Institutional Environment of the Regional Economy Capitalization: Theoretical and Methodical Aspect

Ambiente Institucional de la Economía Regional Capitalización: Aspecto Teórico y Metódico

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ABSTRACT:
The goal of the research is theoretical and methodological stipulation and development of tools to analyze the regional institutional environment of the capitalization process. The authors formed the theoretical and methodological basis of researching the institutional environment of the territorial development in the context of the capitalization process. The methodological and methodic basis of the research is represented by the institutional approach, tools of the networks theory, system and structural, and comparative and legal methods. When making the research, structural and functional content, system characteristics and aggregated parameters of the institutional environment of capitalizing the regional economy were defined. The three-factor methodology to analyze the regional institutional environment of the capitalization process on the basis of estimating transactional expenses, relations between capitalization subjects and the legal structure of the institutional environment was developed. Results of the research can be used to reveal the spatial peculiarities of the institutional environment and to define top priority

RESUMEN:
El objetivo de la investigación es la estipulación teórica y metodológica y el desarrollo de herramientas para analizar el entorno institucional regional del proceso de capitalización. Los autores constituyeron la base teórica y metodológica para investigar el entorno institucional del desarrollo territorial en el contexto del proceso de capitalización. La base metodológica y metodológica de la investigación está representada por el enfoque institucional, las herramientas de la teoría de las redes, el sistema y los métodos estructurales, comparativos y legales. Al definir la investigación, se definieron los contenidos estructurales y funcionales, las características del sistema y los parámetros agregados del entorno institucional de capitalización de la economía regional. Se desarrolló la metodología de tres factores para analizar el entorno institucional regional del proceso de capitalización sobre la base de la estimación de gastos transaccionales, las relaciones entre sujetos de capitalización y la estructura legal del entorno institucional. Los resultados de la investigación pueden utilizarse para revelar las peculiaridades espaciales del entorno institucional y definir las...
1. Introduction

The modern stage of the regional economy development is characteristic of the tendency on moving to the strategy of capitalizing the potential of regional economic systems and tools to manage it. To a large extent, institutional changes of the regional social and economic system define the vector of its development due to high quality structural transformation of its basic elements: subjects, organizational and legal forms and mechanisms of strategic management of capitalization processes. In this context the need of deep renewal of the institutional environment of the region that provides functioning of economic systems involved in processes of reproducing the regional capital is emphasized.


In spite of the growing interest of researchers in forming the regional institutional environment, many principle issues have been only determined but not solved, including the ones related to forming the conceptual model, structural and functional issues, and system characteristics, tools for estimating and aggregated parameters of the institutional environment of the capitalization of the regional resourceful potential.

2. Methods

The institutional approach based on researching the institutional environment, where processes of cyclic reproduction of capital in the economy of the region take place, is one of the basic methodological approaches to defining the essence of the capitalization process on the regional level. The region capitalization is not only a process of accumulating and turnover of the regional capital in various forms and market estimation of its value, but also the formation of the institutional environment that allows to turn non-operating resources, assets, subjects’ opportunities into the capital within the defined goals of the development. In this case the level of capitalization of the regional economy was a criterion of the current institutes’ efficiency (J.V. Lyshchikova et al., 2015).

The necessity to use the institutional approach to studying the process of capitalization of the regional economic system is stipulated by the fact that it allows to overcome a number of limitations of the methodological individualism on the basis of acknowledging hybrid forms of coordination that are not limited by traditional market and state institutes, accounting the negotiation process and achieving long-term agreements, as well as peculiarities of the territory of placing economic agents and their standard values stipulated by the historical process of their becoming.

The system and structural method that implements the principle of systemacity when analyzing the capitalization process reveals the composition of the system and nature of the existing
levels and relations, includes defining parameters, number and type of the system elements, their grouping in substructures and structures, relations between them, system-forming factors, conditions of the system and functioning, its resources, and interrelations with other systems.

When researching the regional institutional environment of capitalization, it is rather logical to use indicators and analytical tools of the networks theory that allow to estimate the quality of the agents’ interrelations within institutes. Usually using networks, issues of the actors’ conduct at the interface of social and economic phenomena are studied (J.L. Moreno, 1953). Tools for qualitative and quantitative analysis of the networks are provided by the graphs theory that is a basis for principle notions of the networks theory. Since 1990s economists and sociologists are more and more attracted by the perspectives of using the networks theory in researches. As a consequence it caused the occurrence of works that describe tools of the networks theory and applying the graphs theory and matrix algebra when analyzing social and economic interrelations (E. Furubotn and R. Richter, 2000, M. Jackson and A. Wolinsky, 1996, C. Jones, W. S. Hesterly and S. P. Borgatti, 1997, S. Wasserman and K. Faust, 1994).

When studying the legal structure of the institutional environment of capitalization, it is necessary to use the comparative and legal method of jurisprudence or legal comparativistics. The comparative and legal method assumes the comparison of uni-ordinal legal motions, phenomena, processes and revealing similarities and differences between them. It is applied on a selective basis subject to mandatory comparison of objects, wide use of conclusions according to analogues based on similar features of the facts under study. It allows to transfer features from one phenomenon under study to another.

3. Results and Discussion

Secondly, at the present time in the research literature there is rather limited number of researches devoted to regional aspects of institutes functioning. It practically does not define the content of the “regional institutional environment” term. Only several works make up an exception. They apply this term but do not give its full interpretation (M.Kh. Bidzhieva, 2002, A.Yu. Kharlamova, 2010, A. Sh. Shtanchaev, 2005). They structure the institutional environment according to the spatial feature. They define macro-, meso-, micro-, and nano-institutional environment as subsystems (N.V. Vasilenko, 2008). It is stated that the institutional environment represented by the aggregate of groups of institutes can be considered as a system foundation that reflects specificity of conditions related to functioning of regional economic subjects defining the level of transactional expenses of carrying out the economic activity and formed by the region itself (T.V. Pogodaeva, 2006).

Due to the fact that within this research the institutional component of the regional space is defined as a catalyzer of the efficient implementation of the process related to capitalizing the potential of the region, we think that it is the most correct to use the notion of the institutional environment out of the above terms and thereby emphasize the comprehensive nature and cover of all elements of the regional social and economic system.

Thirdly, appreciating the acknowledged specialists in the area of institutional analysis, it is necessary to specify that in their interpretations out of the most often defined functions of institutes (integrating, informing, and regulating) the majority of them emphasize the latter one.

We think that solving the task related to improving the management of the resourceful
potential capitalization for providing stable character of the regional economic system requires defining the integrating function of the institutional environment, i.e. its principle role in structuring interrelations between subjects of the regional economy capitalization and forming specific conditions and factors for its development.

The above stated caused the necessity to clarify the notion of the regional institutional environment in the context of capitalizing the resourceful potential of the region. Within this work we will understand it as a specifically regulated aggregate of institutes, organizations and their interrelations that form the institutional space of the capitalization where based on the system of stimuli and mechanisms of enforcement the functional and informational dissociation of capitalization subjects is overwhelmed in the process of extended reproduction of the regional capital and transformation of its forms.

Table 1: System Characteristics of the Regional Institutional Environment of Capitalization

<table>
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<th>Characteristic</th>
<th>Essence and interpretation</th>
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| Universality (homogeneity) | • It provides the equality of capitalization subjects regardless of the localization of the regional economic system,  
• It depends on many parameters changing in space and time,  
• It is more expressed in countries with the developed market economy, low level of corruption, high level of social trust, and small territory, and  
• It is less characteristic of the countries with the transitional economy, high level of corruption, low level of social trust, expressed spatial differentiation including for Russia (it affects capitalization). |
| Density (intention) | • Qualitative characteristic, whose quantitative estimation is rather complicated,  
• It is defined by the capitalization subjects feeling of the sufficiency of regulating processes of the extended reproduction of the regional capital on all levels. |
| Discreteness (discontinuity) | • Availability of deficiencies that show the lack of integrity of the regional institutional environment of the capitalization process,  
• It is expressed in the fact that many economic relations remain non-formalized, get into the area of deficiencies of the institutional environment where there are no rules, regulations and standards that govern these relations. As a consequence, in case of opportunistic conduct of one of the parties they can be violated easily and without legal consequences, and  
• It affects the processes of accumulation and reproduction of capital in the unsettled transitional economy, causes an increase in the share of the shadow economy and strengthening of the regional lobby in regulating the capitalization processes. |
| Changeability (turbulence) | • Non-stability, unpredictability of institutional conditions for the subjects’ extended reproduction of the regional capital,  
• It causes an increase in risks and transactional expenses for subjects of capitalization, growth of the role of informal institutes in the capital turnover. |
| Dynamism (mobility) | • In case of the management impact on the environment, impulse occurs easily or there is a slowdown when developing a reply signal. |
| Inertia (adherence) | • It occurs in the lack of the reaction to management signals, “merger” of these signals, and slow reaction to them. |
| Adaptability | • Ability to change and adapt to tasks and areas related to developing the system of subject and object relations of capitalization,  
• It often occurs slowly and unsystematically, i.e. institutes change with different speed |
This definition organically generates such system characteristics of regional institutional environment of capitalization as universality, density, discreteness, changeability, dynamism or on the contrary inertia and adaptability (Table 1).

It is necessary to single out the following structural elements of the regional institutional environment of capitalization:

1) Formal institutes of capitalization (legal standards) characterized by system features of universality and strict hierarchy that provide consistency and integrity of the state legislative base,

2) Informal institutes of capitalization (“tacit” laws, regulations and standards) that exist in the form of the current system of moral and ethical, religious, and ideological norms and convictions of individuals formed as a result of a long process of social evolution,

3) Bodies of social force and control represented by the court system, security agencies and social organizations. Herewith, formal institutes and bodies of social control have more impact on the efficiency of processes related to accumulating and reproducing of the regional capital than others, because this is the statutory basis that regulates the ownership relations and terms and conditions of the capitalization subjects’ economic activity, and bodies of social control provide the compliance with and improvement of the current legislation, and

4) Organizations (sub-federal governmental bodies, organizations of economic and social subsystems of the region) that in their turn, performing various types of activity within the regional institutional environment of capitalization, have an impact on its institutes.

It is difficult to estimate the quantitative estimation of the regional environment of the capitalization process. The institutional theory basically uses logical, verbal and qualitative estimations, and quantitative estimations often represent the generalized opinion of experts.

In order to solve this problem based on the essence of the regional institutional environment of capitalization, its system characteristics and composition of structural elements, we offer to use the provisions and tools of basic institutional theories (theories of transactional expenses and networks theory), whose objects of research include transactional expenses and agents (subjects of “actors” of capitalization) and relations between them, respectively. Besides, it is reasonable to focus on the analysis of formal regulations (institutes) of the regional institutional environment of capitalization. Consequently, to our mind, the regional institutional environment of capitalization must be analyzed on the basis of researching three factors:

- Transactional expenses of the regional social and economic system,
- Subjects of capitalization (“actors”) and relations between them, and
- Formal institutes that have an impact on processes related to accumulating and reproducing the regional capital.

The efficiency (quality) of capitalization institutes functioning or state of the regional institutional environment of capitalization is defined by the amount of transactional expenses. In some cases the minimization of transactional expenses is thought to be a criterion of this efficiency. However, it is possible to follow this theoretical conclusion not always because a decrease in some types of transactional expenses (for example, expenses for the information or personnel training) is scarcely ever desirable, and additional expenses (for example, expenses for advertising) can cause additional benefits in the future. Thus, formal criterion of transactional expenses minimization is not always urgent.

That is why it is necessary to approach defining criteria of optimizing transactional expenses on a differentiated basis taking into account the concepts of their optimization on the micro and macro-levels. In the first case transactional expenses are minimized and the structure of general expenses for economic relations is improved at the long-term period of the firm
functioning. It allows to decrease the aggregate expenses for production and selling of products, as well as to increase their competitiveness. When analyzing transactional expenses on the macro-level, it is necessary to take into account their classification into aggregate and average (specific). Herewith, the amount of average transactional expenses (expenses as calculated per one transaction) is characterized by the inverse relation with the efficiency of exchange on the market.

Thus, the interpretation of changing the transactional expenses as applied to the analysis of the regional institutional environment of capitalization assumes that an increase in specific transactional expenses says about a decrease in the efficiency (quality) of the institutional environment. A decrease in specific transactional expenses is an indicator of an increase in the efficiency (quality) of the institutional environment.

It is possible to research the second factor (actors of the capitalization and relations between them) by using provisions of the sociological networks theory. Institutes stipulate the formation of stable relations between economic agents. The aggregate of these relations as well a set of actors who have specific relations with each other formulate the network.

In accordance with the networks theory, the current relations between the actors that define its content, structure of relations, power, and frequency. Mathematically all these characteristics can be analyzed with the aid of indicators and tools of the graphs theory (F. Harari, 2003):

1) The average degree of the network income (incoming relations of the capitalization actors):

$$\overline{d_{\text{in}}} = \frac{\sum_{i=1}^{g} d_{\text{in}}(n_i)}{g},$$

where $\overline{d_{\text{in}}}$ is the average degree of the incoming relations of the network,

$i = 1, \ldots, g$ is the total number of actors of the network, and

$d_{\text{in}}(n_i)$ is the degree of income of every network actor.

2) The average degree of the network outcome (incoming relations of the capitalization actors):

$$\overline{d_{\text{out}}} = \frac{\sum_{i=1}^{g} d_{\text{out}}(n_i)}{g},$$

where: $\overline{d_{\text{out}}}$ is the average degree of the out-coming relations of the network

$d_{\text{out}}(n_i)$ is the degree of every network actor’s outcome.

3) Density of the network:

$$D = \frac{L}{g(g - 1)},$$

where: $D$ is the indicator of the network density,

$L$ is a total number of relations in the network between actors of capitalization.

Subjects (actors) of capitalization themselves are characterized with the aid of the following indicators:

1) Number of incoming relations of the actor ($d_{\text{in}}(n_i)$);

2) Number of out-coming relations of the actor ($d_{\text{out}}(n_i)$);

3) Centricity of the actor (total number of the actor’s relations with other actors in the network):
The above (standardized) indicators of centricity and prestige are taken to make the obtained values independent from the network size. The indicators of centricity and prestige of the capitalization actors are based on two existing approaches to characterizing their activity. According to the first approach, those actors are important that are involved in many relations regardless of whether they play the role of a donator or recipient in them. The notion of the actor’s centricity is based on this principle (A.A. Bavelas, 1948). According to another approach, not all relations are important. Only those relations are important where the actor is a recipient. The notion of prestige (status) is based on this principle because the actor’s prestige grows as he becomes an object of the established relations but not as the number of the relations he initiates increases.

Thus, the enumerated indicators can be applied to the estimation of the quality and density of the institutional capitalization of the regional economy. The change of the network configuration (composition of actors and a set of formal and informal relations between them) and the change of the importance of the capitalization subjects (number of incoming and out-coming networks, indicators of their centricity and prestige) become its criteria.

The third factor of analyzing the institutional environment of the regional economy capitalization is a set of formal institutes of capitalizing the regional social and economic systems. Formal rules of regulating the mechanisms of the capitalization subjects’ interrelation are based on the flexible supporting structure of institutes functioning – legal structure, i.e. a system of statutory acts provided according to the legal procedure.

The goal of the legal structure analysis when researching the institutional environment of capitalization is not only the content of the legal acts system but also quantitative estimations of its change. Due to it, the scientific literature singles out two basic characteristics of the legal structure. The first one is the hierarchical nature of the formal institutes system. Formal rules are related to each other by hierarchical dependences where the change of every level of the hierarchy requires more expenses than the change of the previous level (D. North, 1991). The characteristic of the hierarchy of formal rules means that some of them are more important and larger, and others specify certain sides of the capitalization process regulated by formal rules of a higher level. Consequently, statutory acts of a much higher legislative level are more important for any social and economic system and processes related to accumulating and reproducing the capital in it.

The second important characteristic of the legal structure of the institutional capitalization environment (in addition to the hierarchical nature) is the density. The capitalization subjects’ realization of the sufficient level of regulating the relations on accumulating and reproducing the capital in their area of activity can serve as an indicator of density or institutional intension of the environment. When forming the institutional environment of capitalization or institutional changes that take place, it is often possible to observe the deficit of the required formal institutes. It provokes the spread of informal rules that express local interests of actors.

The correlation of new statutory acts and statutory acts that amend the current ones can be
also a characteristic of the institutional environment. A high share of amendments characterizes the fact of insufficient consideration when adopting the first versions of laws, incompliance with the interests of capitalization subjects. As a consequence, it is necessary to constantly amend them.

Based on the above characteristics of the legal structure of the institutional capitalization environment, it is possible to make the conclusion that hierarchy and density, correlation of new statutory acts and amendments to them say about its efficiency.

Having combined the conclusions obtained earlier, it is possible to form the methodology of the three-factorial analysis that allows to identify and estimate the institutional environment of capitalization of the regional social and economic system (Table 2).

4. Conclusion

As a result of the conducted research, in accordance with the set goal on the basis of using the theory of transactional expenses, tools of the networks theory, system and structural, and comparative and legal methods, the methodology to analyze the regional institutional environment of the capitalization process was developed. Its essence is in the specification and identification of the revealed system characteristics of the institutional environment of capitalizing the resourceful potential of the region on the basis of three factors: transactional expenses, relations between subjects of the capitalization, and legal structure.

The research results can be used to reveal spatial peculiarities of the institutional environment and to define the top priority areas of designing institutional mechanisms to capitalize the resourceful potential of regions and macro-regions of Russia.

<table>
<thead>
<tr>
<th>Areas of analysis (factors)</th>
<th>Analysis goal</th>
<th>Methods of research</th>
<th>Tools (indicators)</th>
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<tbody>
<tr>
<td>Transactional expenses</td>
<td>Specification of the state (efficient / high quality or inefficient / low quality) of the regional institutional environment of capitalization</td>
<td>Measuring and dynamic analysis of specific transactional expenses</td>
<td>1. Absolute values of transactional expenses, 2. Absolute values of specific transactional expenses, 3. Network tempos of growth of specific transactional expenses</td>
</tr>
<tr>
<td>Network interrelations of capitalization subjects</td>
<td>Identification of the state of the regional institutional environment of capitalization according to density, changeability, dynamism indicators</td>
<td>Graphic modeling of the regional social and economic system network, measuring characteristics of the network and actors of capitalization</td>
<td>1. Number of actors in the network, 2. Number of relations between actors in the network, 3. Average level of the network income, 4. Average level of the network outcome, 5. Density of the network, 6. Number of incoming relations for every actor,</td>
</tr>
</tbody>
</table>

Table 2: Methodology of Three-factor Analysis of the Institutional Environment of the Regional Economy
The goal of developing efficient mechanisms of the regional institutional environment of capitalization is to make it comply with the following requirements: creation of equal conditions for all economic subjects of capitalization (universality and density), lack of institutional deficiencies (continuity), formalization of standards and rules of contractual relations and relations of ownership (hierarchy), lack of adherence, quick reaction to management signals (dynamism), adaptivity, i.e. the ability to change, adapt to tasks and areas of the regional economic system development, predictability and logicality of changes.

The selection and use of tools to develop mechanisms of the institutional environment of the region in terms of complying with the imperative related to developing the process of capitalization of the resourceful potential of the regional economic system is extremely important for activating processes of accumulating and reproducing the regional capital.

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