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RAW MATERIAL-ORIENTED REGIONS: GLOBAL CHALLENGES OF NOWADAYS

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Abstract

The socio-economic situation of raw material-oriented regions is most affected by the price environment on the global raw material market, the needs of the world economy for certain types of mineral resources, the availability of reserves in the subsurface, etc. Raw material-oriented regions strive to overcome dependence by increasing the share of products with high added value in the structure of GRP. In modern conditions of economic development and the technological stage of society's development, overcoming the dependence on raw materials is possible when transitioning to the innovative and technological scenario of the territory's economy modernization, due to a qualitative change in the economic structure. At the same time, the issue of effective socio-economic development of regions in the long term remains relevant. The transition to a new type of territory development should be carried out on the basis of an integrated approach, taking into account a combination of factors aimed at identifying promising assets of the region. The article presents the results of a study aimed at developing recommendations for Russian raw material-oriented regions on the basis of an integrated approach, taking into account current trends in the world practice of developing the regional economy of raw material-oriented territories. The list of recommendations is aimed at improving the institutional environment of the territory and obtaining competitive advantages in the long term.

Keywords: Raw material-oriented regions, economic modernization, institutional environment.

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1. Introduction

The processes taking place in the global economy are increasingly reflected at the regional level. This is facilitated by both the developed information structure and new concepts underlying foreign economic activity. The consequence of these processes is the strengthening of the role of some territories in the global competitiveness of countries. Special attention is paid to the regions with significant mineral resources, because initially, the availability of resources determined the specialization of territories and the nature of their development. The focus on extraction and primary processing of natural resources significantly reduces the effectiveness of socio-economic development of the territory and threatens both the economy of a particular region and the country as a whole. Ensuring sustainable development of raw material-oriented regions in highly competitive conditions requires a comprehensive approach to economic modernization. A comprehensive approach to the modernization of the region's economy with a raw material orientation is considered as a transition of the territory's economy from a branch structure of industry to the formation of a combination of infrastructural and technology-intensive high-tech industries focused on increasing products with high added value. Modernization of the economy of raw material-oriented regions should be carried out taking into account the current challenges of the time and identifying potentially significant assets of the territory.

2. Problem Statement

More than one-third of the Russian regions belong to regions with a raw material orientation. A comprehensive approach to the modernization of the economy of raw material-oriented regions involves achieving economic growth in the medium and long term through qualitative changes in the institutions and structure of the economy.

Among the ways of overcoming the dependence on raw materials Popod'ko and Zimnyakova (2018) highlight the following:

- the measures restricting the export of raw materials to stabilize the exchange rate of the national currency;
- creating the special funds that absorb part of the resource rent and are aimed to economic development;
- improving market institutions and public administration that help avoiding the "rent-based" behavior, reducing corruption and stimulating entrepreneurship;
- modernizing the economy based on innovation with active cooperation of extractive industries with other industries and the production sector of new knowledge and technologies.

The main emphasis in the structural changes in the economy of Russian resource regions is placed on the innovation and investment activity of economic relations subjects. Within the last ten years, as a result of the governmental policy of regional development, there has been an increase in investment and innovation activities and a reduction in interregional socio-economic disparities in the territories. However, for many regions, the share of mineral extraction in the GRP structure continues to occupy a leading

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position. The transition to the innovative and technological way of development of raw material-oriented regions will take quite a long time and requires the active participation of business actors, the scientific community and the government. At the same time, global changes in the world economy and society are setting new trends in the development of the regional economy, including raw material-oriented regions. Focusing on the integrated development of the raw material-oriented regions and the concept of advanced development of the country's economy is impossible without taking into account the current problems and challenges of our time.

3. Research Questions

The study analyzes the approaches of Russian researchers to the typology of raw material-oriented regions and determines, which areas of development of significant assets of the economy modernization of the raw material-oriented territories allow the transition to an innovative and technological way of development, taking into account the challenges of nowadays.

4. Purpose of the Study

Identification of potentially significant assets for strategic planning of the raw material-oriented regions development can contribute to the development of recommendations for accelerated implementation of qualitative changes in the institutions and structure of the economy of the territories.

5. Research Methods

5.1. Typologization of raw material-oriented regions

The territory of the Russian Federation is extended and the regions differ in a significant variety of natural and climatic zones, socio-economic and historical conditions of development. The researchers of the economy (Kotilko & Antonov, 2009), noting the specifics of Russia, point to the presence of regions rich in natural resources of both federal and world significance (raw material-oriented regions, natural resource areas, resource regions), defining them as strategic regions.

In the national economy, regional borders are divided depending on the research object (Mezhevich, 2007). For the regional economy, the most important principle is the separation of the region from the positions of administrative and economic management. The researchers of regional economy consider the region as a territorial and economic complex with homogeneous natural resources, social and industrial infrastructure (Fridman et al., 2008). Naidenov (1995) defines a region as a collection of various industries, which is determined by the industry specifics of the territory and the labor division. In addition, he notes that the region is developing on the basis of the leading specialization of industries, produces products based on the processing of available resources and uses a social infrastructure to achieve the most effective economic development.

For the Russian regions, the availability of significant reserves of raw materials determines their specialization and development. A review of the scientific literature has shown that there are quite a large number of approaches to the typology of regions and the characteristics of region groups with a raw material orientation. The Russian researchers of regional economy development Ilyina (2013), Tolstolesova (2013),

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Barinova et al. (2015) and the others consider the share of mineral extraction in the GRP structure as a main indicator for determining the regions of raw material orientation. The value of the share of the extractive industry in the GRP structure ranges from 15 to 50%. Also, depending on the study objectives and problems of regions, a variety of indicators (inventory levels, the availability of partial and/or full of minerals processing, the basic specializes, the financial and investment potential of the territory, etc.) is analyzed.

The typologies of classification of raw material-oriented regions of the abovementioned authors differ significantly in the methodology and, accordingly, the obtained results. However, all of them are aimed at identifying the problems of Russian regions with a certain level of natural resource reserves and, in particular, they suggest assessing the level of economic development of the region and the standard of living of the population. In these methods special attention is paid not only to the share of mining in GRP, but also to such factors as geographical distance, infrastructure of the territory, climatic conditions, innovation activity etc. (Krol et al., 2019). At the same time, while socio-economic zoning the country the boundaries of the subjects of the Russian Federation from positions of administrative and economic management are not to be broken.

Currently, there is no generally accepted typology of regions. Any typology is subjective, since it is determined by the choice of criteria. There are two main types of typologies of regions: a complex (building a system for assessing the socio-economic situation and/or dynamics of development based on a combination of criteria) and a specialized one (narrowly focused, developed on the basis of one main criterion) (Violin, 2018).

In this connection, the report of the Analytical center by the Government of the Russian Federation is of interest (Analytical center by the Government of the Russian Federation, 2017). It gives the classification both from the point of view of the official geographical division into federal districts, and using the types of regions of synthetic classification, which combines several basic principles: the current historical level of the region's development, taking into account the crisis phenomena; the nature of regional institutions (related to the development type); the nature and remoteness of the market for products of leading enterprises of the region (Golyashev & Grigoryev, 2014). According to this classification, raw material export-oriented regions such as the Komi Republic, Tyumen region, Sakha (Yakutia) and Sakhalin region belong to the group of leading regions. In the group of developed regions there are regions that rely on the extractive industry: Belgorod and Murmansk regions, Bashkortostan, Perm region, Krasnoyarsk region, Kemerovo and Tomsk regions. The group of less developed raw material regions includes Transbaikal region, Amur and Magadan regions, and the Chukotka Autonomous district.

Russia is characterized by a high degree of uneven development of territories. The classification of regions taking into account the level of development of industry, institutions, nature of resources, and other factors allows for a more balanced policy of regional development. It should be noted that regional development is a complex socio-economic process and the territory development level is not a static unit, it changes at each time period, taking into account the current challenges of this period. A comprehensive approach to the development of raw material-oriented regions involves focusing not only on the current problems of the region in the market environment of this system, but also determining the points of socio-economic growth of the territory and in the long term, taking into account the factors and circumstances of the production and technological system, global trends in the resource industry.

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5.2. Actual directions of socio-economic development of the raw material-oriented regions

The problem of effective functioning of raw material-oriented regions is typical not only for Russia, but also for other countries. Analyzing the issues that are usually considered in connection with the study of raw material-oriented territories Litvintseva et al. (2017) identify the following research areas:

- analysis and study of the natural and resource potential of the territory;
- study, analysis and assessment of approaches and solutions allowing the best use of the resource potential of specific sources and objects, both in the medium and longer period;
- research of problems and issues related to the impact of the economy resource sector on other areas of the territory's economy; the main issue is approaching the trajectory of sustainable socio-economic development;
- consideration and development of various approaches ("resource regimes") ensuring the territory's transition to the trajectory of sustainable socio-economic development.

These research areas are important for the sustainable development of Russian raw material-oriented regions. The development of the region can be represented as a complex process of changes in its environmental, economic, social, spatial, political and spiritual spheres, leading to their qualitative transformations and, ultimately, to changes in the stability of human life (Khudeeva, 2011).

The current stage of the world economy development is characterized by a number of global problems and challenges that directly affect the socio-economic development of raw material-oriented territories. Let's consider the directions of economy modernization of the regions with a raw material orientation, taking into account current trends in the regional economy.

The regions with raw material orientation have certain reserves of mineral resources. The problem of non-renewability of certain types of natural resources requires special attention not only in terms of identifying the location of these resources and the degree/stage of development of these resources, but also the formation of mechanisms, tools for adaptation and transition of the territory's economy to new institutional conditions of functioning. This means the need to change the institutions, forms of interaction of economic units and, ultimately, the organizational structure of the resource sector, not only over time, but also taking into account the stage of development of certain natural resources (Litvintseva, 2015). At the initial stage, we are talking about identifying potentially significant raw material assets of the territory that were not previously in demand due to the high cost and / or labor intensity of extraction, lack of processing technologies, etc.

The global challenge nowadays for the socio-economic development of raw material-oriented regions is the problem of environmental safety of enterprises in this industry, which affects the quality of human life. Thus, according to the Analytical center by the Government of the Russian Federation, the most significant amount of greenhouse gas emissions falls on the fuel and energy sector, more than 80%. Emissions are caused by the extraction, primary processing, transportation and use of natural fuel and its products (Analytical center by the Government of the Russian Federation, 2017). To improve the environmental situation, it is necessary to implement an environmental engineering system. Environmental engineering is a combination of targeted actions creating new production facilities to minimize damage in

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the field of environmental protection and use of natural resources (Piskorskaya & Malanina, 2019). The introduction of eco-innovations should be considered as one of the tools for the transition to sustainable socio-economic development of raw material-oriented territories.

Digitalization of the economy expands business opportunities allowing to get additional advantages and contributes to increasing the competitiveness of industries. Digitalization changes the shape and structure of the economy of countries and entire regions (Trachuk & Linder, 2017). The current development of projects in the field of digital economy in the regions of Russia is aimed at such areas and industries as state and municipal management, health, education, etc. Only three regions have announced the implementation of significant projects of the digital economy in industry (Analytical center by the Government of the Russian Federation, 2019).

For businesses, the implementation of digital technologies is associated with a number of problems. First, the development and implementation of technologies is expensive taking into account the specifics of the industry. Secondly, training of qualified staff is required. Third, it is necessary to provide timely information support for projects. Accordingly, the main prerequisite for a successful digitalization policy for the raw material-oriented regions is the coordination of actions in the development and implementation of mechanisms for interaction between government authorities, business, scientific and educational communities.

Informational support is an important aspect of economy modernization for the resource areas. Such support helps to establish socio-economic links with the government and business, which in turn are able to react to market changes, to predict the demand for the projects and technologies, to identify the target audience, to conclude new contracts (Piskorskaya et al., 2016).

An integrated approach for the development of regions of raw material orientation involves identifying and studying factors that affect the socio-economic situation of the region in general and the quality of human life. The transition of the resource areas to sustainable development is possible only with implementing innovative investment solutions in the field of technological and communication development in the region.

6. Findings

In modern conditions of development of economy and society technological structure, socio-economic status of the commodity areas determines not so much the mineral resources availability, as the level of complexity of the regional institutional environment. The world practice has gained experience in overcoming dependence on natural resources of the territories through the development and improvement of technologies for exploration, production, processing or use of brand-new materials.

Russian regions are rich in mineral resources, which are considered as a strategic advantage of the country. The main efforts are aimed at modernizing the economy of raw material-oriented territories by transiting to an innovative and technological development scenario. Accordingly, it is necessary to study successful world experience and, when developing mechanisms and tools for modernization, to take into account the geographical location of raw material-oriented regions, the nature of development of regional institutions and other factors.

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7. Conclusion

For many regions of the country, natural resources are the most important factor of socio-economic development. The share of mineral extraction occupies a significant share in the GRP structure. To increase the competitiveness of raw material-oriented territories and ensure sustainable development, it is necessary to implement high-tech projects aimed at increasing the share of products with high added value.

The economy modernization of the raw material-oriented regions should focus not only on the current needs of the territory, but also take into account current trends in the development of the regional economy and the prospects for long-term development. Among the strategic tasks of socio-economic development of raw material-oriented regions are: identification of potentially significant assets of the territory; introduction of environmental engineering; digitalization of the economies of raw materials territories. At the same time, the implementation of strategic priorities should be accompanied by appropriate communication support not only for government representatives, businesses, but also for the general public. Implementation of these directions allows improving the institutional environment of the territory and obtaining competitive advantages of raw material-oriented regions in the long term.

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