/portal/soc_gum/en_re/2010_7_2/30.pdf).

The concept of clusters creation in Ukraine / Department of investment and innovation activity // Electronic resource. – Access mode: [www.me.gov.ua](http://www.me.gov.ua).

in order to improve the competitiveness of regions and the country, as well as to attract domestic and foreign investment, to create new businesses and to promote innovation development.

The government authorities understand the importance of introduction of the cluster approaches as a tool for the implementation of strategies of socio-economic development of the country and regions. Thus, the statement about assistance to the formation of clusters is the concept of national regional policy<sup>495</sup>. Within the national target-oriented economic program "The Development of Innovation Infrastructure in Ukraine for 2008-2012", one of the measures to improve the competitiveness of the national economy is the support of measures for the formation of innovation clusters<sup>496</sup>. The institute of Economics and Forecasting of NAS of Ukraine developed the concept of the national program to ensure the competitiveness of the country's economy in the process of European and Euro-Atlantic integration for 2007-2015, which emphasizes the need for intensifying the government's actions on the development of network economy by forming clusters focused on the output of competitive products<sup>497</sup>.

According to the European experience, during the initial stage of cluster formation the government should carry out the solidary part of financing with gradual increase in attraction of financial resources of private enterprises. In addition to preferential financing, it is necessary to provide members of the cluster with tax benefits, exempting them from profit tax at the early stages and significantly reducing the size of social costs.

Local authorities should act as organizers of interested market participants, business circles and the government to create a cluster through the provision of information and organization of dialogue, to establish a platform of interaction between business and research organizations that support and promote specific projects based on innovations which contribute to strengthening the competitiveness of the enterprises of the industry.

The main function of the regional authorities lies in creating conditions for strengthening the competitiveness of enterprises, which, in turn, should initiate the creation of integration formations.

The introduction of such advanced territorial-manufacturing systems as clusters must become an effective instrument for solving problems of economic development of the region, the promotion of exchange of information, innovation activity, the increase in manufacturing efficiency, the improvement of quality and safety of products consumption and thus the increase in the competitiveness of the economic system.

According to a multilevel approach to managing the competitiveness and the role of clusters in improving the competitiveness of economic

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<sup>495</sup> The concept of clusters creation in Ukraine / Department of investment and innovation activity // Electronic resource. – Access mode: [www.me.gov.ua](http://www.me.gov.ua).

<sup>496</sup> The creation of innovation infrastructure for 2008-2012: Concept of national target-oriented economic program: approved by the Cabinet of Ministers of Ukraine from 6.06.2007, № 381-r // Electronic resource. – Access mode: <http://zakon.rada.gov.ua/cgi-bin/laws/main.cgi?nreg=381-2007-%F0>.

<sup>497</sup> Kryuchkova I.V. The concept of "State Program of improving the competitiveness of the national economy for 2007-2015". – Kiev: The State University "Institute of Economics and Forecasting" National Academy of Sciences of Ukraine, 2007. – 51 p.

systems, the task of each level of management should be in provision of the support for the clusterization process in the national economy, which aims at enhancing the level of competitiveness.

The structure of clustering tasks of the economy by management levels are presented in Table 3.10.

So, in order to ensure the competitiveness of the economy, it is necessary to form the cluster mechanism at all levels of the national economy.

Table 3.10.

Clustering tasks of the economy according to by management levels

<b>Macrolevel</b>	<b>Mesolevel</b>		<b>Microlevel</b>
country	region	industry	enterprise
<ul style="list-style-type: none"> <li>– formation of legislation;</li> <li>– formation of national cluster policy;</li> <li>– creation of public institutions that will promote the development of clusters;</li> <li>– provision of government support to enterprises belonging to clusters in the form of subsidies, benefits, loans.</li> </ul>	<ul style="list-style-type: none"> <li>– creation of regional cluster initiatives;</li> <li>– formation of regional cluster strategies;</li> <li>– creation of regional innovation institutions;</li> <li>– provision of cooperation of enterprises that are members of the cluster;</li> <li>– attraction of investments into clusters;</li> <li>– provision of an adequate level of economic education of cluster members.</li> </ul>	<ul style="list-style-type: none"> <li>– formation of strategic programs to ensure competitiveness of the industry;</li> <li>– attraction of investments in priority sectors;</li> <li>– collaboration with scientific-research institutions in developing and promoting innovations;</li> <li>– assistance to the enterprises of the cluster with production distribution.</li> </ul>	<ul style="list-style-type: none"> <li>– formation of a strategic plan of development;</li> <li>– funding of common scientific researches;</li> <li>– organization of common production distribution in the markets;</li> <li>– provision of the dissemination of information to the members of the cluster.</li> </ul>

The most important task here is the definition of national priorities and available competitive factors on which the components of national cluster policy and the necessary legal documents are formed that will regulate the activities of national clusters. At the same time, for effective implementation of cluster policy it is necessary to create the government institutions that will carry out the organizational, financial and legal support to the clusters activity.

Taking into account that the main motivation for efficient activity of all businesses is to obtain a certain level of revenue and profitability, it is necessary to encourage the creation of clusters and to provide economic incentives to create them, such as subsidies, exemptions and credits.

In their turn, at the regional level the authorities should ensure the formation of regional cluster strategies, taking into consideration the peculiarities of the activities of certain regions and their establishment of regional cluster initiatives. It is also important to create the regional innovation institutions and branches of government institutions that are quite necessary, especially at the stage of clustering formation. Using a variety of communication channels and information environment, the

dissemination of information about the activities of strategically important clusters will enable the regions to attract domestic and foreign investment funds, the lack of which may be a threat to the creation and development of clusters.

Determination of priority areas for regional development causes the need to form strategic programs to ensure the competitiveness of industries and to facilitate cooperation with scientific-research institutions in development and promotion of innovation.

At the level of individual economic agents participating in the cluster formation it requires a strategic development plan that would not contradict the interests of participants of the cluster, and would ensure the organization of common distribution channels, information exchange, etc.

The support of the implementation of this mechanism will enable to ensure the competitiveness of individual economic agents and sectors, regions and national economic systems as a whole.

## CONCLUSIONS

The diversification of approaches to the management of development of regions as complicated socio-economic systems requires the use of new methodological techniques. Such techniques should take into account the principles of programming the social and economic development of territories and the character of network interaction between its participants. The experience of applying the cluster techniques as the source of innovative advance and the formation of competitive advantages of regional economies demonstrates that the process of revealing the sources of territorial systems specialization is closely connected with the character of institutional transformations. This process is formed under the action of basic institutes subordinate to the authorities or created with their participation.

The quality of formation of the institutional system is an important factor of market reforms in the transition economies, including Ukraine. The existence of stable and transparent institutions ensures the regular operation of market mechanisms which are significant for providing successful realization of market economic processes. Whereas weak and unclear institutional environment impedes the stable interaction of market regulators, results in the increased bureaucracy and disorder, the growth of production and transaction costs of the business.

The character of institutional transformations is conditioned by the direction of the previous development of the regional economy. The dominance of nonmarket institutes in Ukraine's economy caused the necessity of modernization of the institutional matrix. This matrix must be closer to the model typical for the market system. The institutional transformation in the transition economy becomes a process of emergence, development and consolidation of the rules of economic behavior and market institutions (organizations) which replace old institutes – the rules and organizations typical for the command-and-administrative system. Of course, instantaneous changes of all normative and legal basis are impossible; such changes are carried out by means of removing older legal acts stage-by-stage and by the change of the legal field. The old legal acts are replaced by new ones which correspond to the direction of economic transformations in the country. The government must play a considerable part in the creation of the integrated and interconnected institutional system. Neglecting these demands and intending to free the economy from the government interference led to serious failures of the early liberal transformations and the market reforms. The experience shows that fragmentary market institutes do not always “operate” according to the market laws.

At the same time, in order to ensure the emergence and advance of new efficient social market institutes, the economic power and economic freedom of the independent market participants, their spontaneous market selforganization are not sufficient. Institutional agreements cannot reflect the Pareto-efficient result of a free voluntary interaction as there exist serious social limitations of a free choice of economic agents in Ukraine.

The authorities are a decisive factor in the interaction of the sides. It is exactly the authorities who influence the results of the market operation.

Therefore, the central economic problems are the organization and control of the economy as the result of functioning of the authorities.

Institutional changes of the social economy are the means of solving various organizational tasks on microlevel and macrolevel. They can be achieved by the improvement or formation of certain types of institutes: by regulating the rules of collective actions (laws, legal acts), agreements between the subjects of economic process. These regulations are carried out by the state authorities. In some cases the same economic institutes can be effective, and in other cases they can impede the development of certain system, in particular health care. That depends on not only the general economic situation in the which the system functions in the period of introduction of a “new” institute. First of all, the efficiency of institutional changes depends on the general institutional structure of each system. The experience proves that only the “consensus” type of the newly created institutes can develop efficiently, i.e. when the new legal norm is introduced as a result of democratic coordination and under the careful attention of government, of the state authorities concerning the adherence to this norm.

The choice of the particular direction of institutional changes internal environment. Other factors include the motivation of economic subjects, the level of their knowledge about the available alternatives in the implementation of institutional reforms and the value of positive synergetic effects obtained from their interaction. From the viewpoint of economic synergy, institutional changes are a complex process of information choice in the conditions of indeterminacy which appears under the influence of external and internal fluctuations and brings the institutional system into the point of bifurcation and the existence of several possible trajectories of its further development.

The institutionalization of socio-economic relations, in general understanding, becomes more widespread and stable in studying the behavior of economic subjects as the participants of market interrelations. On the macro– and mesolevels it has more explicit organizational character. Such institutionalization consists in the formation of legislative provision, the emergence and functioning of the regulating organizational structures, the transformation of property forms and management methods — all these aspects are the external regulator of economic activity of enterprises. On the microlevel, institutionalization manifests itself through the intersubject role relations, the change of the character of interconnections between the business subjects which are on the same level of hierarchy, i.e. economic consciousness which is the internal regulator of economic processes of market transformations.

The timeliness and quality of institutional innovations enable to make liberalization and business freedom an organized process, to avoid anarchy, polarization in the ownership, management of economic resources and the appropriation of the results of common labor (with the participation of several sides). Institutionalization is an important precondition of economic consensus which must be observed by the market participants voluntarily (or compulsorily). Therefore, the necessary condition of transformations in all sectors of the economy is to observe the evolutionary institutional demands of market changes. It is exactly institutionalism which can be the basis for the support of competitive foundations of entrepreneurship in all its forms.

The complexity of building regional economies consists in the necessity of forming a set of regulatory tools. Such set of tools would not only ensure the mutual coordination of aims and tasks for programming the socio-economic development of the territories but would also create favorable conditions for their innovative self-realization. Without doubt, the associations of enterprises on the basis of cluster technologies which are widely used both in the developed and in the developing countries are the manifestation of institutional relations.

The investigation of clusters as an institutional category enabled to reconsider in a new way the role of each participant of the territorial-sectoral association in the formation of the aggregate potential of the regional economy as an open socio-economic system. The function of the authorities as one of the cluster participants is considered to be not only the regulator of the economic behavior of the economic entities on certain territory but also as an active participant of the market relations. The formation of various forms of the government-private partnership and cooperation enable to determine the most reasonable tools of indirect support for the region's economy. The investigation of the business sector in case of the participation in the cluster and other forms of business networks is not limited to the search for potential of increasing its profitability level. It is essential to investigate the sources of integration and synergetic relations under the condition of retaining and raising the competitive advantages of each participant. The institutions in the region are no longer regarded as only one of the elements of the market infrastructure, they become a significant component of the innovation potential of the socio-economic system.

Undoubtedly, the application of institutional tools in the process of investigating the cluster forms of production organization makes it possible to reveal the most acceptable institutional models and mechanisms of the regional economic development. The examined theories of institutionalism help to rethink the roles each participant of the network interactions in the formation of the general institutional environment of the cluster. The author of the given monograph repeatedly stresses that the formation of national innovation system is impossible without the use of the tools of regional development tested in the world practice. The techniques of the institutional economics are directed at revealing the adaptain possibilities of such tools.



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