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SUSTAINABLE DEVELOPMENT FACTORS OF THE ECONOMY OF REGIONS IN RUSSIA

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Abstract

The unsatisfactory dynamics of the Russian economy between the crisis periods and a significant decrease in the most important socio-economic indicators during the crises actualizes the search for directions of sustainable development. In the scientific literature and in the program documents of the constituent entities of the Federation, the transition to an innovative strategy is considered as such a direction, and cluster initiatives are considered as the main tool for its implementation. Considerable attention is also paid to improving the investment climate and the formation of network structures of settlements of various levels. At the same time, given the low level of innovation activity in the economy, at present, innovations do not act as a significant factor in the sustainable development of regions, and the formation of clusters is mainly aimed at modernizing traditional sectors of the economy. The transition to an innovative strategy should be considered as a promising direction for sustainable development. Currently, the main direction is the activation of investment activities. The analysis of socio-economic processes in the regions of the Central and North-West Federal Districts (CFD and NWFD) made it possible to single out the following levels of regional economic stability: high, medium, low and promising. Long-term sustainability occurs with a decrease in GRP amid growing investment, as well as a high or medium level of innovative activity.

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Keywords: Clusters, innovation strategy, investments, region, sustainable development.



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1. Introduction

Ensuring sustainable economic development is the most important task of the regional socio-economic policy. Thus, in the Strategy for Economic Security of the Russian Federation until 2030, one of the tasks of state policy is to increase the stability of the economy to the effects of external and internal challenges and threats. Meanwhile, a sharp decline in the most important socio-economic indicators of the Russian Federation during the financial and economic crisis of 2008-2009, as well as the protracted current economic crisis, actualize the problem of analyzing factors of low economic stability and substantiating the directions of the economy's transition to a sustainable development path. At the level of the national economy, such factors include a high level of dependence on the state of commodity markets, excessive openness, a high level of external corporate debt, etc. (Kudrin & Gurvich, 2014; Glazev & Fetisov, 2013).

At the same time, the problem of stability of the regional economy from the adverse effects of external and internal factors is given much less attention. Meanwhile, the sustainability of the national economy is largely determined by the parameters formed at the regional level (Nikolayev & Makhotayeva, 2015). As noted in (Glinskiy, Serga, & Chemezova, 2016), in the face of increasing international competition, the Russian economy can enter the path of sustainable development only if it effectively uses the internal potential of the regions.

The term “sustainability” as the ability of a system to maintain its current state under the influence of external influences is used in various sciences: from mechanics and technology to sociology. Ensuring sustainability is one of the most important principles of regional governance. The sustainability of the socio-economic system is decomposed into an environmental, social and economic component. In the framework of this work, we will focus on the economic component, since it creates material conditions for ensuring other components of sustainability. A systematization of approaches to determining the essence of the category “sustainable development of a socio-economic system” is presented in (Petrina & Savkina, 2017). The first approach links sustainability with stability and security, the ability to constantly update; the second – with the relative immutability of the basic parameters of the socio-economic system over a certain period of time; in the third approach, sustainability is understood as dynamic development. Thus, in socio-economic systems, sustainability must be dynamic, i.e. the economy of the region should return to its development trajectory after the cessation of destabilizing external influences.

2. Problem Statement

Meanwhile, in the current economic crisis, the economies of the regions of Russia demonstrate a different degree of stability. According to the Federal State Statistics Service, for the period between 2014-2016 the decrease in investment in fixed assets as a whole in the Russian Federation amounted to 11.6%. At the same time, in the North-West Federal District, the maximum drop took place in the Pskov Region – 25.3%. At the same time, investments in St. Petersburg grew by 14.7%. In the Central Federal District, in particular, in the Ivanovo Region, the indicator decreased by 44.6%, and in the Kursk Region it grew by 8.4%. A significant difference between the regions is also observed in other important socio-economic indicators: gross regional product, real incomes of the population, etc. Thus, we can state a

different level of stability of the regional economy to the destabilizing effect of internal and external factors, which actualizes the problem of systematizing them with point of view of influence on the level of regional stability.

3. Research Questions

In the framework of this article, the main research issue is the analysis and systematization of factors that determine the stability of the region's economy, presented in the scientific literature and program documents of the constituent entities of the Russian Federation. With the help of statistical data using the method of correlation analysis, hypotheses on the influence of factors on the stability of the economy of the region are tested.

4. Purpose of the Study

The main objective of the study is to identify and assess the significance of factors affecting the stability of the regional economy.

5. Research Methods

In the framework of this study, we focused on the analysis of economic factors of sustainable development, which refers to the stable dynamics of the main economic indicators: gross regional product (GRP), investment in fixed assets and the level of innovative activity. In this regard, the following indicators are used to assess the sustainability level of the regional economies: the index of the physical volume of the gross regional product, the index of the physical volume of investments in fixed assets, the share of innovative products in the total volume of products shipped. To determine the factors of sustainable development of the regional economy, we performed an analysis of scientific articles of Russian and foreign scientists on this issue. In addition, an analysis and systematization of federal regulatory documents in the field of economic security, as well as strategies for the socio-economic development of the constituent entities of the Federation, was carried out. The identified factors were systematized and identified tools to ensure their effective use. Based on the analysis of official statistics, a study was made of the dynamics of factors and indicators of sustainable development for the period 2014-2016. This period corresponds to the acute phase of the current crisis, and the dynamics of indicators adequately characterizes the level of stability of the regional economy. Qualitative analysis allowed us to formulate a hypothesis about the influence of various factors on stability. Correlation analysis provided a quantitative assessment of the influence of factors on the stability of the regional system. The methods of comparative and retrospective analysis, synthesis, statistical analysis and typologization were also used in the work. The regions of the Central and North-Western Federal Districts (CFD and NWFD) were considered as the object of research.

6. Findings

The modern economy is based on knowledge, and ensuring the sustainability of the region's economy is largely determined by the development of high-tech sectors with a high level of innovative activity (Bogolib, 2016). Among them, the leading role is played by the manufacturing industry. In this regard, the balanced development of the triad "industry – science – education", which can be ensured as part of the implementation of an innovative strategy (Bodrunov, 2018), is considered as a factor in the stability of the region's economy. In the context of the formation of a digital economy, an innovative regional development strategy acts not only as a factor in sustainable development, but also as a necessary condition for ensuring economic security and competitiveness of a territory (Golova & Sukhovey, 2018). At the same time, the development of science, high-tech manufacturing and higher education is used as tools for implementing the innovation strategy. The low technological level of the Russian manufacturing industry (Tsaregorodtsev, Postaljuk, & Postaljuk, 2017) also actualizes the task of innovative development as a factor in the sustainability of the regional economy.

In (Varraso & Cesari, 2016), the stability of a region's economy is studied in the context of financial sustainability, and the effective interaction of the financial and real sectors of the region's economy is considered as a stability factor. Moreover, most of the regions of the Russian Federation have serious problems in the financial sector. Shifting social obligations of the state to regional budgets that took place after 2012, without adequate financial support from the federal budget, led to an increase in the market debt of the regions. As a result, the regions entered the crisis of 2014 with a large budget deficit and public debt, which led to a significant reduction in spending on economic development and improving the welfare of the population (Povarova, 2015). Thus, the regional finance crisis had a negative impact both on the budget sector of the region and on the stability of the regional system as a whole.

Along with factors in the scientific literature, much attention is paid to tools to ensure the sustainability of the regional economy. In the context of global competition, clusters act as an effective tool for sustainable development (Akif, Vladyka, & Rashina, 2019). In recent decades, cluster initiatives have been widely used in economic policy both in Russia and in other countries. Within the framework of the cluster, through the deeper processing of raw materials, the production of products with higher added value is organized, and innovation activity is also activated. The synergistic effect of the interaction of the cluster members ensures the high competitiveness of the jointly produced product in both the domestic and foreign markets. The creation of territorial clusters is currently a widespread method for ensuring stable regional development in Russia. The necessary conditions for their creation exist in almost all regions (Glinskiy, Serga, & Chemezova, 2016).

The problem of using clusters as a tool for sustainable development lies in the fact that far from all the clusters declared in regional planning documents actually function and provide an increase in the performance of participants. At the same time, the state spends a rather large amount of financial resources on their support. In this regard, evaluating the effectiveness of clusters should be based both on an analysis of the dynamics of indicators of enterprises participating in the cluster and on assessing their contribution to the development of the economy and improving the quality of life in the region (Abrashkin, Pogodina, & Aleksahina, 2018).

Along with clusters, other types of network structures are also among the tools for sustainable development (Mingaleva, Sheresheva, & Oborin, 2017). A significant problem in ensuring the sustainability of the regional system is the low efficiency of using the potential of small towns and rural territories. In this regard, the development of network interaction of settlements of all levels should also be attributed to the number of tools to improve economic dynamics.

As a priority tool for ensuring the sustainable development of the region, it is necessary to consider increasing its investment attractiveness, which, in turn, is largely determined by the level of infrastructure development and the innovative activity of the region's enterprises (Zinovyeva, Avdeeva, & Usova, 2017). Along with investment attractiveness, the creation of a favorable business climate should be considered as a factor in social stability and sustainable economic growth of territories. For this, it is necessary to reduce social, economic, and administrative barriers and create favorable conditions for the development of small businesses (Morkovina, 2016).

Based on the analysis, the following factors for the sustainable development of the regions can be distinguished: increasing the role of high-tech sectors, effective cooperation of the triad "industry – science – education", innovative development of manufacturing industries, effective interaction of financial and real sectors of the economy. Thus, in the scientific literature, ensuring sustainable development of the regional economy is determined by the transition to a strategy of innovative development. Moreover, clusters act primarily as an effective tool for sustainable development. In addition, the development of infrastructure, including innovation, the creation of network structures of settlements of various levels, and the creation of a favorable investment and business climate, are among the instruments.

In the program documents of the constituent entities of the Federation, sustainable development is also associated with the transition to an innovative model of the economy. Thus, the Strategy for Economic and Social Development of St. Petersburg for the period until 2030 proclaims the need to create a full-fledged infrastructure to support innovation by developing existing and creating new technology transfer centers, business incubators, engineering centers, technology parks, industrial parks that have both and universal specialization. The Strategy of the Leningrad Region as a condition for sustainable development considers the long-term policy of innovative development of the region. In the Strategy of the Novgorod Region, science and innovation policy is considered as part of the mechanism for implementing the Strategy. A similar situation exists in other regions.

At the next stage, we will analyze the impact of the identified factors on the stability of the regional economies. Stability in the first stage was assessed by the dynamics of the GRP indicator. The results of the analysis of the stability of the economy of the regions of the CFD and the NWFD in the conditions of the economic crisis of 2014-2016 are presented in Table 01, where they are grouped by GRP and innovation activity indicators. In general, we can state that, based on the dynamics of the GRP, the economy of most of the 28 regions analyzed showed the necessary level of stability in a crisis. In twelve regions over the three years of the crisis, the economy grew by more than 5%, i.e. they have a fairly high level of stability. The average level of stability was shown by 8 regions, and 8 regions had a low level. Thus, from the point of view of GRP dynamics, most of the regions of the CFD and the NWFD have a fairly stable economy.

As shown by the analysis of scientific literature and planning documents of the constituent entities of the Federation, the implementation of an innovative strategy is considered as the main factor in the sustainability of the regional economy. The effectiveness of this strategy can be estimated by the Table 01 to the grouping of the regions of the CFD and the NWFED according to the indicators “GRP physical volume index” and “volume of innovative goods, work, services as a percentage of the total volume of goods shipped, work performed, services” for the period 2014-2016. All analyzed regions have rather low rates of innovation. The Vologda region has a maximum value of the indicator “volume of innovative goods” – 14.8%, in a number of regions this indicator is less than 1%. Moreover, most regions declare the need for economic development according to the innovative scenario in program documents. In general, we can state that regions with relatively high indicators of innovation activity have a fairly stable economy.

Qualitative analysis of the data presented in Table 01 does not allow to reveal the presence of a significant relationship between indicators of innovation activity and GRP dynamics. Quantitative analysis confirms this hypothesis. The correlation coefficient between the indicators is 0.36, i.e. dependence is positive and weak. However, we can talk about a slight increase in the impact of the level of innovative activity on the stability of the regional economies.

In the scientific literature, as well as in program documents, as priority instruments for implementing an innovative strategy and ensuring sustainable development, priority is given to clusters. So, in the strategy of the Leningrad region, it is noted that 11 cluster initiatives are being implemented in the region. Among the priority areas are mechanical engineering, automotive, shipbuilding, chemical and petrochemical production, timber processing and pulp and paper production, agriculture, etc. Much attention is also paid to cluster development in the Kaluga region. At the same time, these regions have a low value of the indicator of innovation activity. Currently, cluster initiatives in the regions to some extent serve as tools for the modernization of traditional sectors, which positively affects the sustainability of the economy. Moreover, in conditions of low innovative activity of the Russian economy, they cannot become an effective tool for implementing an innovative strategy.

Table 01. Grouping of regions according to the degree of economic stability

		The volume of innovative goods, works, services, %		
		High >10	Average 5-10	Low <5
GRP physical volume index, %	High >105	Bryansk region Lipetsk region Moscow region Tula region	Belgorod region Voronezh region Kursk region Tambov region	Arkhangel'sk region Kaliningrad region Leningrad region Novgorod region
	Average 100-105	Yaroslavl' region Vologda region The City of Moscow	St.Petersburg	Kaluga region Orel region Republic of Karelia Murmansk region
	Low <100		Vladimir region Ryazan' region Smolensk region	Ivanovo region Kostroma region Tver region Komi Republic Pskov region

Thus, the transition to an innovative development strategy should be considered as a promising direction for the sustainable development of regional economies. Moreover, improvement of investment attractiveness should be highlighted as an urgent problem. During the crisis of 2014-2016, regions showed different dynamics of investments. As noted above, in St. Petersburg, investments increased by almost 15%, and in the Ivanovo region fell by almost 45%. Moreover, in all models of economic growth, the dynamics of investments is the main factor determining the dynamics of GRP. In addition, investments are closely linked to innovation. Thus, the level of investment activity should be considered as a long-term factor in the sustainable development of regional economies. To assess the impact of the factor of investment activity on sustainability, we will group the regions according to GRP indices and investments in fixed assets (see Table 02).

Table 02. Grouping of regions by GRP indices and investments in fixed assets for 2014-2016

GRP physical volume index, %	Fixed Capital Investment Index, %				
	>100	90-100	80-90	70-80	<70
>110	Kursk region Tula region				
105-110	Voronezh region Lipetsk region Novgorod region	Belgorod region Bryansk region Kaliningrad region	Moscow region Tambov region Arkhangelsk region Leningrad region		
100-105	Vologda region St. Petersburg Moscow	Murmansk region	Orel region Republic of Karelia	Yaroslavl' region	Kaluga region
95-100		Kostroma region Tver region	Vladimir region Smolensk region	Pskov region	Ryazan' region
<95			Komi Republic		Ivanovo region

A qualitative analysis of the data presented in Table 02 allows us to conclude that the level of investment activity significantly affects the GRP dynamics and, accordingly, the stability of the region's economy. Quantitative analysis confirms this conclusion. The correlation coefficient between the indicators is 0.62.

Based on the analysis, we can identify the following levels of regional stability. The regions with high GRP and investment dynamics, as well as a high and medium level of innovation activity have a high level of sustainability. This group includes the following regions: Kursk, Tula, Voronezh, Lipetsk and Vologda regions, as well as St. Petersburg and Moscow. In the group with an average level of sustainability, we included regions with positive GRP dynamics and a slight drop in investment: Novgorod, Belgorod, Bryansk, Kaliningrad and Murmansk regions. The remaining regions during the crisis showed both a decrease in GRP and a significant reduction in investment activity. Based on this, we

attributed them to the group with a low level of stability. You can also select a group with promising sustainability. It should include regions in which during the crisis the GRP decreased. At the same time, investments should have positive dynamics, and innovations should be high and medium level. However, in the Central Federal District and NWFD there are no regions with such indicators.

7. Conclusion

The analysis showed that in the scientific literature, as well as in the program documents of the constituent entities of the Federation, sustainable development is associated with the transition to an innovative model of economic development. As a tool for ensuring sustainable development, it is recommended that, first of all, cluster initiatives be implemented. In addition, the tools include the creation of network structures of settlements of various levels, the creation of a favorable investment climate. At the same time, the analysis of socio-economic processes in the regions of the CFD and the NWFD during the crisis of 2014-2016 showed a low level of innovation activity in the regions and its weak effect on the stability of the economy. Thus, an innovative strategy should be seen as a promising direction for sustainable development. Actual direction is to increase the level of investment activity.

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