

Development of the Subarctic Territories: Technologies and Socio-Economic Innovations

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Abstract: *At present, the socio-economic development of the subarctic territories is of primary importance, since they ensure security and stability of the national development. It is necessary to solve a complex task related to reforming the activities of public institutions that ensure stable development of the northern regions. To do this, the authors have performed the research aimed at deepening the knowledge of the functioning of formal and informal institutions, studying the characteristics of their interaction and influence on the development of the territories. The purpose of the study is to develop a methodological approach in order to assess the impact of institutional actors on the socio-economic development of the subarctic territories. This approach includes the analysis of the functions of institutions, identification of their incentive and disincentive effects, structuring parameters and indicators for each institution and working out of solutions aimed at the development of the region. The results of the study assessing the impact of institutions on the socio-economic development of the territory can be used by the authorities of the subarctic territories to address priority issues of regional development.*

Keywords : *institutional actors, impact of formal and informal actors, socio-economic development.*

I. INTRODUCTION

The development of the Arctic territories is the object of close attention of all world powers. Russia is no exception. Regulatory documents adopted in recent years note the importance of the Arctic for ensuring the national security. The development of the Arctic and subarctic regions still has a lot of unsolved problems associated with both harsh natural and climatic conditions and lack of labor and financial resources. One of the most acute problems for the development of Russia's northern territories is the quality of life of the population. Demographic indicators show decline in the population of the Arctic, which is associated with fertility and mortality rates, as well as with significant migration flows. The population density of the Arctic and subarctic regions is several times (and in some regions several dozen times) lower than in other regions of the Russian

Federation. At the same time, the population of these territories is one of the factors for Russia's national security. The outflow of the population from the northern territories is largely due to the insufficient development of social and transport infrastructure. This complicated situation urges us to solve a difficult task associated with reforming the activities of public institutions, which will ensure stable development of the northern regions. It is necessary to conduct the research aimed at deepening the knowledge of the functioning of formal and informal institutions, studying the characteristics of their interaction and influence on the development of the territories. The authors believe that the indicators of socio-economic development of territories, including the subarctic ones, are greatly influenced by formal and informal actors. Their effects can be both incentive and disincentive. It is necessary to develop a methodology to track the dynamics of the indicators caused by the impact of institutional actors in the region and reflecting the causes of positive or negative deviations in the development of the territories. This methodology will help us work out solutions that will contribute to the development of the region.

II. LITERATURE REVIEW

An important document determining the development directions of the Arctic and subarctic regions of the Russian Federation for the future is the Program of Socio-Economic Development of the Arctic Zone of the Russian Federation [1], according to which eight reference zones are to be established in the regions of the Russian Federation in order to ensure a comprehensive planning and socio-economic development in the Arctic zone. At the same time, there is still no universally accepted interpretation of the concept of "subarctic territories". Most researchers agree that Russia's Arctic territories are those mentioned in the Decree of the President of the Russian Federation "On Land Territories of the Arctic Zone of the Russian Federation" [2]. The term "subarctic territories" is not enshrined in the legal framework. Subarctic regions by analogy with "subarctic states" can be called regions that are washed by the Arctic seas [3]. The institutional approach allows revealing the impact of formal and informal institutions on the socio-economic development of territories and identifying positive and negative influence. By "institution" we shall mean a set of rules of conduct for individuals. The functions of the institution are aimed at reducing uncertainty by establishing a solid structure of interaction between people [4]. An institution is defined as the rules governing repeated human interactions [5].

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Institutions can be classified into two groups: formal and informal ones, which is predetermined by their essence. Formal institutions are understood as the rules of conduct set forth in regulatory legal acts,

both at the level of laws and at the level of subordinate regulatory legal acts.

Thus, they are codified and formalized by lawmaking. Informal institutions are understood as moral norms and informal rules of interaction between actors in the framework of social relations. These are unwritten rules adopted in the society that are created, transmitted and maintained outside the officially authorized channels [6]. Essential features of informal economic institutions are traced in traditions, customs and a cultural context of socio-economic systems [7]. The study of possible ways of interaction between formal and informal institutions allowed us to conclude that the consistent emergence of informal institutions is either based on the existing formal institution, not meeting the expectations and demands of society, or emergence of an informal rule, which is associated with the absence of a regulatory legal act governing a certain sphere of public relations. At the same time, there is no methodology for assessing the impact of formal and informal institutions on the socio-economic development of the territory.

III. PROPOSED METHODOLOGY

A. General description

In order to develop a methodology for assessing the impact of institutional actors on the socio-economic development of the subarctic territories, it is necessary to analyze the functions of formal institutions and to identify violation of which functions leads to an incentive or a disincentive effect. Next, parameters and indicators for each institutional entity should be identified, with the help of which it is possible to track the disturbance of the incentive function, as well as the strengthening of the disincentive effect. The final step is to develop solutions related to enhancing the positive functions and reducing the impact of the negative ones.

Institutional actors are parts of institutions. The authors believe that institutional actors mean an organized set of actors that influence the objects of regulation. In accordance with the research conducted within the framework of the regional approach, institutional actors shall mean state structures of regional governance, public regional structures, market actors, etc. The ratio of formal and informal actors in the region to a greater extent forms the economic model of the regional management. The socio-economic indicators of the regional development are largely determined by the quality of the impact of institutional actors on objects, since the task of the institutional impact is to ensure the effective behavior of economic agents to achieve their goals through a set of economic, social, political, regulatory and legal rules. In turn, the quality of the impact can be assessed using the functions performed by the institutional actors.

Institutional actors have functions inherent to institutions. The functions can be both incentive, having a positive impact on an object and disincentive, having a negative impact on an object and forcing the object to look for more favorable

niches for doing business.

Formal actors include national government bodies that regulate taxation, issues of property rights registration and regional government bodies that provide state support in individual sectors (agriculture, fisheries, timber industry, etc.) and fields of activity (small and medium businesses, individual entrepreneurs) using various tools (financial support, government procurement). Non-state formal structures are lending institutions that lend to agents and, in turn, affect the development of the consumer and investment markets, self-regulating organizations representing the interests of their members in the framework of relations with regional authorities.

Informal institutional entities (legal entities, informal organizations and groups) are the constituent elements of informal actors. In the process of social interaction, informal entities can create their own rules of conduct in the form of norms, which apply not only to agents, but also to formal as well as informal actors. Informal institutional actors operating in the shadow economy include raiding, “black collection”, etc.

B. Algorithm

To develop a methodology for assessing the impact of institutions on the development of the territory, we have investigated separate formal institutions.

The tax authority as a formal institutional actor has great potential to influence the development of business in the territory, since by means of taxation the state can take protective or restrictive measures in relation to individual areas of activity or regions. The main task of tax regulation is concentration of funds by the state in budgets of different levels to solve the problems of social, economic and innovative development of the country.

The functions of taxation are fiscal, regulatory, social (distributional), control and stimulating ones. The fiscal function is the main one and is intended to form the financial resources of the country by accumulating funds in the budget to solve the tasks and goals of the state. The regulatory function involves the impact on actors. This function can be of a remedial nature by means of accumulating funds for the recovery of the resources used, of an incentive nature to support individual economic processes, of a disincentive nature by means of creating obstacles to individual processes in the form of increasing taxes. The social (distribution) function is aimed at the redistribution of income between certain categories of the population. The control function helps the state control financial and economic activities of actors, as well as sources of income and expenses. Through the stimulating function the state recognizes individual merits of citizens of public importance. Violation of the regulatory function and increase in the disincentive nature leads to the emergence of “shadow schemes” for agents in the form of tax evasion, “shadow” business, fictitious contracts with “shadow” enterprises, “false bankruptcy”, registering business in offshore zones.

Thus, the following parameters and indicators characterizing the functioning of this institutional actor can be distinguished:

- tax (macroeconomic) indicators: the amount of tax revenues to the budget from business entities, the ratio of registered but not functioning enterprises, the number of business-benefiting laws, the number of special-purpose zones with benefits for doing business, the tax discipline indicator, the rate of fulfillment of tax obligations by business entities, the coefficient of tax evasion by business entities, the index of tax burden (The Heritage Foundation);
- tax microeconomic indicators: the coefficient of the use of tax incentives, the coefficient of the efficiency of tax incentives, the tax efficiency coefficient, the profit tax coefficient, the share of the tax burden on the business entity.

Particular attention should be paid to the indicators that characterize violation of functions such as increase in tax rates, tougher penalties for violating tax laws, complicating administration, increase in the amount of unpaid taxes, increase in crimes in the economic (tax) sphere, etc.

A formal institutional actor that carries out public procurement in the Russian Federation in accordance with the country's legislation is an authorized body created in order to centralize ongoing procurements for state and municipal needs and to identify suppliers (performers, contractors) for one or several customers. At the regional level, the authorized body is created on the basis of Russia's constituent entity legislation and may be a state body or a government institution. This entity is based on contractual relations and performs a number of functions:

- regulatory (definition of external and internal parameters);
- integrating (reproduction of adapted structures and interconnections);
- mediatory (conflict resolution).

The imperfection of the integrating function contributes to the development of corruption, which proposes to make certain transactions on the basis of illegitimate patterns.

The parameters and indicators characterizing contractual relations (public procurement) are [8, 9, 10]:

- contract system indicators: the number of contracts concluded with business entities at the expense of budget funds.
- legal indicators: the number of court proceedings related to the violation of public procurement, the index of corruption (The Heritage Foundation).

The indicator characterizing the growth of the disincentive function - an increase in the number of court proceedings in respect to contracts - is of utmost importance.

The need to attract and use additional financial resources is almost a prerequisite for business development. Formal institutional actors represented by state structures (regional ministries, departments, agencies) provide funding for various regional programs aimed at supporting business in the regions. These institutional actors perform the following functions:

- social (provision of guaranteed services);
- complementary (maintaining stable supply in the domestic market);
- incentive (identifying more competitive manufacturers and suppliers).

Violation of the integrating function leads to the emergence of personalized connections, the so-called "friends" in the system of state power. Personalized connections are a part of corruption and are based on the asymmetry of information. It

should be noted that corruption is a fairly stable form of organization of unlawful interaction between producers and consumers of public services.

The parameters and indicators characterizing the effectiveness of state support are:

- financial indicators: the amount of financial resources allocated for business support;
- legal indicators: the number of court proceedings related to the violation of allocating funds to business entities.

An increase in the number of corruption crimes will be a sign of strengthening of the disincentive function in this field.

Private property affects the wish to invest and determines the structure of investment. In a market economy, the capital of individuals and legal entities is based on private property, which characterizes the possibilities of their economic use and obtaining economic benefits.

Private property as an institution performs the following functions:

- productive (the positive effect from individual wealth benefiting society in the form of taxes and budget replenishment);
- incentive (development of entrepreneurship and initiatives);
- educational (education of individuals able to reckon with the interests of society);
- system-forming (aimed at the formation and development of the system of social relations).

In Russia, the imperfection of private property as an institution is caused by the violation of the system-forming function, which leads to the fact that entrepreneurs resort to informal interaction with regulatory bodies, the judicial system and government structures, which, in turn, generates informal actors and leads to non-competitiveness of state structures.

The parameters and indicators characterizing property relations are as follows:

- investment indicators: the amount of investment into fixed assets of enterprises, the index of investment freedom (The Heritage Foundation), the index of property rights (The Heritage Foundation);
- property indicators: the number of appeals to law enforcement agencies in connection with raider seizures of business enterprises, the index of property rights (The Heritage Foundation), the index of business freedom (The Heritage Foundation);
- legal indicators: the index of economic freedom (The Heritage Foundation), the number of court proceedings in relation to the rights of business owners, the average annual number of crimes against property of business entities, the number of (contract) murders of entrepreneurs.

Wage labor as an institution is characterized by contractual relations based on labor law. Individual labor contracts and collective agreements are the two most commonly used options for the sale and purchase of labor. Hired labor has such functions as:

- social (realization of citizens' constitutional rights to work, ensuring safe working conditions, labor protection);
- protective (the ability to protect labor rights by all possible means);

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- production (rational use of labor resources);
- educational (the use of persuasion, coercion, encouragement and incentives);
- development of industrial democracy (the employees' possibility of managing the enterprise through their representatives);
- economic (state interest in the development of labor relations).

In our opinion, at present, many of these functions are just formal and, in some cases, they even practically do not exist, like the function of the development of industrial democracy.

The violation of the economic function, which is manifested in the imperfection of labor, tax and other types of legislation, as well as the number of economic, social and other factors causes the formation of the institution of informal employment. This institution includes self-employed, officially unregistered entrepreneurs, helping family workers (as their activities are not regulated by law), employees working in the informal sector and informal employees working in the formal sector of the economy. For each type employment can be both single and additional.

The parameters and indicators characterizing hired labor are:

- socio-economic indicators: the coefficient of average wages at enterprises in the region in relation to the average wages at Russia's enterprises, the proportion of the working population in the total population, the number of self-employed, the number of unemployed;
- legal indicators: the index of labor freedom (The Heritage Foundation);

Formal institutional actors belonging to the non-state sphere to a great extent influence the business development in the regions. The socio-economic situation of both the economic agents themselves and the region mainly depends on the level of their development, the volume and quality of the provided services. A credit institution as a non-state institutional actor performs such functions as:

- distribution (redistribution of funds);
- replacement (making money for non-cash money circulation);
- stimulation (influencing the money supply);
- control (controlling the use and return of the loan).

Currently, the violation of the distribution function and the growth of its disincentive component leads to the underdevelopment of the investment sphere (decrease in investment activity), which is also associated with high interest rates that do not allow using this source of financing to the full extent. Besides, many enterprises due to objective reasons do not meet the creditworthiness requirements and have problems with obtaining loans in banks, which leads to borrowing from individuals and specialized structures. Quite often, such borrowings are usurious, characterized by high interest rates and quite often by criminal methods of debt collection by "black" collectors whose actions are not legalized.

The parameters and indicators characterizing the efficiency of functioning of credit institutional actors are:

- loan indicators: the amount of credit resources granted to businesses, long-term and short-term loan rates for businesses;
- legal indicators: the number of special programs for lending to businesses on preferential terms, the number of special

business development programs that subsidize the loan interest rate for start-ups;

- bank indicators: the ratio of loans not returned by businesses, the index of financial independence (The Heritage Foundation).

The indicators reflecting the actors' disincentive effect are growth of the loan debt of legal entities and individuals, decrease in the business investment activity, etc.

IV. RESULT ANALYSIS

Summarizing the foregoing, it can be noted that formal and informal actors have an impact on objects through their functions. In the case of high-quality performance of the function, a positive impact on the object's conduct is achieved and it has a positive effect on the development of the region. The violation of certain functions by institutional actors leads to a disincentive effect and negatively affects the socio-economic development indicators.

To develop the assessment methodology for the main institutional actors, the authors identified the functions that have an incentive and disincentive effects on the indicators of the socio-economic development of territories. Furthermore, parameters and indicators to assess this impact have been structured.

The presented methodological approach to assessing the impact of institutional actors on the socio-economic development of the territory can be used in various regions, taking into account the unique features of their development. In order to further research on the methods for the development of subarctic territories, it is advisable to select the parameters and indicators characterizing the influence of the institution on the indicators in the subarctic region, evaluate indicators using various types of economic analysis, assess functioning of the institution and its incentive and disincentive effects on the development of the region and make recommendations for improvement.

V. CONCLUSION

The results of the methodological approach to assessing the impact of institutional actors on the socio-economic development of the territory can be used by the authorities of the subarctic territories to address priority issues, especially of a social nature. It is necessary to pay great attention to the development of entrepreneurship. Low population density of the Arctic territories makes it necessary to support small businesses that are capable of performing important social functions, primarily in settlements with a small number of inhabitants. Industrial development of the Arctic should be based on the principles of sustainable development, requiring the use of environmentally friendly innovative technologies. When expanding production in the mining sector, the interests of the indigenous peoples of the north should be taken into account. This can be implemented through the introduction of a system of compensation payments to the local population, as well as more active involvement of local residents in the process of implementing investment projects (including at the stage of public hearings).

The northern territories rich in natural resources should not only be a platform for mining, but also preserve their unique natural, recreational and cultural value.

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