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FACTS, TRENDS, FORECAST

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ECONOMIC AND SOCIAL CHANGES: FACTS, TRENDS, FORECAST

A peer-reviewed scientific journal that covers issues of analysis and forecast of changes in the economy and social spheres in various countries, regions, and local territories.

The main purpose of the Journal is to provide the scientific community and practitioners with an opportunity to publish socio-economic research findings, review different viewpoints on the topical issues of economic and social development, and participate in the discussion of these issues. The remit of the Journal comprises development strategies of the territories, regional and sectoral economy, social development, budget revenues, streamlining expenditures, innovative economy, and economic theory.

Federal State Budgetary Institution of Science Vologda Research Center of the Russian Academy of Sciences (VolRC RAS), which existed as Vologda Scientific Coordinating Center of Central Economic and Mathematical Institute of RAS until March 2009, is situated on the territory of the Vologda Oblast. V.A. Ilyin, Doctor of Economics, Professor, Honored Scientist of Russia, is the permanent director of the Institute. A lot of great scientists have played an important role in the formation and the development of ISEDT RAS as a scientific institution such as: academicians D.S. Lvov, V.L. Makarov, V.I. Mayevsky, A.D. Nekipelov, Y.S. Osipov. Everything that has been done before and is being done nowadays by the personnel of the Institute, it would be impossible without the constant support of the Vologda Oblast's Government and city leaders.

The formation of the scientific personnel with an active life position, a great demand for Institute's investigation, academic community's support of the new journal published by ISEDT RAS, which combined efforts of the economic institutes of RAS in the Northwestern Federal District, and furthermore development of international ties have become the main outcomes of the last years.

MAIN RESEARCH DIRECTIONS

Due to the Resolution № 96 by the Presidium of Russian Academy of Sciences dated from March 31, 2009 VolRC RAS carries out investigations in the following fields:

- problems of economic growth, scientific basis of regional policy, sustainable development of territories and municipalities, and transformations of socio-economic space;
- regional integration into global economic and political processes, problems of economic security and competitiveness of territorial socio-economic systems;
- territorial characteristics of living standards and lifestyle, behavioral strategies and world view of different groups of the Russian society;
- development of regional socio-economic systems, implementation of new forms and methods concerning territorial organization of society and economy, development of territories' recreational area;
- socio-economic problems regarding scientific and innovative transformation activities of territories;
- elaboration of society's informatization problems, development of intellectual technologies in information territorial systems, science and education.

INTERNATIONAL TIES AND PROJECTS

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2007 – Cooperation agreement is signed with Institute of Sociology, of the National Academy of Sciences of Belarus , Center for Sociological and Marketing Investigations at the "International Institute of Humanities and Economics" (Belarus, 2008).

2008 – Protocol of intentions is signed with Alexander's Institute at the Helsinki University (Finland, 2008).

2009 – Cooperation agreement is signed with Center for System Analysis of Strategic Investigations of NAS (Belarus, 2009).

2010 – Cooperation agreement is signed with Institute of Economics of the National Academy of Sciences of Belarus (Minsk, 2010).

2011 – Cooperation agreements are signed with National Institute of Oriental Languages and Civilizations (Paris, 2011), Institute of Business Economy at Eszterhazy Karoly College (Hungary, 2011), Republican research and production unitary enterprise "Energy Institute of NAS" (Belarus, 2011). Protocol of intentions are signed with Jiangxi Academy of Social Sciences (China, 2011), Research and Development Center for Evaluation and Socio-Economic Development and the Science Foundation of Abruzzo region (Italy, 2011).

2012 – Cooperation agreement is signed with Center for Social Research at the Dortmund Technical University (Germany, 2012).

2013 – Cooperation agreement is signed with Jiangxi Academy of Social Sciences (China, 2013).

July 2013 – The application for research performance by international consortium involving ISEDT RAS within the 7th Framework Programme of European Community.

2014 – Cooperation agreement is signed with Jiangxi Academy of Social Sciences (China, 2014).

NEW PUBLICATIONS OF VolRC RAS

Ilyin V.A., Povarova A.I. *Public Administration Efficiency. 2000–2015. Contradictory Outcomes – an Expected Result: Monograph*.

While Analyzing the Past, to Think about the Future. Under the scientific supervision of Doctor of Economics, Professor V.A. Ilyin.

Ilyin V.A. *Public Administration Efficiency: Chief Editor's Point of View.*

Strategy and Tactics of Implementation of Socio-Economic Reforms: Regional Aspect: Proceedings of the Seventh Research-to-Practice Conference, Vologda, Russia, December 17–19, 2015.

Shabunova A.A., Guzhavina T.A., Dement'eva I.N., Kozhina T.P., Lastovkina D.A., Afanas'ev D.A. *Regional Civil Society: Development Dynamics: Monograph*.

Global Challenges and Regional Development in the Mirror of Sociological Measurement: Proceedings of the Online Research-to-Practice Conference. Vologda, March 14–18, 2016.

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FROM THE CHIEF EDITOR

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The President's Unfinished Work

Public Administration System Is Not Ready to Function Without Manual Control

Vladimir Aleksandrovich ILYIN
Vologda Research Center of the Russian Academy of Sciences
Vologda, Russian Federation, 56A, Gorky Street, 160014
E-mail: ilin@vscc.ac.ru

The year 2017 marks the 100th anniversary of the Russian Revolution and a "final lap" before the 2018 presidential election. Both events bring to the fore the agenda of public administration efficiency and the quality of the ruling elites – these are fundamental, system-wide issues that affect the standard of living of every Russian citizen, smooth operation of Russia's socio-economic system, and Russia's national security on a global scale.

Many experts think that the events of the October Revolution of 1917 should be considered from an objective historical standpoint and they try to avoid direct analogies with present time. "We need to look at those events from all sides, to rise above the struggle of their participants; we must look back upon the winners and victims fairly and impartially"[1]. However, without the vision of historical parallels it is impossible to learn the lessons of the past and, consequently, prevent hasty steps in the future, which, as Russian historical experience proves, can have disastrous consequences. "Any historical research allows us to make forecasts about the future; although, as a rule, it teaches us nothing. People make mistakes all the same..."[2]

[1] Naryshkin S.E. *Speech at the 1st meeting of the Organizational Committee on preparation and holding of events dedicated to the 100th anniversary of the 1917 revolution in Russia* (January 23, 2017). Available at: http://rushistory.org/proekty/100-letie-revolyutsii-1917-goda/pervoe-zasedanie-organizatsionnogo-komiteta-po-podgotovke-i-provedeniyu-meropriyatij-posvyashchennykh-100-letiyu-revolyutsii-1917-goda.html

[2] Narochnitskaya N. (President of the Foundation for Historical Outlook). *A speech at the 1st meeting of the Organizational Committee on preparation and holding of events dedicated to the 100th anniversary of the 1917 revolution in Russia* (23.01.2017). Available at: http://rushistory.org/proekty/100-letie-revolyutsii-1917-goda/pervoe-zasedanie-organizatsionnogo-komiteta-po-podgotovke-i-provedeniyu-meropriyatij-posvyashchennykh-100-letiyu-revolyutsii-1917-goda.html

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M. Rostovskii: "Neither at the beginning nor at the end of the 20th century was there any force in Russia that would be interested in the preservation and development of the state. This force emerged and was victorious when the country was getting out of an acute political crisis. But on the point of entry into the crisis it was nonexistent. In 1917, as well as in 1991, private interests: group, individual, parochial, etc., dominated The problem of Russia – in February 1917 and in other moments of its history – consisted in a lack of the mechanism that would bring together the will of different groups in a single national interest, the national will"[3].

From this point of view, it should be noted that Nicholas II, according to some historians, did not possess those necessary qualities that would allow him to "formulate" an adequate response to internal challenges that Russia was facing due to objective historical reasons; nor could he deal with external challenges that England and the United States, the leading world powers of that time, had in store for Russia. His inability to govern the country in manual mode by keeping questions of foreign policy under his personal control and nipping in the bud the earliest symptoms of the coming Revolution became one of the main factors that triggered the events of 1917.

A. Samsonov: "Nicholas II did not have the iron will of his father Alexander III and great-grandfather Nicholas I to counter a sophisticated and insidious enemy (the "civilized West"), as well as the abilities and ruthlessness of Peter the Great to implement radical transformations in Russia so as to ensure that it survived in a world war, won it and emerged as a new Russia. And without radical transformation the old Russia of the Romanov dynasty could not survive. Contradictions lying at its foundation were too profound. During the three centuries of its existence, the margin of safety of the "White Empire" was exhausted"[4].

The situation was the same in 1991, the year when the Soviet Union collapsed. And here again we see the presence of Western interests and the failure of the top state official (Mikhail Gorbachev) to demonstrate his political will and make tough political decisions to preserve national sovereignty.

Zh.T. Toshchenko: "Gorbachev turned out to be at the peak of a historic challenge of the time, but failed to prove himself as the creator, the maker who offered the society new ideas and a new vision of the future. He did not possess strategic thinking, did not understand the essence of the situation and trends of development of the processes; he was unprincipled, indecisive, constantly late in making decisions"[5].

But there were people with quite different (one might even say opposite) personal traits and, accordingly, style of governance, the people who in times of crisis found the strength to take responsibility for solving key national security issues in foreign policy and internal socio-economic life. Thus, in spite of being criticized for their political methods, Ivan the Terrible and Joseph Stalin, each in his own time, managed to prevent the country from collapsing and to defeat external enemies.

Thus, the style of governance, in which there is always a specific person at the helm, is one of the key factors determining the course of Russian history. And the events of the 20th century

[3] Rostovskii M. Putin and the phantom of revolution: why the events of the year 1917 can be repeated in Russia. *Moskovsky Komsomolets,* 2017, March 2. Available at: http://www.mk.ru/politics/2017/03/02/putin-i-prizrak-revolyucii-pochemu-v-rossii-mozhet-povtoritsya-1917-god.html

[4] Samsonov A. *The policy of Nicholas II created the revolution of 1917.* Available at: http://krasvremya.ru/politika-nikolaya-ii-sotvorila-revolyuciyu-1917-goda/

[5] Toshchenko Zh.T. *Fantomy rossiiskogo obshchestva* [Phantoms of the Russian society]. Moscow: Tsentr sotsial'nogo prognozirovaniya i marketinga, 2015.

indicate that at its turning points the country faces a need for manual mode of public administration that requires the national leader to possess the qualities required of an individual that is capable of taking personal responsibility for key decisions in domestic and foreign policy.

In all the four cases mentioned above, the national leader had to respond at least to three kinds of challenges simultaneously: external military threats, citizens' discontent with the dynamics of the standard of living and quality of life, and behind-the-scenes politics inside the government that in fact was preparing the ground for potential collapse of Russian statehood. Russia could get out of such situations with dignity only when its national leader "engaged" manual control mode and supervised personally the matters of internal and foreign policy, finding the strength to make tough decisions in the interests of national security.

Does manual control mode for the system of administration still exist today? Is it necessary? And can there be any alternatives? These questions become more and more relevant with the approach of a new political cycle, and if Vladimir Putin runs for presidency and wins the 2018 election, it will be his last six-year term in office[6].

It should be noted that it was President Putin himself who used the term "manual control" in this context for the first time in 2007, the year when he delivered his famous Munich Speech that in essence determined the main principles of Russia's foreign policy for decades to come. In subsequent years, the President has more than once used the term when referring to the Government's failures to execute his decrees. Although at the end of this year's direct live TV phone-in Vladimir Putin spoke more cautiously: "I wouldn't say that everything is done in manual control mode or with the help of a hands-on approach; though we sometimes have to deal with issues that require special attention, including that from the Government and President"[7].

Vladimir Putin: "We have to keep everything under control. If necessary, though some may not like it, but in this case, it makes sense, we have to assume a 'hands-on' approach. In this situation, there is nothing shameful about it...Today I would like to ask you to use this approach again, so it is clear who is responsible for what, and what the situation is like at major strategic facilities, how it affects employment, how social issues are being resolved at enterprises and what is going on at single-industry towns. All this needs to find reflection in corresponding action plans that have to be very detailed with a precise indication of the individuals responsible"[8].

[6] Putin's fourth presidential term (if he participates in and wins the presidential election of 2018) according to the current Constitution of the Russian Federation ends in 2024; that is, since the beginning of his first term he would have been in office for 24 years. Since the formation of the Russian Empire (i.e. for the last 300 years) only seven people ruled the country for more than 20 years. They are:

1) Peter the Great – 39 years (1682–1721);
2) Catherine II the Great – 34 years (1762–1796);
3) Alexander I – 24 years (1801–1825);
4) Nicholas I – 30 years (1825–1855);
5) Alexander II – 26 years (1855–1881);
6) Nicholas II – 23 years (1894–1917);
7) Joseph Stalin – 31 years (1922–1953).

[7] Vladimir Putin's interview to the channel NTV following the direct live TV phone-in. *Information portal Gazeta.ru*. Available at: https://www.gazeta.ru/social/2017/06/18/10727153.shtml#page1

[8] *Official website of the Russian President*. Available at: http://www.kremlin.ru/events/president/news/47327

According to experts, the "manual control of the state" metaphor appeared by analogy with controlling an aircraft. "An aircraft usually goes in automatic control mode, but if the system fails, there is an emergency and the pilot switches to manual control"[9].

The analogy with an aircraft is not accidental, since the state, which in all its historical periods was the main subject to initiate national development (in the broad sense of the word: social, economic, political, cultural, etc.), sometimes becomes his own worst enemy. It happens when the country's internal contradictions reach their climax, "reset to zero", and a single dominant political force comes to power; and then **the ruling elite becomes incapable of self-restraint and cannot reach consensus in order to preserve the country. The system stops working automatically, and there is a need to switch to "manual control" mode.**

Within the political elite there emerge some groups whose representatives begin to fight for power. And while specific individuals in the ruling elite are fighting for the expansion of spheres of influence, they perform their duties (governance of the country in accordance with national interests, maintaining national security, and strengthening national sovereignty) residually, which in the first place affects national interests and the interests of national security.

That was how the Revolution of 1917 was "forged" and that was how the Soviet era was collapsing.

Today, political maneuverings take place at all levels of the power hierarchy. It is demonstrated by the data of "Politburo 2.0" monitoring research carried out by Minchenko Consulting Group. The authors of the regularly published reports about the political system write that in 2011–2012 "the elites were distributed between two poles, however unequal – Prime Minister Vladimir Putin and President Dmitry Medvedev"[12], however, in

M. Rostovskii: "For a large part of Russian history, the central government is invariably the most powerful political player in our country. But sometimes this dominant political player encounters a deadly rival in the form of ... itself. Sometimes the processes of internal rotting, internal degradation and internal decay are set in motion in the structures of Russian central government. And if these processes go far enough, the central government suddenly collapses like a house of cards – and the supporting framework of our statehood collapses with it"[10].

T. Voevodina: "The USSR collapsed virtually at the peak of its military and industrial might, or, rather, at it was sluggishly sliding down that peak. And the collapse was perceived by many citizens with delight and enthusiasm, it took place amidst stormy and prolonged applause. The overthrow of the sovok [a derogatory word for the Soviet Union or anything related to it. Translator's note], judging by all these attitudes, was neither a conspiracy nor a coup, but a truly national affair. Although, of course, there was a conspiracy, and a coup, and betrayal, but nothing could have been accomplished without popular support, and not just support, but direct involvement"[11].

[9] There can be no "manual mode" for public administration (opinion of doctor of history V. Baghdasaryan). *The Portal "Rodon"* (30.10.2012). Available at: http://www.rodon.org/society-121030111939

[10] Rostovskii M. Putin and the phantom of revolution: why the events of the year 1917 can be repeated in Russia. *Moskovsky Komsomolets,* 2017, March 2. Available at: http://www.mk.ru/politics/2017/03/02/putin-i-prizrak-revolyucii-pochemu-v-rossii-mozhet-povtoritsya-1917-god.html

[11] What did the Soviet people lack in the Soviet Union? *The Literary Newspaper*, 2015, no. 33 (6521), August 26. Available at: http://lgz.ru/article/-33-6521-26-08-2015/chego-sovkam-v-sovke-ne-khvatalo/

[12] *Politburo 2.0: Renovation instead of dismantling: Minchenko Consulting Communication Group report dated August 23, 2017.* P. 2.

the summer of 2012 the political system in Russia has taken a form in which Medvedev turned out to be **"only one of several significant players,** on par with the heads of the Rosneft and Rostec state corporations Igor Sechin and Sergey Chemezov, respectively, head of the Presidential Administration Sergey Ivanov and his first deputy Vyacheslav Volodin, Moscow Mayor Sergey Sobyanin, businessmen Gennady Timchenko and Yuriy Kovalchuk... At the level of individual ministries and government agencies, the participants of this narrow circle formed their own networks of friendly senior officials and their deputies, officials of key departments. The distribution of power between groups affected Russian regions as well – virtually every member of the Politburo 2.0 formed his own pool of governors"[13]. The functions of the formal head of government in this system were severely restricted and the President played the part of chief referee.

Thus, in the current Russian public administration system we see an increasing number of "equal players", they form "friendly networks", the competition between them is becoming more tough, and this competition takes place not only at the federal but also at the regional level (specific "ministries, institutions, departments"), and the goal of this struggle of "friendly clans" has nothing to do with promotion of national interests: the goal is to obtain power and economic resources of the country. In other words, we can talk not just about a confrontation of two political forces – the patriots and the liberals[15], **but about the emergence of several centers equivalent in their influence and engaged in a zero-sum game through the use of their competitive advantages.** And the big question is: which of the two factors (lack of a single vector, deconsolidation of the

> "Today, **in addition to solving governance objectives as such, the ruling elite also attempts to secure its stability in the long term.** To do so, it needs:
>
> 1. To convert power into property (through a new stage of privatization, use of budgetary resources and preferences by government agencies in order to develop profitable businesses, create new "rents");
> 2. To make provisions for the transfer of property acquired in the 1990-2000s by inheritance;
> 3. To legitimize acquired property both in Russia and abroad.
>
> Another objective of the ruling elite is **to strengthen the coalition framework, eliminate unwanted members and attract a limited number of new ones.**
>
> Russia's ruling elite can be described through the model of the Soviet collective power body – the Political Bureau of the Central Committee of the Communist Party of the Soviet Union (CPSU CC). The process of ruling aims primarily to sustain the existing inter-clan balance... **Russian power is a conglomerate of clans and groups that compete with one another over resources. Vladimir Putin's role in this system remains unchanged – he is an arbiter and a moderator"**[14].

[13] *Politburo 2.0: Renovation instead of dismantling: Minchenko Consulting Communication Group report dated August 23, 2017.* P. 2.

[14] *Vladimir Putin's Big Government and the "Politburo 2.0": Minchenko Consulting Communication Group report. 2012.* P. 2.

[15] N. Starikov: "It is no secret that in the Russian government there is a confrontation between the liberals and the patriots. This confrontation started long ago, it existed throughout the 1990s and the 2000s. What are we talking about? There are two ways of development of the country. Part of the Russian elite, which can be called liberals, believes that Russia should increasingly abandon its national features and interests and try to integrate into the global system with all its advantages and considerable disadvantages. The other part of the elite, the patriots, believes that our country can be strong and powerful only when it defends its own interests exclusively, and builds its own independent civilization project. Here is the essence of the contradiction in a nutshell. The President is forced to balance and find some compromises, in terms of interaction with both flanks of this power confrontation" (Starikov N.V. The liberal government must step down. (18.06.2014). *N.I. Starikov's blog.* Available at: https://nstarikov.ru/blog/41345).

ruling elite or Cold War 2.0 that is gaining momentum since Putin came to power and especially after his speech at the Munich Conference in 2007) is today a dominant threat to national security. Indeed, by and large, when talking about external threats, a phenomenon such as "probable adversary" is quite clear, and a talented strategist (the President is, no doubt, such a strategist) sees very clearly the steps that must be taken and that will find support among citizens.

Everything is much more complicated in the "internal war" that Vladimir Putin has to carry on so as not to allow a kind of "feudal" fragmentation inside the political system. But the consequences of this war can become no less fateful and tragic for Russia than external expansion.

In the previous issue's editorial we cited some factual data and expert assessments showing that "over the past 25 years the "capitalism for the few" was firmly rooted in the ranks of the ruling elite. **It became "the basis of the political and economic structure of the country"**[16]. The bulk of Russia's production assets (82%) is privately owned. Eighteen percent of production assets is owned by the state, and for the period from 2000 to 2015, the value of this indicator decreased by 7 p.p. (from 25 to 18%; *Table*)[17].

Another long-standing problem of Russian society is a high level of inequality, which, according to experts, twice exceeds the maximum permissible level. As a matter of fact, the dynamics of inequality, as economist T. Piketty proved, for the last 110 years experienced typical global changes with the fall of inequality in the mid-twentieth century and its subsequent growth in the 1980s – 1990s. Russia is no exception here; however, the exception for Russia lies in the psychological factor – the behavior of the wealthiest population groups that accumulate their capital in tax havens and ignore the interests of national development. "If in a situation of high inequality the savings are not transformed into investments that create new jobs, then inequality puts on "black robes" and becomes a gravedigger of economic growth"[21].

According to the Federal State Statistics Service, the ratio of the average income of the richest 10% to the poorest 10% (R/P 10%) in Russia is 16.

According to expert estimates, 8 is a critical threshold value of R/P 10%[18], the achievement of which demonstrates "a high level of risks in the functioning of social relations, a threat of transition to high volatility, low predictability and, hence, the need for rapid intervention on the part of the authorities in order to reverse the dangerous trends"[19].

According to the United Nations, R/P 10% should not exceed 8–10, "otherwise the situation in a democratic country is fraught with social cataclysms"[20].

[16] Ilyin V.A. Razvitie grazhdanskogo obshchestva v Rossii v usloviyakh "kapitalizma dlya izbrannykh" [Development of civil society in Russia in conditions of "capitalism for the few"] *Ekonomicheskie i sotsial'nye peremeny: fakty, tendentsii, prognoz* [Economic and social changes: facts, trends, forecast], 2017, no. 4, pp. 9-40.

[17] Gubanov S.S. Antinauchnyi mif (o 70% gossektora) i ego sotsial'nyi podtekst [Unscientific myth (about the 70% of the public sector) and its social implication]. *Ekonomist* [The Economist], 2017, no. 8, p. 6, 12.

[18] Glaz'ev S.Yu., Lokosov V.V. Otsenka predel'no kriticheskikh znachenii pokazatelei sostoyaniya rossiiskogo obshchestva i ikh ispol'zovanie v upravlenii sotsial'no-ekonomicheskim razvitiem [Estimation of the maximum critical values of indicators of the state of Russian society and their use in the management of socio-economic development]. *Vestnik RAN* [Bulletin of the Russian Academy of Sciences], 2012, vol. 82, no. 7, pp. 587-614.

[19] Lokosov V.V. Metod predel'no kriticheskikh pokazatelei i otsenka chelovecheskogo potentsiala [The method of extremely critical indicators and the assessment of human potential]. *Ekonomika. Nalogi. Pravo* [Economy. Taxes. Law], 2012, no. 5, p. 72.

[20] Kalabekov I.G. *Russian reforms in figures and facts*. Available at: http:// refru.ru/income16.pdf

[21] Gaiva E., Gurova T., Obukhova E. Ne v otdel'no vzyatoi strane [Not in a particular country]. *Ekspert* [The Expert], 2017, no. 38, September 18–24, p. 23.

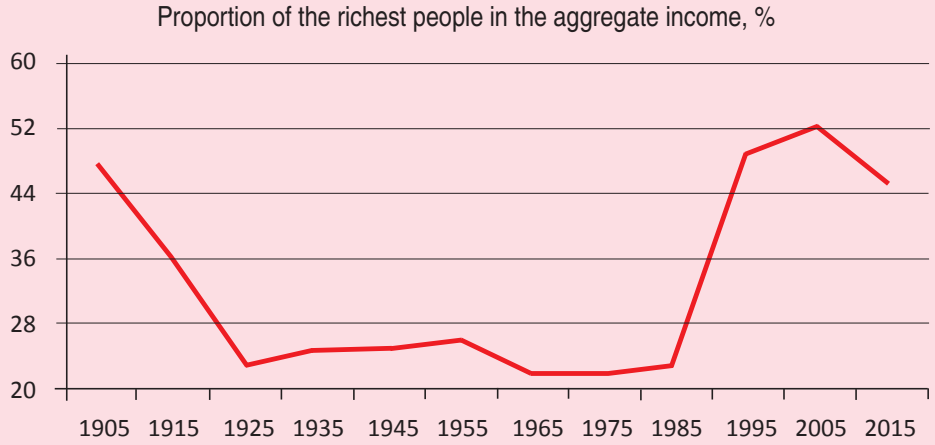
Fixed assets, broken down by forms of ownership (at the end of year; for the full book value)

Year	Mln rub. (1990 – bln rub.)			Percentage to the outcome		
	All fixed assets	Including by forms of ownership		All fixed assets	Including by forms of ownership	
		State-owned	Non-governmental		State-owned	Non-governmental
1990	1927	1754	173	100	91	9
2000	17464172	4366043	13098729	100	25	75
2010	93185612	17705266	75480346	100	19	81
2011	108001247	19440224	88561023	100	18	82
2012	121268908	21828403	99440505	100	18	82
2013	133521531	24033876	109487655	100	18	82
2014	147429656	26537338	120892318	100	18	82
2015	160725261	28930547	131794714	100	18	82

Sources: Gubanov S.S. Antinauchnyi mif (o 70% gossektora) i ego sotsial'nyi podtekst [Unscientific myth (about the 70% of the public sector) and its social implication]. *Ekonomist* [The Economist], 2017, no. 8, p. 6.; *Rossiiskii statisticheskii ezhegodnik, 2016: stat. sb.* [Russian statistics yearbook, 2016: statistics collection]. Moscow: Rosstat, 2016. P. 288.

That is why by the 100th anniversary of the Revolution, the inequality in Russia has returned to the level of 1905 *(Figure)*. **The proportion of income of the richest 10% of Russians in the aggregate income for the period from 1905 to 2015 has remained virtually unchanged (approximately 46–48%) or, in other words, the earnings of 10% of Russians are equal to almost half of the incomes of the entire Russia's population. The diagram is a most striking evidence of inefficiency of the public administration system over the past 30 years; besides, it proves that the President's work to nationalize the ruling elites responsible for the dynamics and quality of life of Russians remains unfinished, as well as the work to ensure national security.**

Strategic short-sightedness of the political elites (or, rather, their blinkered vision during the struggle for capital and political resources)



Source: Gaiva E., Gurova T., Obukhova E. Ne v otdel'no vzyatoi strane [Not in a particular country]. *Ekspert* [The Expert], 2017, no. 38, September 18–24.

can be an explanation for the fact that so far the assessments of performance of the authorities pay too little attention to people's subjective estimates. The President has repeatedly stated that public opinion is the main criterion that defines government performance[22] (and in this sense it is no coincidence that an indicator such as the rate of people's satisfaction with the work of the governor was included in the list of criteria for evaluating the performance of governors[23]). However, even at present, experts say that this principle does not work, at least at the system level.

The vulnerability of the Russian economy and its adverse effects on the dynamics of people's standard of living and quality of life[24] are perhaps the main but not the only evidence of deconsolidation of political forces in the current Russian system of government. Numerous examples from everyday Russian reality prove it, as well: corruption of officials, the Government's failure to implement the May decrees of the President, the Government's ill-considered solutions (monetization of benefits in 2004, introduction of the electronic toll collection system Platon in 2015, etc.

> **M.K. Gorshkov:** "In order to assess the performance of officials, it is necessary to use alongside the dry figures of objective indicators of economic development the indicators of subjective nature. How high is the degree of people's satisfaction with different aspects of life: are you satisfied with the standard of living? With your salary? With the quality of healthcare? With education that your children obtain? With the quality of leisure?..
>
> We have 15 such indicators. Does anyone take them into account? **Is anyone interested in them? If these indicators were included in the body of state statistics, then, I am afraid, half of the officials would loose their jobs"**[25].

The latest such facts include the bankruptcy of the Russian air carrier VIM-Avia, which became another[26] sign of a gradually emerging crisis in the civil aviation industry and, by and large, in the public administration system on the whole.

[22] Vladimir Putin:

2013: "It is necessary that authorities at every level – in presidential Executive Office and the Government – feel and understand that ordinary citizens are closely monitoring the results of our work and evaluating them. We must always be guided by citizens' opinions... our overall efficiency and competitiveness depend on how far society trusts the authorities" (Transcript of Direct Line with Russian President Vladimir Putin dated April 25, 2013. *Rossiiskaya Gazeta*. Available at: http://www.rg.ru/2013/04/25/stenogramma-site.html).

2016: "Many current criteria do not reflect system-wide changes in the regional economy and social sphere do not indicate an improvement in the investment climate and the standard of living of citizens... Of course, we need to ensure that work performance and the economic efficiency of regional teams directly affect the quality of life of citizens living in these regions, that there is no gap between paper reports and social feeling of citizens" (multiport conference "On assessing the efficiency of performance of the executive authorities of constituent entities of the Russian Federation" dated October 29, 2016).

2017: "Municipal authorities are closest to the people, to their real needs, which means local authorities should make dialogue and commitment to feedback their priority. Only ongoing informal concerned communication with residents makes it possible to identify, to understand what really worries them, and to solve the current problems, to build development plans" (*Meeting of the Council for the Local Self-Government Development, August 5, 2017*. Available at: http://www.kremlin.ru/events/president/news/55301).

[23] Decree of the President of the Russian Federation dated August 21, 2012 No. 1199 "On assessing the performance of the executive authorities of constituent entities of the Russian Federation".

[24] Read more about people's subjective perception of the dynamics of their financial situation and social well-being in the Public Opinion Monitoring of the State of the Russian Society (see Appendix to the Journal), which presents the results of regular surveys conducted by VolRC RAS on the territory of the Vologda Oblast.

[25] M.K. Gorshkov speaking at the program "Evening with Vladimir Solovyov", June 15, 2017.

[26] Similar signs were observed, for example, in 2014: the withdrawal from the market of 12 tour operators and the bankruptcy of Transaero.

L.I. Kravchenko: The main problem of civil aviation is "a loss of state control over the industry because of a large-scale privatization, including the privatization of airports. As soon as private business entered the industry (especially it concerns the airports) it established market relations in it, replacing national security and public interest – rather vague notions in the eyes of businesspeople – with concrete market terms like profit and competition. High rates of aircraft servicing at airports – that is the prospect of business. What this approach leads to is clearly seen on the example of Domodedovo Airport, where business neglected proper security measures, which led to tragic consequences like the explosion on January 24, 2011, in which 37 people were killed and 170 wounded"[27].

Experts point out: "The Government has delayed the solution to the problem, and it provoked an open crisis... The state of affairs in the aviation industry in Russia in general is in line with the state of affairs in the Russian economy: problems are ignored, decisions are made to extinguish the fire rather than prevent its breaking out, the industry lost its strategic importance for the state and shifted to the capitalist mode of functioning, when the category of "profit" determines the cost of routes, the level of security, the quality of service and so on"[28].

Crisis symptoms are just as obvious in the Russian science, a "forge" of knowledge that is a major driver of national competitiveness in the world of high technology and scientific progress. "The conflict between the government that was making continuous efforts to reform the Russian Academy of Sciences and the Academy that was fighting for the remnants of financing and organization of the system of institutions dates back to the 1990s, when the funding of science collapsed"[29]. In 2013, a reform of RAS was carried out in the mode of "special operation or blitzkrieg"[30]; the reform launched the process of reorganization of the Academy. In March 2017, the Academy remained without its president because all the candidates refused to be nominated for the office. And it was only in September 2017 that the President endorsed a candidate elected by academicians and confirmed the appointment of A. Sergeev as RAS President. A. Sergeev is director of Nizhny Novgorod Institute of Applied Physics of the Russian Academy of Sciences, a person whom the government congratulates through "clenched teeth" since it "has desperately lobbied other candidates for the post"[31].

A. Chuykov: "Sergeev is a very uncomfortable and, in the good sense of the word, uncompliant person for clueless government officials to deal with. He is a renowned scientist with a clear and independent program for taking the Academy of Sciences out of the crisis into which it was plunged by Fursenko, Kovalchuk, and others of that ilk"[32].

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[27] Kravchenko L.I. VIM-Avia and the crisis of domestic civil aviation. *The Political World*, 2017, October 5. Available at: http://polit-mir.ru/vim-avia-i-krizis-otechestvennoy-grazhdanskoy-aviatsii-11995.html

[28] *Ibidem*.

[29] Maksutova A., Gur'eva A., Gnilitskaya A., Leybin V. Academy of scandals. *Expert Online Journal,* 2017, April 7. Available at: http://expert.ru/russian_reporter/2017/03/akademiya-skandalov/

[30] Polterovich V.M. Reforma RAN: ekspertnyi analiz [Reform of RAS: an expert analysis]. *Obshchestvennye nauki i sovremennost'* [Social Sciences and Contemporary World], 2014, no. 1, p. 8.

[31] Chuikov A. Uchenye i "AN" pobedili "drakona" Fursenko. Glavoi RAN stal nastoyashchii fizik, a ne privlastnyi prokhodimets [Scientists and the Academy of Sciences have slain "the dragon" Fursenko. RAS is headed by a real physicist, rather than a henchman of those in power]. *Argumenty nedeli*, 2017, no. 38 (580), September 28.

[32] *Ibidem*.

Thus, the current situation marked by a lack of consolidation of political elites on the principles of national interests and national security, as well as the resulting negative processes in the economy, in the dynamics of the standard of living and quality of life not only justify the use of manual control mode to govern the country, but make it necessary. In fact, it is this very mode that supports people's "last hope" in the action of the "chief arbiter" of the political system.

And then the reasonable question arises: what prevents the President from giving officials who failed to do their job a reprimand for incompetent performance or inform them about the loss of confidence timely and comprehensively, without allowing the obvious signs of crisis to reach their peak; what prevents him from bringing to justice for every such act not only the officials who are directly responsible for a certain sector, but also the representatives of the ruling elites who promote them through the ranks?

Answering this question we should note that in the course of his three presidential terms Vladimir Putin managed to create a system of government which, although being flawed, recognizes him as the main arbiter with extensive capabilities to transform this system.

In the last few years we see how the President is gradually implementing these capabilities. As his third term in office is coming to an end and Russia's relations with the United States resume their natural (although tense) course, Vladimir Putin focuses more on internal politics, acting as a "regulator" in this sphere: he is implementing personnel changes among the governors; experts say to this: "It seems that Vladimir Putin has already launched a process of fundamental change in the composition of Russia's administrative elite, which should help avoid an extremely conflict-ridden "Ukrainian" scenario in 2024. Perhaps this process has a short-term goal implying that a sufficiently broad transformation of the managerial elite will have a deterrent or even a sobering influence already in 2018 rather than in the distant 2024[33]. Besides, experts note that "a powerful political potential that is not yet reflected in the four major Russian political parties, is accumulating in the State Duma, which under the leadership of speaker V. Volodin has undergone an "upgrade" from the point of view of elite and sector representation, received a severe disciplinary modernization, and enhanced the expert component of its work... It seems that after the presidential election, an attempt will be made to revive once again the political process in the country through rejuvenation and modernization of the parties and the Duma itself will gain weight and will play a more independent role in the decision-making system"[34].

Thus, manual control mode is still on and, as the above facts prove, it is for a reason. Apparently, this mode will be necessary until the President fulfills his main goal, i.e. until he creates a check-and-balance system in which the power vertical at all levels of government is capable of self-restoring without losing its quality. The solution to this problem is of historical importance for Russia and, in fact, it is the foundation for Vladimir Putin's successor. However, system-wide failures of public administration in the last 15 years show that, apparently, it is postponed for the period until 2024...

[33] Politicheski udachnaya, no ekonomicheski riskovannaya konstruktsiya [A politically good, but economically risky design]. *Ekspert* [The Expert], 2017, no. 36, September 4–10, p. 13.

[34] Dzhanashiya V., Skorobogatyi P. 22 kadra [22 frames]. *Ekspert* [The Expert], 2017, no. 36, September 4–10, p. 19.

M. Rostovskii: "Today, everything still rests on the will of one individual. This situation needs to be changed. It must be changed, since as long as it does not change, the risk of the central government relapsing into internal degradation will hang over Russia like a sword of Damocles. But, unfortunately, such changes do not happen overnight. A minimum condition for them is a few decades of calm and stable development of the country. Unlike the U.S., it will take Russia quite a long time to get ready to "switch to autopilot" in its politics. In the foreseeable future, our country will be governed in "manual mode". And this means that the political lessons of February 1917 will remain relevant for us for a very long time"[35].

The fourth presidential term will somehow have to mark the outcome of the President's work on the implementation of the goals that he set out back in 1999[36]. Moreover, during this period, the President will not only have to complete the creation of a political system capable of solving autonomously and efficiently people's everyday problems, but also to ensure its viability, that is, to test it empirically by overcoming political or economic crises and adjusting it if necessary. It is an extremely difficult, but historically major task, and not much time is left to implement it.

The last (or, speaking more accurately, the final) six-year presidency of Vladimir Putin in the framework of the current legislation will need to complete the process of nationalization of the elites, which will make it possible to switch off manual control mode in many respects. Thus, this final term in office will ultimately provide an answer to the question whether the period of Putin's presidency has been a period of lost opportunities or it was the reign of a talented leader who due to his personal qualities and with the help of manual control facilitated the country's transition to a new stage of development since the collapse of the Soviet Union, through the painful and long adaptation of society to post-Soviet conditions, the transition to a state that is a center of the multipolar world and confirms this status not only in the international political arena, but also in the dynamics of the standard of living and quality of life of its people.

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[35] Rostovskii M. Putin and the phantom of revolution: why the events of the year 1917 can be repeated in Russia. *Moskovsky Komsomolets,* 2017, March 2. Available at: http://www.mk.ru/politics/2017/03/02/putin-i-prizrak-revolyucii-pochemu-v-rossii-mozhet-povtoritsya-1917-god.html

[36] Vladimir Putin. Russia at the Turn of the Millennium: "**The key to the revival and rise of Russia is today in the public-political sphere. Russia needs strong state power and must have it.** This is not a call for a totalitarian system. History convincingly proves that all dictatorships and authoritarian systems of government are transient. Only democratic systems endure. For all their shortcomings, they are the best that mankind has invented. Strong state power in Russia is a democratic, legal and functional federal government.

I see the following directions of its formation:

- rationalization of the structure of state power and administration authorities, increasing professionalism, discipline and responsibility of civil servants, strengthening the fight against corruption;

- restructuring state personnel policy on the basis of selecting best specialists;

- creation of conditions conducive to the formation of a full-fledged civil society to counterbalance and control the authorities;

- increasing the role and authority of the judiciary;

- improving federative relations, including those in the budgetary and financial sector;

- launching active and assertive war on crime". [Source: *Nezavisimaya Gazeta*, 1999, December 30. Available at: http://www.ng.ru/politics/1999-12-30/4_millenium.html]

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Information about the Author

Vladimir Aleksandrovich Ilyin – RAS Corresponding Member, Doctor of Economics, Professor, Honored Scientist of the Russian Federation, Scientific Director, Vologda Research Center of the Russian Academy of Sciences (56A, Gorky Street, Vologda, 160014, Russian Federation; e-mail: ilin@vscc.ac.ru)

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Social Innovation as an Effective Response to Modern Challenges in Education

Antonius Schröder
Social Research Centre, Dortmund University of Technologies
Dortmund, Germany, 17, Evinger Platz, 44339
E-mail: schroeder@sfs-dortmund.de

Aleksandra Anatol'evna SHABUNOVA
Vologda Research Center of the Russian Academy of Sciences
Vologda, Russian Federation, 56A, Gorky Street, 160014
E-mail: aas@vscc.ac.ru

Tat'yana Sergeevna SOLOV'EVA
Vologda Research Center of the Russian Academy of Sciences
Vologda, Russian Federation 56A, Gorky Street, 160014
E-mail: solo_86@list.ru

Andrei Vasil'evich POPOV
Vologda Research Center of the Russian Academy of Sciences
Vologda, Russian Federation, 56A, Gorky Street, 160014
E-mail: ai.popov@yahoo.com

Maksim Aleksandrovich GOLOVCHIN
Vologda Research Center of the Russian Academy of Sciences
Vologda, Russian Federation 56A, Gorky Street, 160014
E-mail: mag82@mail.ru

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Abstract. The system of education is an engine of progress in the modern world. On the one hand, it shapes human capital thus contributing to social development and improving the competitiveness of economies; on the other hand, it is a kind of mechanism that helps adapt to changes in the global labor market. At the same time, educational systems all over the world are continuously faced with certain challenges and problems associated with the development of globalization, informatization, integration, knowledge economy, etc. Social innovations are one of the effective tools to address these challenges. The article brings to the fore the issues associated with the development of social innovation in the system of education. The goal of the work is to highlight specific characteristics of social innovation in education, to analyze the current state of social innovation in Russia on the example of the system of education, to highlight drivers of and barriers to the development of social innovation in Russian education under the research project "Social Innovation: Driving Force of Social Change" (SI-DRIVE) of the Seventh Framework Programme of the European Union, one of the participants of which was Vologda Research Center of the Russian Academy of Sciences. The paper emphasizes the implementation and promotion of social innovation in the Russian education system. According to the results of case studies, major factors that hinder the development of social innovation in education include lack of financing, and various administrative and regulatory barriers. We provide examples of successful projects showing that the main drivers of social initiatives include charismatic leadership, governmental support, strong demand, and development of partnership networks. In conclusion, we give recommendations aimed to provide comprehensive assistance to the development of social innovation in the Russian education system.

Key words: social innovation, education system, social entrepreneurship, globalization, inequality, governance.

Introduction

Amid modern conditions rapidly changing under the influence of globalization processes in all spheres of human activity, certain transformations and re-focusing of goals and priorities take place. The education system as an institution is responsible for people's proper preparation for professional, social, creative, and other types of activity is not an exception. Education systems of world's countries are currently facing a number of challenges including inequalities in access to education, insufficient funding, issues of education quality and literacy, migrant socialization, compliance of the educational content with modern requirements, etc.[14, 15, 20, 22].

Europe 2020 strategy [17] defines common social challenges for the European states associated with education and lifelong learning one way or another, such as:

– ageing society;

– shortage of labor skills and global competition;

– high unemployment rate.

Since European labor markets are national, multidisciplinary and rapidly developing, the skills, competences and qualifications needed for social and economic participation need to be constantly adjusted. This includes, in addition to the skills related to professional activity, knowledge and competencies, as well as related skills:

the ability to learn and take the initiative, entrepreneurial skills promoting employment and business creation. In addition, it is important to better identify the necessary skills, competences and qualifications and manage them in order to prevent non-compliance of qualifications or professional skills with job requirements [24].

The concept of lifelong leaning (covering all types of education including formal and informal) is considered as an adequate response to persistent and profound technological, social, economic, and demographic changes. Lifelong education is guided by strategic goals and optimization of goals and objectives identified by the European Commission, among which are: the accessibility of preschool education, reducing number of cases of school dropouts and increasing quantitative and qualitative indicators of engagement in lifelong learning [23].

A number of projects is aimed at the solution of global issues of education. For example, a non-profit global literacy project, aimed at increasing the literacy rate of various countries through creating clusters of high literacy where children and adults have direct access to books and programs promoting the culture of literacy [27].

Amid globalization and knowledge economy, Russia also has to search for solutions to the above mentioned issues, as well as a number of other specific problems. A special place among these challenges is occupied by the information technology challenge associated with the change in technology, the development of the digital environment and, as a result, outdated knowledge and forecast of demand for certain competencies [4, p. 162; 5, p. 660]. In addition, there is an intellectual challenge – competition for highly qualified workforce amid the gap between vacancies and employment conditions and graduates' expectations, as well as graduates' competences and employer requirements [1; 6, p. 38]. Internationalization of education (unification of educational standards, double degree programs, academic mobility, etc.) raises the issue of preserving the unity of educational system in Russia. One of the most important objective is to overcome the administrative challenge which lies in bureaucratization of education, increased volume of paper work, insufficient funding [10, p. 115; 12, p. 10]. Moreover, there remain unresolved problems of personnel ageing, lack of access to quality education, non-inclusion of educational organizations in innovation processes [3, p. 38] etc.

According to world practice, social innovation is an effective response to modern challenges to education systems[1]. For example, the project "Rock Your Life! Mentoring" [28] (Germany) for people with a low level of education is aimed at developing their knowledge and talents so that they could find an appropriate job. The project cooperates

[1] The current research, social innovation is referred to as a new combination of or configuration of social practices in specific spheres of activity and social contexts, initiated by certain actors or groups of actors through target method in order to satisfy the needs and address the issues better than it is possible within the current practice; finally adopted and institutionalized as a new social practice [21, p. 9]).

with several companies willing to provide opportunities for young people to enter the labor market. The initiative "Abuelas cuentacuentos" [13] (Argentina) focuses on the problem of improving the quality of education, reading skills and comprehension in primary school through active participation of elderly people. The project also ensures cooperation between generations and enables the elderly to feel needed by the society. The program was replicated in Brazil, Colombia, Chile, and Mexico. Exploring the opportunities for social innovation to tackle social issues and territorial development is one of the important research areas. The importance of social innovation development is also realized by the authorities, particularly in Europe, where the EU social policies are reflected in the Europe 2020 strategy.

The purpose for the article is to highlight specific characteristics of social innovation in education, analyze their modern state in Russia, as well as identify drivers and barriers of their development based on case studies and areas for their comprehensive promotion in the Russian education system.

Social innovation in education has a number of features:

1. Unlike other types of projects, social innovation projects in education are focused on developing original solutions to educational problems, rather than creating a unique product (good, service). In this regard, social innovation in education has no real tangible economic results which social entrepreneurs could use immediately. These projects are aimed at creating the framework for achieving long-term effects (qualified personnel reserve for enterprises and organizations, youth employment after school, college or university, socialization of vulnerable population groups).

2. Wider audience which requires separation into specific target groups.

3. Inter-disciplinary and multi-problem innovation. Social educational projects themselves, while addressing main problems of education, also touch upon critical issues of functioning of other spheres of science, health, social security, environment, entrepreneurship, and employment.

4. Extensive use of information platforms and technology platforms on the Internet.

5. Such projects are mostly initiated by non-state organizations. However, due to the need to navigate the rapidly changing educational environment, as the projects develop, they involved the most representative figures of science, education, and many other related fields.

6. The slow-rate deployment of social projects in education due to strict regulation of educational activity and bureaucratic constraints.

7. Focus of Russian entrepreneurs implementing social innovation projects in education on the strategy "First – rules and experience, then – deployment of activities". This is primarily due to the fact that education in many countries is a sector formally regulated by the state. It is impossible to take into account all specific features of the industry

in the deployment of entrepreneurial activity as organization may not be registered by the state or get a license unless all the required documents are available, or unless the activity complies with the approved standards. Therefore, entrepreneurs working in this field typically have extensive experience and professional reputation.

As for the Russian reality, social innovation is a relatively new phenomenon [11, p. 70]. Unlike developed European countries where civil society plays the key role, in Russia special importance in spreading social initiatives is given to the authorities who, understanding the importance of their development, stimulate the processes of social activity in high-priority areas. This is explained by numerous barriers (administrative, legislative, financial, etc.), for this reason, for example, representatives of the business community are slow to implement social innovation projects. This is partly related to the scientific and technical area of the innovation policy in Russia – the focus on technological innovation whose development directly affects economic growth rate. However, the first major initiative to support social innovation, social entrepreneurship in particular, belongs to private business – LUKOIL oil company whose President is Vagit Alekperov who, in 2007, founded the Fund of regional social programs (FRSP) "Our Future". Despite certain difficulties, the implementation process of social innovation was spread throughout Russia. According to FRSP "Our Future', during 2007–2016 in the framework of the company's activity 187 innovative projects were implemented in the country [2].

Materials and methods. SI-DRIVE methodology

It should be noted that a serious problem in terms of implementing such projects in education is a low level of public trust in the activities of social entrepreneurs as business representatives, lack of understanding of the nature of social innovation. Thus, according to Zircon Research group, a considerable share (48%) of Russians rely only on the state in the solution of social issues and only 4% – on non-state actors [9].

Table 1 presents some examples of social innovation projects implemented in the Russian education system.

Comparative analysis of Russian experience in social innovation projects in education identifies their main features:

– focus on developing original solutions to certain issues in education;

– time lag in manifestation of tangible real economic effect;

– coverage of a wide range of people;

– interdisciplinary projects;

– greater role of information technology;

– predominance of private initiatives in developing projects;

– slow pace of project implementation due to bureaucratic restrictions and strict regulation of educational activities.

It should be noted that the study of the experience of social entrepreneurship in education is hampered by underdeveloped status and performance criteria in social entrepreneurship. For this reason, the issue of classifying certain projects to social innovation currently requires involvement of experts.

Table 1. Projects of social innovation in education

Social need	Learning stage	Work areas	Projects
1. Equal opportunities in education	Pre-school education	Implementation of invariant (as a rule non-state) forms of pre-school education	Project "Association of private kindergartens" (Tyumen Oblast)
			Project "Development of individual enterprise in pre-school education "Pre-schooler" (Khabarovsk Krai)
			"Centre of development of innovations in pre-school education, family kindergartens" (Krasnoyarsk Krai)
			Project "Building-garten" (Samara Oblast)
	Elementary and secondary education Continuing professional education	Joining efforts of the state and private organizations in social adaptation and professional training of disabled people, foster children, older persons, as well as development of social activity and responsibility of young people	Interregional agricultural complex "Farmers' school" (Perm Krai)
			Project "Inclusive education of individuals with disabilities" (Republic of Tatarstan)
2. Expansion of educational opportunities	Pre-school education Elementary and secondary education Professional education	Effective joining efforts of state and non-state organizations, focused on the development of intellectual abilities and creative potential of children and youth	Project "Development of research and entrepreneurial potential of Russian universities ("EURECA")" (Saint-Petersburg, Nizhny Novgorod Oblast)
			Project "Pupil of the year" (Vologda Oblast)
			Project "Development of effective system for revealing children's potential and realization of children's abilities in pre-school educational facilities and schools" (Chuvash Republic)
			Project "Regional model of young talents revealing and developing in the conditions of supplementary education" (Stavropol Krai)
			Project "Green schools of Russia" (Krasnodar Krai)
			Project "Community of gifted children" (Omsk Oblast)
			Project "Lift to the future" (Moscow)
			Project "Centers of youth innovative creative work" (Republic of Tatarstan, Moscow)
			Innovative family center of education and leisure activities "Home for the whole family" (Russia, Moscow)

End of Table 1

Social need	Learning stage	Work areas	Projects
3. Lack of professional skill, competences	Elementary and secondary education Tertiary education Professional education Continuing professional education Vocational training	Formation of professional competences needed for innovative economy, based on up-to-date (among others, remote-acting) technology	Project “Centre of instructional design in education” (Russia, Moscow)
			Project “Early training of innovative human resources for the city’s economy” (Russia, Novosibirsk Oblast)
			Project “E-GENERATION. Leaders of the new industrialization in Russia” (Russia, Murmansk Oblast, Leningrad Oblast, Tula Oblast, Volgograd Oblast, Perm Krai, Stavropol Krai, Krasnodar Krai)
			Project “The Enterprise for All” (Russia, Rostov Oblast)
			Project “All-Russian pharmaceutical personnel reserve” (Russia, Moscow)
			Projects “Energy saving center” (Russia, Moscow, Moscow Oblast)
			Projects “School of environmental entrepreneurship” (Russia, Irkutsk Oblast)
			Projects “Academy of pharmaceutical and bio-industry” (Russia, Yaroslavl Oblast)
			Project “Universarium” (Moscow)
			Project “StudRezerv” (Novosibirsk Oblast)
	Elementary and secondary education Tertiary education	Formation of professional orientation and vocation of the youth	Project “City of professions 360+” (Tyumen Oblast)
			“Flights in vertical direction” (Russia, Lipetsk Oblast)
4. Promotion of adults’ participation in education and professional training	Continuing professional education	Formation of new strategies for lifelong learning	Project “Improving of computer competence of older people” (Vologda Oblast)
			Project “Teaching computer skills to older people” (Republic of Buryatia)
			Project “Young volunteers of information society” (Omsk Oblast)
			Oleg Andreev School of speed reading (Moscow, Saint Petersburg)

Source: compiled by the authors.

One of the most extensive studies of social innovation is an international project of the EU 7th Framework program "Social Innovation: Driving Force of Social Change" (SI-DRIVE) [25] focused on dissemination of knowledge about social innovation in three main areas:

integration of theory and research methodology for better understanding of social innovation leading to a new global innovation paradigm.

European and global mapping of social innovation in eight major world regions according to different social, economic, cultural, historical, and religious contexts;

ensuring the importance of social innovation for policy-makers and practitioners with the use of in-depth analysis and case studies in seven practice areas, including European and global comparison, foresight and round tables on policy issues.

SI-DRIVE project involves 14 partners from 11 EU member-states and 11 partners from all continents, accompanied by 13 advisory board members, all in all covering 30 countries all over the world. Russia is represented by the Institute of Socio-Economic Development of Territories of the Russian Academy of Sciences. The study focuses on seven main practice fields: education, employment, environment and climate change, energy, transport and mobility, health and social care, poverty reduction and sustainable development [25].

In the first stage, the study defined the initial concept, objectives, and the methodology including the working definition of social innovation and basic scientific provisions, which is reflected in critical literature review [19] devoted to the theoretical aspects of the study. On this basis, methods and instruments for the first empirical stage (global mapping of social innovation including more than 1.000 cases; *Fig. 1*) have been developed helping get an idea about social innovation in selected regions and policy areas (at the national, European, and global levels).

The generated database became the starting point for determining the typical projects in the relevant policy areas and world regions. On this basis, 82 projects for in-depth investigation (the second experiential stage) were selected. The results of the empirical phase helped conduct comparative analysis in each of the policy area, complete the theoretical-methodological concept, and formulate policy and forecast recommendations.

The focus of qualitative research is the dynamic relations between social innovation, practice areas[2] and various mechanisms of social change. All these mechanisms are reflected in the five key SI-DRIVE dimensions (*Fig. 2*), according to which the main purpose of case studies is to promote better understanding of:

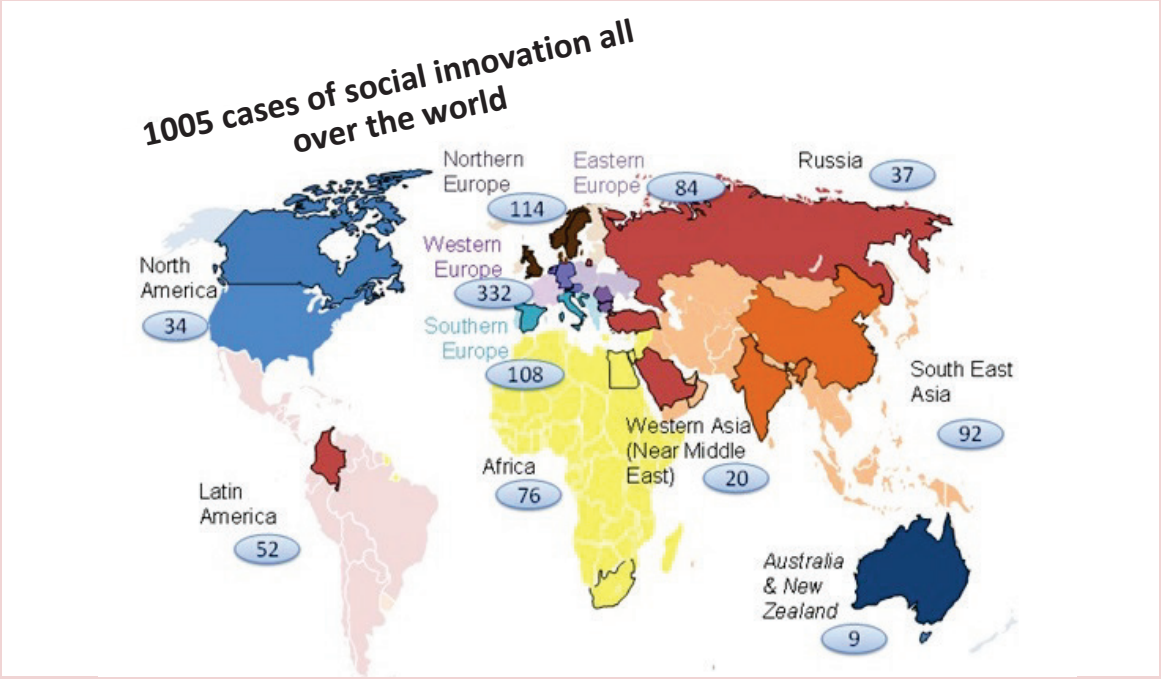
– processes of social innovation and its performance amid social change (institutionalization, diffusion, and simulation of social practices);

– functions and roles of actors and networks for the development, dissemination, simulation, and institutionalization of social innovation;

– identification of factors of critical success (and failure) leading to social changes [21].

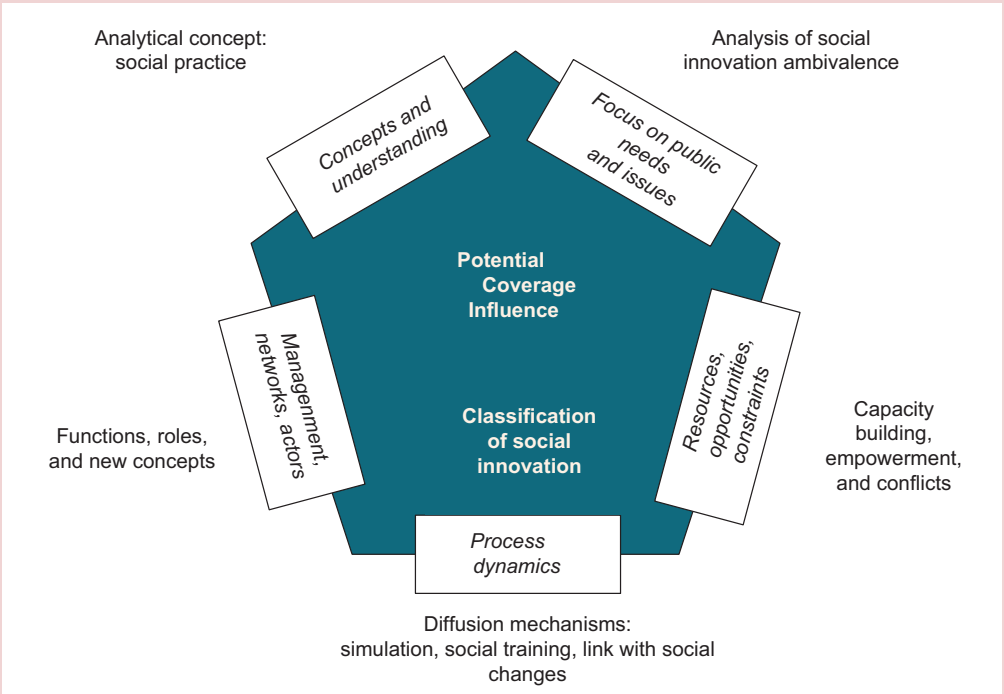
[2] Practice areas represent similar initiatives in the generalized group of social innovation, for example, various local types of micro-financing in the framework of general practice area – micro-financing.

Figure 1. Number of SI-DRIVE projects



Source: Howaldt J., Kaletka C., Schröder A. *Mapping the world of social innovation. Key results of a comparative analysis of 1005 Social innovation initiatives at a glance*. TUDO: Dortmund, 2016. P. 6.

Figure 2. Five key SI-DRIVE dimensions



Source: Howaldt J., Schröder A., Kaletka C., Rehfeld D., Terstriep J.: *Mapping the World of Social Innovation: A Global Comparative Analysis across Sectors and World Regions*. Dortmund: TU, 2016. P. 5.

Table 2. Brief information on the projects

Criteria	"Timurovtsy of information society"	VolRC RAS Research and Education Center (VolRC RAS REC)
Старт проекта	2009	2001
Project supervisor	Russian Agency for Information Society Development (RARIO)	Federal State Budgetary Institution of Science "Vologda Research Center" (VolRC RAS REC)
Project initiator	Aleksandr Anatol'evich Aigistov (RARIO Director General)	Vladimir Aleksandrovich Ilyin (VolRC RAS Scientific Director)
Project purpose	Implementation of the "KiberLikbez" methodology aimed at elimination of computer illiteracy among socially vulnerable citizens	Establishment of multi-level system of training and re-training of highly qualified personnel for science, economy, and governing bodies in the region

Sources: Direction: Timurovtsy of information society. *Russian Agency for Information Society Development, RARIO*. Available at: http://rario.ru/projects/timurovci.php; *VolRC RAS Research and Education Center: 10 years. From the idea to its implementation: in 2 volumes*. Vologda: ISERT RAN, 2013. Book 1: The subsystem of supplementary school education. 138 p.

The practice area "Education and lifelong learning" at the first stage was presented in 211 cases: 18 social innovation projects were selected for in-depth study in six global world regions such as Northern Europe (Finland, Sweden, Lithuania), Western Europe (Germany, Austria), Eastern Europe (Bulgaria, Croatia, Montenegro, Romania), Russia, Latin America (Bolivia, Chile, Argentina), and North Africa (Egypt). To achieve the research objectives in-depth interviews with different actors (participants) of social innovation projects[3] were conducted.

The case study conducted by Vologda Research Center of the Russian Academy of Sciences (VolRC RAS) analyzed positive experience in addressing the problems of the education system through two successful projects: "Timurovtsy of information society" (Moscow) and "VolRC RAS Research and Education Center" (Vologda; *Table 2*) selected at the first stage of the SI-DRIVE project. The projects have different purposes and conceptual framework, they operate in different geographical, economic, and organizational conditions. What unites them is that over a few years they made significant progress in their activities and have sufficient potential for further development.

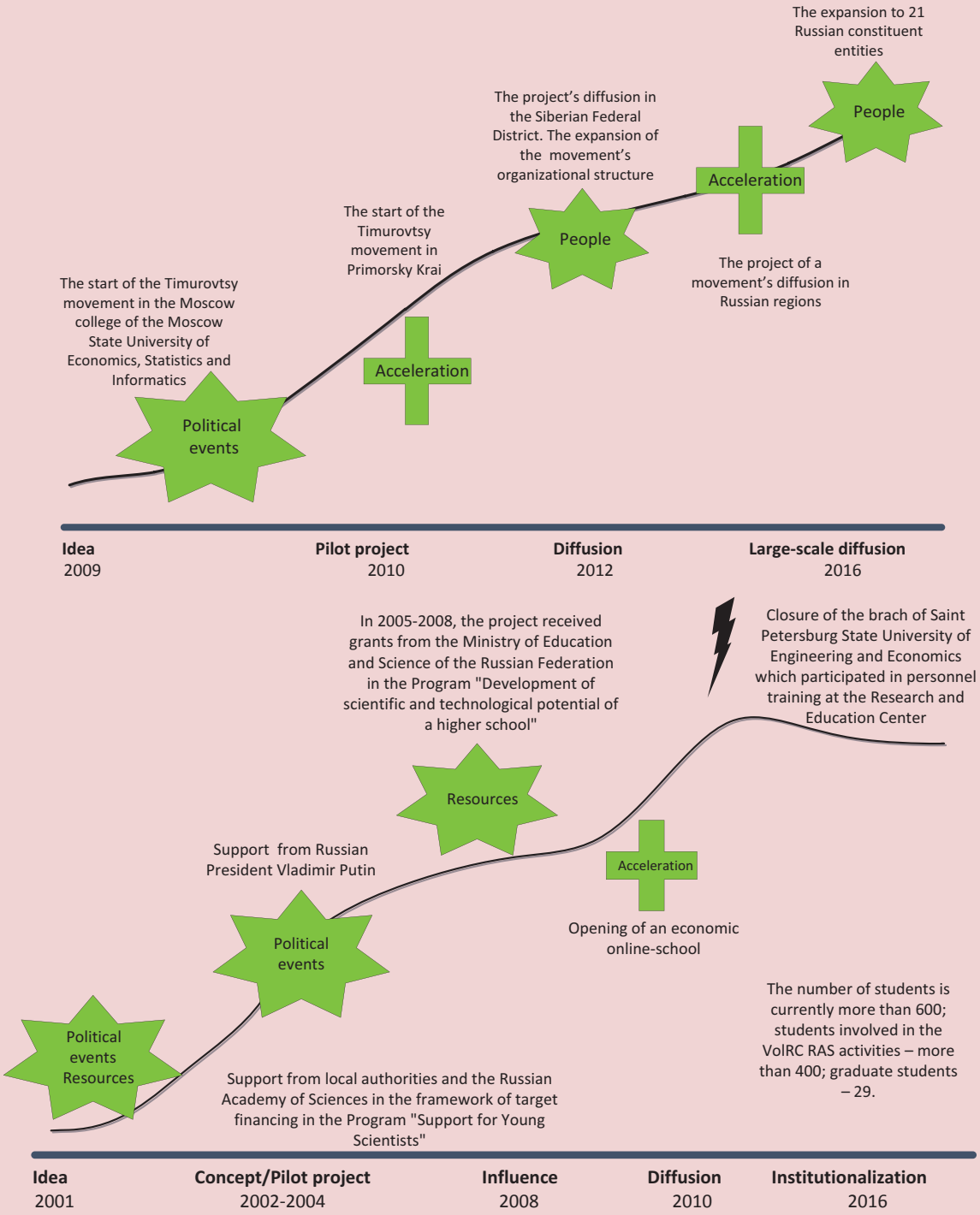
Discussion of results of case studies

The main stages of project implementation are demonstrated in *Figure 3*. In the framework of the study we sought to determine the factors and trends in economic and social life influencing the success of social innovation in education.

First of all, it should be noted that the success of the educational project to some extent depends on how the idea is embedded in the overall context of the public policy. Initiatives reflecting the objectives of the state's development strategy and their logical continuation gain more support. For example, the initiator of the project "Timurovtsy of information society" A.A. Ganin suggests that the idea of "computer literacy" for adults and socially vulnerable population groups was

[3] Further, data from in-depth interviews with A.A. Ganin ("Timurovtsy of information society"), G.V. Leonidova and E.S. Mironenko (VolRC RAS REC).

Figure 3. Biography of projects “Timurovtsy of information society” and “VolRC RAS REC”



Source: Schröder A., Kuschmierz L., Asenova D., Damianova Z., Dimova A., Bernal M.E., Cecchini S., Morales B., El Zoheiry A.H., Wageih M., David A., Golovchin M., Kuzmin I., Popov A., Soloveva T., Terebova S., Andersson T., Hultman S., Stumbryte G., Tinfavičienė I., Kalac S., Karzen M., Turza B., Brunn L., Domanski D., Ariton D., Schörpf P., Holtgrewe U. *Social innovation in Education and Lifelong Learning: case study results*. TUDO: Technische Universität Dortmund, 2017. Pp. 64, 69.

originated during the debate in the society around the content of the state program of the Russian Federation "Information society (2011–2020)" and the degree of implementation of its requirements regarding the use of public services portal: *"...The resource (public services portal) was widely financed but the utilization rate was insignificant, which caused misunderstanding and sharp criticism in the society and the media".*

At the same time, the reasons for such provisions were self-evident. People of the older generation (potential users of the portal services) due to their age characteristics face difficulties using the electronic tools and technologies and carrying out social interaction. Thus, the project offers opportunities for real saving of funds allocated by the state to implement the objectives of the program: "*...An important element of the project is the opportunities it provides for saving public budget funds. In 2014, the implementation of "Timurovtsy movement" saved more than 15 billion rubles for the state budget"* (A.A. Ganin).

However, being part of the state policy is not enough for the implementation of social innovation. A powerful driver for the implementation and further development of a project is its initiator's charisma. The success of large-scale initiatives is possible only in case they are originated by the initiator possessing authority and respect in the society and state structures. "*...The primary role in the project initiation belongs to the position of RARIO (Russian Agency for Information Society Development) Director General Alexander Medvedev Aigistov, which lies in the fact that everyone should be free to use electronic public services regardless of their location and age"* (A.A. Ganin). *"The experience of scientific and management work, the ability to find the right solutions by V. Ilyin is an integral factor in the project's success"* (G.V. Leonidova).

In order to safely shift social innovation from the stage of concept inception to its implementation and development diffusion is required, ensured by reproduction of the project's idea by the third-party actors.

As emphasized by the supervisor of the project "Timurovtsy of information society" A.A. Ganin, "*The methodology of our project is model and is easily replicated. The strategy of the developers is to create software and methodological framework for carrying out "computer illiteracy elimination", which can be easily and cheaply "replicated" in regions, developing the educational structure of this basis...*" The expansion of activities of VolRC RAS REC is one of its priority areas. The services of Research Center currently cover 14 Russian constituent entities and several CIS countries. In the future, extension of the coverage area is planned.

Arising during diffusion, the correlation between actors often leads to new partnerships and expansion of the organization responsible for the project, new regional branches in its structure. An example of such expansion is the project "Timurovtsy of information society" which forms an extensive umbrella organization: General Secretariat (Federal headquarters) – regional commissioners – an Association of volunteer–"Timurovtsy".

The project is currently expanding due to participants from Russian regions: teachers-promoters, volunteers, business. "There are a lot of cases of *our project ideas being borrowed. The imitator projects mostly adopt the name "Timurobtsy...". Federal headquarters of the movement do not forbid them to do it, but rather encourages them"* (A.A. Ganin). Since the activities of VolRC RAS REC are aimed at different categories of students, the process of active cooperation involves schools in Vologda and in districts of the Vologda Oblast and other Russian regions and CIS countries. The project interacts with schools, universities, institutes, public organizations, enterprises, etc. "*Different relations with the media, professional communities, public and state organizations, educational and scientific institutions play a significant role in the promotion and development of the Centre"* (G.V. Leonidova).

The desire to provide conditions for replication as a key to the expansion and development of the project determines an easy attitude of social innovators towards copyright protection. "*We certainly thought about the development of a trademark, but it seems unnecessary to protect copyright for the idea of the project as it deters potential actors of its replication in regions"* (A.A. Ganin). "All the achievements of the project are in public access" (E.S. Mironenko).

The success of social innovation is ensured by actors' abilities to overcome mental barriers, misunderstanding of program goals of project participants of educational relations becoming (even unwillingly) the counterparties of the initiative. According to the initiator of the project "*Timurovtsy of information society*", "*... the organizers faced the fact that headmasters and teachers in schools for "illiteracy elimination" were reluctant to participate in events fearing for the safety of school material assets, sanitary level in an educational organization after the visits of the "outsider" elderly people"* (A. A. Ganin).

Technology improving the efficiency of innovation diffusion is also of great importance in the development and operation of the projects. "*Within the Research and Education Center there is an Economic Online School which uses electronic diaries in the educational process, conducts interactive activities, teleconferences, Skype conferences, etc. It is the use of Internet technology and online learning that helped greatly expand the project's geography"* (E.S. Mironenko). "*Modern technology (computer and Internet) play a major role in the project. With their help the educational process is carried out. With rare exception, they are provided by actors on a pro bono or charitable basis"* (A.A. Ganin).

Conclusion

Thus, having studied the experience of practical implementation of social innovation projects in education, we can conclude that the main driving force for social innovation is charismatic leadership and a development strategy, as well as compatibility with the educational system. A clear action plan for the implementation and expansion of projects, as well as competent management helps avoid many complexities. Besides, an important driver for the development of social innovation in education is support from public authorities, both formal and financial. The implementation of such projects is in great demand among the

population; the use of information technology accelerates the process of innovation diffusion. The interdisciplinary nature of innovation initiatives involves the interaction of various spheres of economy, science, politics and civil society, which makes it possible to concentrate common efforts on solving a particular social issue. The main factor hindering the process of development of social projects in education is insufficient funding, particularly at the pilot stage of project implementation, which greatly limits the pace of innovation diffusion. There are certain administrative and regulatory barriers which also represent a major problem of social innovation implementation. The leveling of these barriers will significantly simplify the process of implementation of social innovation initiatives in education.

Furthermore, the authorities must understand their important role in the development of social innovation not only through their funding and promotion, but also through coordination and integration into the existing educational system. An important factor is inter-sectoral collaboration and cooperation, active involvement of the civil society (including active users/beneficiaries), which leads to the creation of the social innovation eco-system [18, p. 12]. A modern approach to social innovation should be focused on empowering education and lifelong learning, provide opportunities for unlocking the potential of social innovation on the basis of favorable innovative environment for effective participation of the civil society and integration of all interested parties.

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Information about the Authors

Antonius Schröder – Senior Research Associate, Social Research Centre, Dortmund University of Technologies (17, Evinger Platz, Dortmund, 44339, Germany; e-mail: schroeder@sfs-dortmund.de)

Aleksandra Anatol'evna Shabunova – Interim Director, Doctor of Economics, Associate Professor, Vologda Research Center of the Russian Academy of Sciences (56A, Gorky Street, Vologda, 160014, Russian Federation; e-mail: aas@vscc.ac.ru)

Andrei Vasil'evich Popov – Junior Research Associate, Vologda Research Center of the Russian Academy of Sciences (56A, Gorky Street, Vologda, 160014, Russian Federation; e-mail: ai.popov@yahoo.com)

Tat'yana Sergeevna Solov'eva – Junior Research Associate, Vologda Research Center of the Russian Academy of Sciences (56A, Gorky Street, Vologda, 160014, Russian Federation; e-mail: solo_86@list.ru)

Maksim Aleksandrovich Golovchin – Ph.D. in Economics, Research Associate, Vologda Research Center of the Russian Academy of Sciences (56A, Gorky Street, Vologda, 160014, Russian Federation; e-mail: mag82@mail.ru)

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A Concept for Program Solution to the Issues of Formation and Development of Territorial-Economic Systems

Vitalii Nikolaevich LAZHENTSEV
Institute of Social, Economic and Energy Problems of the North of the Komi Science Center, Ural Branch of the Russian Academy of Sciences
Syktyvkar, Russian Federation, 26, Kommunisticheskaya Street, 167982
E-mail: vnlazhentsev@iespn.komisc.ru

Abstract. The paper systematizes problems of territorial development from the perspective of the theories and concepts that are characteristic of traditional socio-economic geography. These problems include the area-integrated, nodal-economic and territorial-industrial ones. The role of socio-economic geography in finding scientific explanation and solution to these problems becomes more important, since it has research programs that reveal the dialectic of the knowledge of territorial organization of society and economy based not on a single theory or on a set of theories, but on their interdisciplinary synthesis. The research program is relatively autonomous from practice and gives it only its most important results that can be used for the organization of program-target management, as well. The goal of the paper is to include an analysis of the relationship between the categories "problem" and "program" in the methodology of research on territorial organization of economy. Based on the experience of national and foreign research, we show that the "problem-program" combination gives an additional effect in the scientific explanation of territorial development, if the "problem" is presented in the form of a complex theoretical or practical question, the answer to which requires both basic and new knowledge, while the "research program" is presented as one of the main units of science (according to I. Lacatos). In this case, the structural-functional dynamics of development of a particular region is considered from the aspect of organizing the work on addressing the problems of a particular type based on research and economic programs. We think that it is advisable to make a transition from research programs to economic programs according to a definite sequence, namely the one which the very problem "goes through" by the following stages:

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scientific search, scientific-technological and organizational-economic. The paper provides examples on the problem of combining the three principles of social development: economic efficiency, social justice and environmental well-being, the anisotropic model of a complex communication networks (according to R. Domański), in the framework of which this problem could be considered, and the problem approach to the analysis of territorial economic structure in the regions of the European North of Russia.

Key words: problem, program, territorial development, territorial complex and territorial-sectoral problems, economic program, scientific research program.

The problem consists in the poor state of a purposeful social system, the solution to which requires overcoming certain difficulties, including those related to obtaining new knowledge. At present, the problem as a category of scientific knowledge and acquisition of practical experience is being considered more from the viewpoint of methodology and organization of mental activity. This means that the problem needs to be understood as a reflection of actual or desired reality; in the course of finding a solution to the problem it is necessary to acquire new knowledge not only about the object under consideration and multiple objects characterizing it, but also about the activity itself. In our case, we are talking about an activitie of a special kind, which G.P. Shchedrovitskii designates as "establishment, formation and partial isolation of the design", when the relation between the natural and the artificial in the objects of our activity is considered [22, p. 67, 68]. The design here is interpreted very broadly, including all phases of forecasting, designing programs, technical, and social projects.

The book by R. Ackoff and F. Emery "On Purposeful Systems" contains the following general idea: the future can be brought closer to the one designed by the subject of management [1]. E.N. Knyazeva supports and develops this methodological position by pointing out that "...people in their processes of perception, thinking and action not so much reflect the surrounding world, as actively create and construct it"[1]. Therefore, the formulation of a problem question largely depends on the outlook of the manager or scientist and on what value and goal they choose. Here the problem is expressed in an ambiguity of philosophical and methodological interpretations of the category "target", which "serves as a driving force of action, a point of its causation and regulation..." [14, p. 182].

We should also distinguish between "purposefulness" in the objective sense, and "goal-orientation" in the subjective sense. The objective reflects patterns and trends of natural-historical processes. The subjective captures the evaluation of these processes in the framework of specifically organized mental activity, namely through *goal setting* (our intentions), *targeting* (adjustment of intentions under the influence of specific circumstances), and *achievement of the goal* (selection of specific means of obtaining the intended result) [3].

In everyday life the word "problem" is used quite often, but usually off the point. Science and management should abandon this kind of simplicity. If the task at hand is really challenging, but at the same time all inputs are known and not controversial, then it is not a problem. Scientists that study territorial

[1] Knyazeva E.N. *Sinergeticheski konstruiruemyi mir* [Sinergetically recounstructed world]. Available at: http// spknrdynmov. narod.ru /KnyzevaElena/htm (accessed 22.08.2017).

development are inclined to consider the "problem" as a category of knowledge, to which one can apply typology and classification.

Under a planning and directive economy, when allocating productive forces of the USSR, there developed a tradition to consider three kinds of problems: area-integrated, nodal-economic, and territorial-industrial.

At the base of identifying and solving the ***area-integrated problem*** was the experience of development and implementation of the GOELRO Plan (the Plan of the State Commission for Electrification of Russia), and later – carrying out technical and economic calculations on various options for optimizing spatial parameters of production systems. For example, multivariant calculations by N.N. Kolosovsky for the Angarsk project and the Uralo-Kuznetsk integrated plant [9] are regarded as classic, as well as I.P. Bardin, A.E. Probst and V.V. Rikman's calculations for the Northern coal and metallurgical base with the use of the Pechora basin coals and iron ores of the Kola-Karelian region [6], etc. Researchers at the Institute of Economics and Industrial Engineering within the Siberian Branch of the Academy of Sciences of the USSR consider in the area-integrated framework the problems of formation of the West Siberian oil and gas complex and development of the Baikal-Amur Mainline area. This type of problems was characterized both as industrial-technological, and socio-economic.

Currently (taking into account specific features of market economy and its state regulation) it would be advisable to try likewise to consider and carry out feasibility calculations for various area-integrated problems, for example, for the options of reconstruction and perspective development of the Northern Sea Route and the Volga waterway, the construction and comprehensive development of the zone intended for construction of Arkhangelsk – Syktyvkar – Solikamsk (Belkomur) railway, etc. It is not a return to planning policy thinking, but awareness of the need for inclusion of particularly important economic entities in the program management system typical of all developed countries.

The area-integrated problem is not directly related to economic zoning, but it is solved with the help of the accumulated scientific, technological, labor and manufacturing potential of economic areas where it is "located". In connection with this circumstance let us recall that V.M. Chetyrkin (one of the founders of the theory of area-based organization of economy and society) doubted the use of the word "area" because we are not talking about areas but rather about the zones of technologically and economically related enterprises, and industrial and social infrastructure. But the name is now widely used and, apparently, it should not be changed.

V.M. Chetyrkin put forward the idea of the ***nodal economic problem*** specific for each area, "which ties into a single knot all the facts and phenomena peculiar to this area, which thereby reveals the nature of interdependencies and interactions that unify the diverse production activities in a single production unit (complex); which at the same time reveals the nature of internal and external metabolism occurring in the production process, in the course of employment of people, which provides the most efficient development and strengthening of national industrial specialization in the area" [20, p. 61].

The quoted definition really corresponds to a philosophical interpretation of the category "problem"; however, it is difficult to specify and to use in the study of areas. Since the scientific

authority of Vladimir Mikhailovich Chetyrkin was and remains high, some economic geographers (including the author of the present article) "are glad" to use this definition of the nodal economic problem, but they consider the problem what they do; it turns out that each of them has their own nodal problem. This methodological error, in fact, does no harm to a particular study, as it is usually not aimed at identifying and studying the "problem" in the strict sense implied by V.M. Chetyrkin.

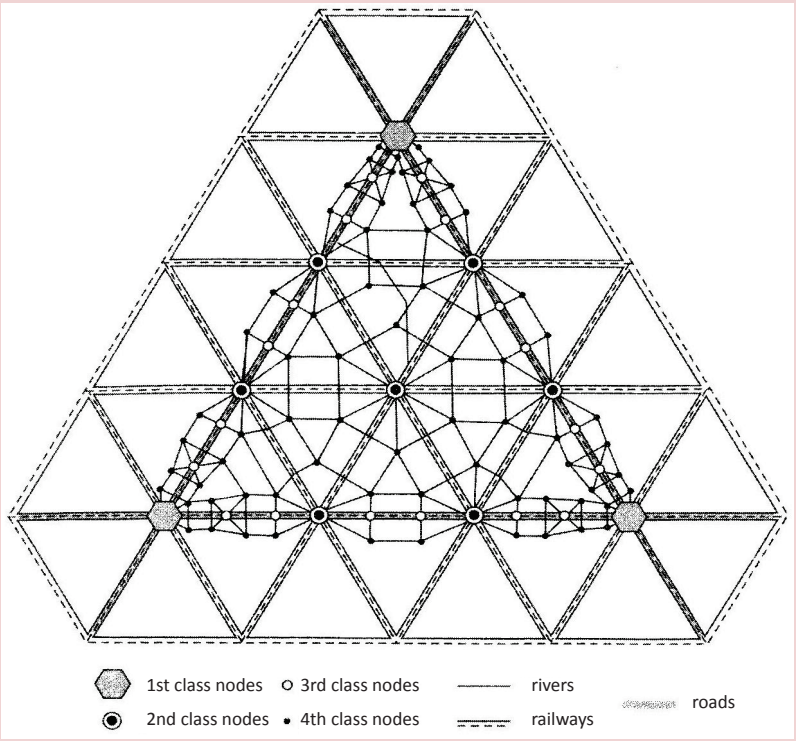
The question about following Chetyrkin's views still remains open, at least, for the author of the present paper. In order to approach a methodologically correct interpretation of the nodal economic problem, let us consider the following point made by V.M. Chetyrkin: *one and the same socio-economic problem in different areas is solved by different methods taking into account the complex system of natural and economic conditions.* We add to this key position the thesis that methods characterize a diversity of activity; the activity must be organized on a system basis; the problem of actual life (poor state of something) is shifted toward the problem of organizing an activity to handle this dissatisfaction.

This reasoning is most constructively expressed in the article by A.I. Chistobaev and Yu.N. Bazhenov published in 1985 and republished in concise form in the book [21]. "The combination of different socio-economic and natural factors affecting the community and integrity of the territory creates in the process of development a unique combination of problems to be solved in this territory. Defining the boundaries of the problem solution is essentially a zoning of the problem, and the development of methodology, theory and technique of such zoning is problem-based zoning" [ibidem, p. 145].

Example 1. The problem of combining the three principles of social development – economic efficiency, social equity and environmental well-being in relation to the world and to big countries is considered usually in the form of an ideological or political doctrine. Structurally, this problem can be shown at the level of territories that have specific characteristics of social forms of organization of production, distribution of population, natural complexes and climate. These three characteristics in the framework of the problem zoning must be coordinated so that none of them could be in a defective position. It is possible to try and make this kind of coordination in various versions and with the use of various methods starting from (as we see it) the level of such a socio-economic region, the center (or centers) (a more developed part) and the periphery (a less developed part) of which are in spatial interdependence and are connected by a single communication network. The question of whether the problem is nodal-economic (according to Chetyrkin) (?) does not have a clear answer yet.

Example 2. Polish geographer and economist R. Domański who studied the movement of people, wealth and information came to the conclusion that when reaching the greatest degree of approximation to reality the theoretical system of organization of socio-economic space takes the form of an *anisotropic structure when the properties of unequal objects depend on the direction of movement of economic flows within the system* [4, p. 40] *(Figure)*. With the development of transport and communications, and with increasing importance of social services and the need for their rapid delivery in every area, including the remote ones, the models (such as anisotropic models) are becoming more constructive; they

Anisotropic model of the complex of communication networks [4, p. 41]



are linked to the size of centers (nodes), to the carrying capacity of linear infrastructure and resilience of environmental framework, and in the end – to the territorial organization of society and its economy.

Let us pay attention once again to the wording of the nodal economic problem. In it V.M. Chetyrkin notes the concepts "interdependence and interaction" and "internal and external metabolism", which describe the anisotropic model of the territorial complex of communication networks.

Hence, the set of theories and models of territorial development can be regarded as a task to study the problem: to what extent the territorial connectivity of the elements of economic activity determines the nature of their concentration or deconcentration, as well as the configuration of socio-economic space (?); to what extent the properties and qualities of the territory influence the selection of norms and rules of economic behavior of economic entities forced to reckon with the socio-infrastructural and natural-environmental constraints of individual areas (?); and whether the challenge of reconciling economic efficiency, social equity and environmental well-being can be considered in isolation within the territorial boundaries of the territorial complex of communication networks (?).

Example 3. If we use the designated model of R. Domański within the boundaries of the Vologda – Arkhangelsk – Syktyvkar "triangle" and take into account the increasing external orientation of the North European territories on finding solutions to problems of the Arctic, then we will see primarily the need to improve the complex of communication networks, namely: further development of Arkhangelsk seaport as the support base of the Northern Sea Route;

construction of the Belkomur railway[2] (the right edge of the model); construction and repair of motor roads; reconstruction of waterways in the Pechora, Northern Dvina, Sukhona, Vychegda, and other rivers[3]. Next, let us pay attention to the economic nodes of different classes (in the model by R. Domański, four classes are allocated). Based on these characteristics, the territorial economic structure of the Dvina-Pechora area can be characterized as linear-nodal with the presence of remote areas (economically remote periphery). Here the rivers and traffic arteries predetermined the configuration of human settlement in the long term.

Taking into account the northern conditions we have identified three types of territorial-economic systems: 1) "backbone" economic complexes; 2) industrial centers remote from them (industrial periphery), which are based on the development of natural resources and maintenance of infrastructure communications (as a rule, these are centers of cyclical development, which inevitably decay over time, unless there emerges some other economic basis); 3) periphery of an agricultural type (not only agriculture and forestry, but also one which is characterized by rural lifestyle). The distribution of population of the European North of Russia (ENR) according to the specified types of systems is as follows *(Tab. 1)*.

The development of ENR in modern conditions is connected not so much with large-scale economic projects creating new energy, mineral and forestry bases (which was previously considered in the framework of the area-integrated problems), as with the improvement of existing regional and local economic systems on the basis of scientific and technological progress and interregional integration. Social and environmental improvement of economic complexes, individual industrial centers and rural periphery becomes a priority; it is necessary to increase the lifespan of existing fields, mines, and mining and timber processing plants with the use of the latest technology, to ensure balanced use of biological resources of the Northern seas, tundra and taiga territories, to create the infrastructure of the Northern Sea Route and to bring local economy in line with the needs of defense facilities. It is on this field of activity that one should search for the nodal economic problem.

The distribution of productive forces is largely due to the solution of ***territorial-industrial problems.*** Their essence lies in the

[2] The combination of scientific and research, scientific and technological and organizational and economic substantiation of the railway Arkhangelsk – Syktyvkar – Solikamsk – Perm (Belkomur) is sufficient to begin its construction. Additionally we could specify the following: the establishment of a reliable railway connecting the Urals and Siberia with the European North of Russia with consideration of the Arctic vector of development of world economic relations is a natural-historical necessity and a vital need for more than one million inhabitants of these regions. The main purpose of Belkomur is to create favorable conditions of life. Without this railway the socio-economic space of Russia is characterized as flawed.

[3] In anisotropic models of a complex of communication networks R. Domański pointed out a significant role of rivers. We also emphasize the special role of rivers in the territorial development of the European North of Russia; such rivers are the Pechora, Northern Dvina, Mezen, Onega, Vychegda, Sukhona. They largely determine the configuration of population settlement, the role of shipping and water supply, the Northern-Arctic vector of economic development of the territory, and ecological parameters of environmental protection. It is necessary to mention that the hydrographic order of maintenance of rivers in the last 20 years deteriorated. The river got out of man's control. The lack of river reclamation, dredging, and maintenance of banks – these factors have a negative impact on the watercourse. Floods have become more damaging, the number of meanders and creeks has increased, the navigating channel has disappeared; there emerged some barriers at the mouths of tributaries that vessels with a draft of 50–80 cm cannot pass. Through navigation became difficult even on the Pechora. All this has reduced the standard of living and quality of life of large numbers of people who previously considered their activity to be connected with rivers. Spring and summer deliveries to the remote areas became possible only by small vessels, and that is why the price of the deliveries has increased in 1.5–2 times. This is also a telling example of a poor state of socio-economic space in the European North of Russia.

Table 1. Distribution of the population of ENR by type of territorial-economic systems (TES), as of January 1, 2016, in %*

TES	Murmansk Oblast	Karelia Republic	Vologda Oblast	Arkhangelsk Oblast (Including Nenets Autonomous Okrug)	Komi Republic	ENR on the whole
Backbone TES	81.6	49.4	72.7	60.7	78.9	69.1
Industrial periphery	7.2	19.5	4.5	11.8	6.1	9.2
Agriculture type periphery	11.2	31.1	22.8	27.5	15.0	21.7
Total	100	100	100	100	100	100
Population, thousand people	762	630	1187	1174	857	4610
* Author's calculations.						

fact that different industries react differently to the complex of natural, economic and social conditions of the area. The problem here lies in the diversity of methods for adapting specific industries to local conditions. The territorial-industrial problem is manifested most clearly in housing construction on the territories with severe climate. Its neglect has led to widespread deformation of footing of buildings and facilities in Vorkuta, Norilsk, Magadan and other settlements in the Arctic and the Far North. Major engineering structures (hydroelectric power plants, bridges, tunnels, pipelines, railways...) are highly sensitive to tectonic splits and seismic faults; forestry and agriculture – to bioclimatic characteristics of the area, etc. thus, special importance is attached to the task of revival of experimental and zonal design and establishment of regional institutions like former "gorproekt" and "promstroiproekt".

Solutions to these and other problems require appropriate program framework. The problem should pass some sort of test so as to show whether or not it needs to be removed from the system of standard structural and functional control and put in a specially organized program management.

The program in economic activities is a tool of management and planning. The program is preceded by analysis (what do we have?), concept (what do we want?), strategy (what do we do?); as for the program, it answers the question – how do we do it?, i.e. it determines the procedure for solving a specific problem with a full description of actions and methods to achieve the goals; previously it was called network planning. Problems that require a program-based solution should be identified at the stage of strategy development.

The task of programming with respect to our topic can be defined as an interconnection of three types of problems discussed above (area-integrated, nodal-economic, and territorial-industrial) within the boundaries of specific areas and with the obligatory account of specifics of economic management activity. Here we mean that many functions of the state concerning the location of production moved into the sector of corporate planning. But the general line of territorial development of the country should remain in the jurisdiction of the state. It is appropriate to recall the words of the famous American economic geographer R. Estall, who wrote contrary to the market euphoria: "...the free enterprise system (according to the theory of Myrdal) in the case when significant differences emerge in the level of economic development between regions (whatever the reason) the "natural" forces of economic development tend to stimulate further growth of well-being of prosperous regions, often to the detriment of

others. To avoid this, you need relevant power. Under current conditions, it is government intervention that must be such a power" [23, p. 385].

R. Estall cites examples of such interference of the U.S. government. In 1968, it had identified six areas of economic development that do not coincide with the boundaries of the states; the areas are as follows: Four Corners, the Ozarks, Appalachians, Coastal Plains, New England, and Upper Great Lakes [ibidem, p. 394]. Programs for accelerated development (reconstruction) by stimulating entrepreneurship, federal subsidies and tax incentives were developed and implemented for each of them. We also recall that the government of Franklin D. Roosevelt responded to the crisis of the 1930s (in terms of regulation of territorial development) by launching the Tennessee Valley Authority project with a very interesting system of contractual relations between the leadership of the program, states and federation [2].

In our country there is also an understanding of a very clear distinction of the functions of government and business in implementation of regional development strategies and programs. For instance, V.A. Kryukov considers that "the Far Eastern economy can be boosted by the presence of a strong state in structurally important projects and investments like roads, ports, and energy. But everything else should be left to the will and propensity to risk of those who are willing to implement their potential and get a high score (as a cost of risk)... The question is how to bring intelligence to the Far Eastern economy... We should not be afraid that this will be a resource-based economy, it is necessary to ensure that it is a resource-based but intelligence intensive economy based on the activity of venturesome and creativity-oriented entrepreneurs"[4]. The formal aspect of this approach is currently seen quite clearly. There is the Ministry for the Development of the Russian Far East, it coordinates the implementation of state programs and federal target programs; the Corporation for Development of the Far East has been established and it manages territories of priority socio-economic development that should attract (in theory) business.

But let us remember that this situation brings to the fore the task of correct assessment not only of the overall effectiveness of the state and corporations, but also of the consequences of their separated activities for all regions of the country [7]. In past years, such responsibility was differentiated by levels of government, including ministries, and it was linked to programs of specific territorial types: pendulum, front, focal (including the development of program-target territorial and industrial complexes), and local [15]. Currently, such responsibility should be, apparently, identified in the contractual relations between those who draft and implement regional programs.

In scientific work, the "program" also occupies a special place. Imre Lakatos was the first to prove that research program is one of the basic units of scientific knowledge; it (the program) is a set of theories connected by common fundamental ideas and principles; its methodology explains a relative autonomy of theoretical science [12]. I. Lakatos wrote: "According to my methodology the great scientific achievements are research programmes that can be evaluated *in terms of progressive and degenerating problemshifts* [emphasis added. – V.L.]; and scientific revolutions consisting of one research programme superseding (overtaking

[4] Kryukov V.A. *O razvitii Dal'nego Vostoka* [On the development of the Far East]. Available at: https://www.sbras.ru/ru/news/39274 / (accessed: 24.08.2017).

in progress) another. This methodology offers a new rational reconstruction of science. This methodological concept offers a new way of rational reconstruction of science... The basic unit of appraisal must be not an isolated theory or conjunction of theories but rather a "*research program*"[5].

The harmonization of internal structural elements of research programs (axioms, hypotheses, theories) usually leads to interdisciplinarity. This is natural, since any object of a comprehensive study is multidisciplinary. In addition, the interdisciplinary approach increases the possibility of refutation of a particular scientific research program, which is essential condition of the dialectic of scientific knowledge. In the framework of one science such refutation is sometimes difficult, but it is feasible with the help of other sciences.

The work within the framework of "problem – program" for Russian geographers, economists, philosophers seems routine and its technology is more or less clear. In economic geography it is briefly expressed in the thesis: "Problematic zoning is an integral part of program-target planning" [21, p. 146]. An example of a broad methodological consideration of the "problem – program" pair can be found in a collection of scientific papers [8], which back in 1987 defined the role of research program in development of entire science (M.A. Rozov: "...Science is... nothing but a way of existence and development of such programs", p. 11) and its individual disciplines, including economic and social geography (B.A. Shuper: "All the best theoretical findings by geographers were obtained with the help of constructing research programs in which the categories and methods of mathematics and other sciences were transferred", pp. 203–219). A more recent example is a monograph by P.A. Minakir and A.N. Demyanenko, in which the works of I. Lakatos are applied to spatial economics as a research program [16]. Philosophers draw our attention to the difference between research and collection (gathering) programs. The latter do not use research as a process of obtaining new knowledge, but show the system of scientific findings necessary to understand the nature of the problem at hand [19].

We emphasize another important point. The methodology of program-research thinking sometimes leads to the conclusion that the paradigm of a particular science needs to be changed. A.E. Levintov proposes to adopt this "extraordinary" decision with regard to economic geography: from economic to business geography, from area to region, from zoning of production to selection of types of territorial economic orders [13]. It would mean a restructuring of research programs, which in essence cannot be excluded, but we can try to refute it, providing the scientific community with another research program within the framework of usual "motives" in the geography of social development [5].

The use of research programs in the development and implementation of economic programs is also a kind of problem and one of the challenges of practical importance. Based on the above, we shall proceed from the fact that any doctrine on territorial development that sets out the sequence and connectedness of theories exploring specific or abstract economic-geographic systems in terms of scientific and/or practical problems (including the formation of the culture of geographical thinking) is a research program, to a certain extent. Indeed, many authors of theoretical works on social and

[5] Lakatos I. *Metodologiya issledovatel'skikh program* [Methodology of research programs]. Moscow: Ast: Ermak, 2003. Pp. 274-275. Available at: // http://vikent.ru/enc/1929/ (accessed: 21.08.2017)

economic geography and regional economics express their thoughts in the program aspect (what we are dealing with, what and how we should do in accordance with the change of the values of certain theories of territorial organization of society), but most of them implement their own program directions very rarely. Authors are even more seldom engaged in proving the feasibility of replacing previous research programs with their own program for practical reasons. And it is not a coincidence, since the transition from theory to practice requires special methodological explanation.

In our work [10] we make an attempt to show the transition from research program to economic program by answering the following questions: how can we apply a set of interrelated studies and scientific concepts on spatial development (study of geosystems, theory of social space, scientific concepts of "function of the area", "center – periphery", "regional property", "territorial economy", etc.) to actual development of specific territories with regard to their properties and qualities? *(Tab. 2)*. It is suggested to be implemented with the help of systematization and organization of services of geographic activities and revision of the content of spatial planning. However, there may be other judgments.

The following questions are of interest: can there be a combination of these theories and concepts in one research program if they fully or partially "deny" each other (?) (apparently, something would have to be excluded); is the selection of the theories and concepts a collector program rather than a scientific research program?

Although the author tried to pair the basic concepts and methods of related sciences (first of all, socio-economic geography and regional economics), assuming that such a pair determines the meaning of interdisciplinarity

Table 2. Formation of research programs on the subject of territorial development [10]

Theories and concepts	Brief statement of the source position for a research program on the subject of territorial development
Socio-economic geography	
Theory of formation of areas and the territorial-industrial complexes approach	Productive forces form territorial complexes.
Theory of linear-nodal structures	Distribution of population and production is in the form of territorial nodes, communication networks and economic landscapes.
Concept "center–periphery"	The negative syndrome of periphery is overcome by introducing economically remote territories to the scientific and technological potential of central territories.
Idea of subject regions and interregional spaces	The region is an arena of activities and interests of different regional actors, including individuals. An individual is unique, so is their environment.
Theory of socio-economic space	Every kind of social and economic activity has its spatial boundaries. The activity determines the space.
Doctrine on geosystems	Natural and social geosystems have dimensional consistency and form the complexes "nature – population – economy".
Concept "function of the area"	A certain part of geographical space bears (or can bear) an economic function conditioned by its natural and social characteristics.
Regional economy	
Concept of regional ownership and territorial management	Regions (constituent entities of the federation), municipalities and self-governing territories have the property that they multiply and use for the public good.
Mechanism of development of territorial-economic systems	Economic and management mechanisms have a specific form of manifestation in relation to territorial development.

and sometimes leads to new scientific results in the study of territorial-economic system, there still remains some doubt concerning the correct choice of an algorithm for obtaining the synthesized knowledge and its inclusion in the program of economic activities.

As for the problems of spatial development of the whole European North of Russia, we have found only one book written in the "research program" key [18]. It was published in 1966 and is devoted to the study of natural conditions and natural resources in connection with certain areas of resource management. It was mostly this book that motivated us to consider programs that deal with the North to be research programs if:

– natural, economic and social basis of life of specific communities of people is represented as a whole in the form of natural-economic complexes (geosystems);

– the study of specific geosystems takes into consideration "cross-cutting" specific northern characteristics (climate discomfort, permafrost in some areas, polar nights and days, snow and ice, lack of heat and excess of moisture, lack of ultraviolet, unique natural resources, traditional agriculture of indigenous ethnic groups, etc.);

– in addition to "cross-cutting" characteristics, the specific features of areas are taken into account[6] [11; 2017].

Transition from research programs to economic development programs was expressed in 1972 by V.S. Preobrazhensky in the following phrase: "A scientific problem mostly takes the following path: first it is a problem of scientific search, then it becomes a scientific and technological problem, and after that transforms into an economic and organizational problem. Understanding these differences is essential for the optimal organization of work of scientists and for the rational construction of a system of geographical services" [17, p. 16].

At the scientific and exploratory stage of "life" of the problem there is a scientific explanation of the content of the object of study; arrangement of properties, qualities and relationships of the object in a certain order; analytical division of the object into parts and their subsequent grouping according to substantial grounds and much more, which is the essence of a research program.

[6] For example, the *Karelia-Kola area* of the European North of Russia has the following features: the Baltic Shield, a compressed space of the global watershed, denudation (bare, slightly covered by loose Quaternary deposits) plains, rugged terrain, active metallic and nonmetallic mineralization, the abundance of lakes and small rivers suitable for obtaining hydropower, ice-free coast of the Barents Sea; the border (Nordic-Finnish) position. These characteristic features of the area determine the requirements for the modernization of the mining and forestry industry, development of the western coast of the White Sea, the improvement of transport and power communications, tourism development and creation of environmental systems, taking into account the global value of the meridional strip of the lake, forming the northern areas of "green" agriculture, coordination of relations with Finland, Sweden and Norway.

The *Dvina-Pechora area* of the European North of Russia includes the north-east of the East European Plain (in the geological aspect – the Russian craton) with very active tectonics and mineral formation (geological potential of the North-East of the Russian craton, along with Northern and Polar Ural, according to our calculations is 5–6 times higher than its other parts, which resulted in the accumulation of hydrocarbons and concentration of solid minerals); deep rivers that could be used as transport routes and fishing sources, large bays of the White Sea, landscape diversity in the taiga and tundra; the global watershed that stretches across the southern border of the region; ethnic and cultural diversity. Regarding this characteristic, we can determine that the most relevant issues for the Dvina-Pechora area are the issues of comprehensive use of resources of the Timan-Pechora oil and gas province and Timano-Severouralsk minerals and raw materials combination. Primary tasks in forestry are forest economic zoning and removal of threats related to undesirable change of tree species and drying out of spruce forests. The potential of agriculture in the areas of middle and southern taiga and mixed forest zones is necessary to enhance with the help of the measures aimed at the restoration and improvement of soil fertility and in the zones of forest-and-tundra and tundra – preservation of mosses and lichens as fodder base for reindeer husbandry.

Table 3. Program solution to the problem of formation and development of territorial-economic systems that meet the requirements of economic efficiency, social equity and environmental well-being

Program	Subject of activity in the sphere:		
	Economic	Social	Environmental
Research	Increase in productivity through a balanced use of territorial resources of public purpose	Overcoming social inferiority of the periphery within the borders of the territorial communities of people	Allocation of eco-economic complexes as objects of social reproduction
Research and technological	Technical and economic calculations to optimize territorial balance of resources of public purpose	Designing social space for comfortable living	Geo-ecological design and development of proportions of reproduction of natural resource potential of the territories
Organizational and economic	Improvement of mechanisms of territorial organization of economy	Development of norms and rules of social security of the population taking into account natural and geographical features of its settlement	Development of rules and regulations for environmental functions, taking into account specific features of natural resource cycles

The scientific-technological stage adapts the theory to practical needs, highlighting theoretical results that are most important for solving specific tasks.

The economic-organizational stage includes the ranking and sequence of practical actions toward achieving the goals; formation of organizational structures and institutions for managing the process of acquisition of new knowledge; replication of pilot design products in mass production and use.

As applied to the subject of territorial development, the programming structure is shown in *Tab. 3*. It follows from the table that it is necessary to consider the danger of exaggerated simplicity in understanding the relationship between science and practice. Science refers to practice on the basis of theory, in the form of attempts to check the accuracy of its research programs; practice refers to science on the basis of experience, including the experience in the development and implementation of economic programs and other strategic planning documents. At the junction there emerges a special kind of methodology for obtaining the knowledge on how to move from theory to practice.

We also indicate one important fact: it is not a research program that is transformed for practical purposes, but its results, if practice is ready to use them. This very circumstance provides relative autonomy for the development of the theory.

Thus, among the problems of territorial development (area-integrated, nodal-economic, and territorial-industrial) the nodal-economic problem of a particular area (region) is the most difficult for understanding and practical application. We admit that this type of problem can include the ambiguity of the choice of means and methods of harmonizing the three components of social development – economic efficiency, social equity and environmental well-being – taking into consideration the properties and qualities of particular natural-economic

complexes. Not all socio-economic problems are included in the system of program and target management, but only those that cannot be solved by standard structural-functional management. The target program must include a block of generalization of the most important results of relevant research programs.

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Information about the Author

Vitalii Nikolaevich Lazhentsev – RAS Corresponding Member, Doctor of Geography, Chief Research Associate, Institute of Social, Economic and Energy Problems of the North of the Komi Science Center, Ural Branch of the Russian Academy of Sciences (26, Kommunisticheskaya Street, Syktyvkar, 167982, Russian Federation; e-mail: vnlazhentsev@iespn.komisc.ru)

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Public Administration Quality: Assessment Criteria in Comparative Territorial Frames

Konstantin Nikolaevich KALASHNIKOV
Vologda Research Center of the Russian Academy of Sciences
Vologda, Russian Federation, 56A, Gorky Street, 160014
E-mail: konstantino-84@mail.ru

Abstract. The purpose of the article is to generalize, systematize and develop a number of key theories and concepts of public administration efficiency and quality. The author classifies and criticizes the conceptual framework of the study and evaluates the efficiency and quality of public administration. It has been found out that the traditional "functionalist" approaches based on assessment of the achieved socially significant results or economic growth are important, especially in the context of using the program-target method of administration, yet insufficient. The novelty of the research is that in contrast to the authors proposing assessments based on trivial indicators of regions' socio-economic development, the author substantiates the importance of using the complex approach in assessing the effectiveness/quality of public administration, which helps consider not only the "effectiveness", but also the quality of procedural mechanisms of public administration (autonomy of the executive power in choosing mechanisms of the implementation of identified policy goals; level of transparency and objectivity of mechanisms of selection and job promotion, professionalization of government employees). The research methods include system analysis and applied conceptualization. The article considers the following three sources of basic criteria of the quality of public administration: 1) the system of criteria of M. Weber's modern state model; 2) B. Rothstein's theory of impartial political institutions 3) P. Evans' concept of embedded autonomy. The practical significance of the article is that it shows in detail and with examples of the Russian management practice that the use of theory-based criteria for assessing the quality of public administration is accompanied by a set of complex problems, both methodological and instrumental.

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Many of these problems have not been solved yet. In the final part of the article, the author, referring to the current experience of regions, analyzes the difficulties of implementing the outlined concepts in the framework of practical assessment of public administration quality and efficiency. The author considers that a promising area for the development of this research is the development of methodological tools for assessing the quality of public administration at the sub-federal level, based on methodological criteria which are ignored in the modern practice of public administration.

Key words: public administration efficiency and quality, criteria, Weberian state, theory of impartial political institutions, concept of embedded autonomy.

Introduction

The issues of public administration quality and efficiency are at the center of attention of both executive authorities and researchers in various scientific spheres (the desirability of separating management by sphere, including public and commercial sectors, is interesting itself but still requires separate discussion)[1]. However, this diversity of research projects and published works which are often very superficial and "functionalist"- biased hides nearly total lack of valuable methodological approaches to the assessment of the quality of state institutions and, more importantly, ignoring the search of objective criteria for this assessment.

However, political and social science has formed some basic concepts, the use of which creates preconditions for objective assessment of the quality of public administration at the level of both executive bodies of the territory in general and in specific sectors. It is necessary to highlight at least three independent productive areas in assessing the quality of public administration. First, M. Weber's procedural model based on principles of selection, rotation, and material remuneration of public officials, which is one of the most important aspects of effective management [2]. The procedural aspects are developed in B. Rothstein's and J. Terelya's theory of impartial political institutions, which nominates impartiality as an independent criterion of the quality of public administration [14; 22]. It is important to mention the scientific contribution made by American scientists P. Evans and M. Jensen to the development of the spheres under review. They paid attention to the delegation of authority and formation of mechanisms of effective communication in hierarchical structures at micro and macro levels, which proved extremely popular for deep understanding of the quality issues of public administration in modern political and economic conditions [15; 16]. F. Fukuyama outlined the key and most common errors of assessing the quality of public administration including the use of indicators of achievement in a number of evaluation criteria and disregard of exogenous factors in their formation be it political context, activity of the civil society, or participation of local communities. He suggested relying on the link of criteria of "efficiency – autonomy" in assessing the quality of administration as an alternative to controversial methodological approaches [21].

However, the resolution of the conflicts between the selected theoretical areas remain a serious methodological problem, which, as a rule, are private rather than fundamental.

[1] H. Simon wrote that the differences between public and non-public administration are greatly exaggerated and relate to the degree, rather than the nature of the cause [5].

The article attempts to identify these conflicts and propose measures to address them, which would be another step towards the formation of optimal methodological frameworks for assessing the quality of public administration. Despite the fact that the use of each approach is associated with a number of instrumental problems, their detailed analysis is beyond the scope of the article. Its purpose is to conceptualize the difficulties and application constraints, especially in spatial dimensions, methods of assessing the quality of public administration, and to summarize the important criteria for such assessments to rely on.

Why is the development of the institutions of "negative freedom" not considered as an objective criterion of public administration quality

It is known that the current political system should be based on three main pillars – a strong state, rule of law, and democratic justice in steady equilibrium with each other [12]. However, although most Western countries have successfully achieved this structural balance, many developing countries still demonstrate various variants of branching in the indicated vectors. Thus, the imbalance between the democratic development and the formation of liberal institutions described by F. Zakaria in "The Rise of Illiberal Democracy" lies in the fact that political leaders, having the trust of the people and sufficient legitimacy, often tend to violate constitutional standards after assuming power or being re-elected [28]. F. Fukuyama, in turn, indicates the examples of differences in the development of state institutions and what can be called institutions of "limitation of authority" or, referring to the terminology of I. Berlin, the institutions of "negative freedom" [1; 20]. Examples of imbalance between modern state structures, on the one hand, and successful protection of civil liberties and democracy on the other hand are so obvious that they can be detected even in aggregated data such as World Bank estimates[2] [17] (see Appendix 1). They indicate the absence of strong cause-and-effect relationship between the three indicated variables, therefore the democratic development cannot be considered a sufficient prerequisite for the creation of mature state institutions. The formation of functioning bureaucratic structures is an independent and a much more complicated task than organization and holding of free election [19].

However, the concept of governance quality ("good governance"), which first appeared in the documents of the UN Development Program, considers the state of institutions of the civil society, democracy, and the rule of law the main criteria of "proper" governance, along with the efficiency of the executive power understood as a compromise between costs and achieved results [24]. On the one hand, this problem definition seems quite adequate. It is impossible to ignore and deny the great expectations set for institutions of the civil society in the modern world in terms of enhancing the effectiveness of bureaucratic structures, whether it is fighting corruption or ensuring the quality and accessibility of social services. On the other hand, there are several

[2] World Bank methodology (authors – D. Kaufmann, A. Kraay and M. Mastrucci) is distinguished by the breadth of geographical representation and the possibility of dynamic mappings (with data on established methods from 1996). The World Bank toolkit helps identify valuable facts and patterns. In addition to fixing the overall global image by main components of assessing the quality of public administration, the study of changes in the situation for long time periods in conjunction with the indicators is also of interest.

reasons to question the productivity of such a broad approach to selecting the criteria for public administration quality. Leaving aside the deviations where civil union designed to control the government are formed at the initiative of the government itself as decorative and servile structure, and therefore do not have any influence on decision-making, we pay attention to fundamental constraints. First of all, it should be noted that external control itself, whatever it is, is unable to create effective institutions and mechanisms of the executive power "from scratch". On the contrary, the basic level of the quality of state institutions, which exists as a separate "constant" and is not dependent on external impacts, is essential [20]. Besides, control should be moderate, the bureaucratic structures must have a sufficient degree of autonomy and independence from the changing political conditions and fluctuations in public opinion. The idea of balance between autonomy in decision-making and control is in the framework of P. Evans' concept of embedded autonomy [15]. Executive bodies are to maintain the critical view from the society, but, firstly, it does not guarantee practical success, and, secondly, violation of optimal boundaries can give rise to forms of political corruption such as clientelism. Therefore, it is fundamentally important to separate the activity of executive bodies from the development of institutions of democratic justice and the rule of law for objective assessment of the quality of governance [21].

Thus, understanding the role of institutions of "negative freedom" in improving the quality of government structures and providing transparency in the decision-making process, one should neither exaggerate their importance in the growth of the quality of governance, nor include them in the system of assessment.

Why should the quality of governance be analyzed regardless of political context

Assessment of governance quality is associated with the need to separate policy and management itself. The former is related to the activity of the state in the sphere of universal and global issues, the latter is referred to its actions in the implementation of specific measures. In order to objectively assess the quality of the executive power, it is necessary to exclude parameters of political preferences from the assessment. Prominent researchers and public figures such as J. Bluntschli, M. Weber and V. Wilson repeatedly stressed the fundamental importance of this distinction: management can be bad or good regardless of political context[3] [13; 23; 26]. German sociologist Max Weber in his famous lecture "Politics as a vocation" distinguishes, relatively speaking, between a political leader (a charismatic person) and a dispassionate government official [23]. Similar position is expressed by W. Wilson in the essay "The study of administration": he states that public administration is part of political life only to the extent a machine is an integral part of the production process. "If I see a murderous fellow sharpening a knife cleverly, – he writes, – I can borrow his way of sharpening the knife without borrowing his probable intention to commit murder with it; and so, if I see a monarchist dyed in the wool managing a public bureau well, I can learn his business methods without

[3] A famous phrase by I.V. Prangishvili "There are no poor or rich states, there is proper or poor governance" in its aphoristic form indicates that the quality of governance has its individual value beyond both political and economic context. The quality of the state, thus, represents a proportional correlation between resource potential and achieved results.

changing one of my republican spots" [26]. The theory of impartial political institutions which appeared a century later is, in fact, based on the same thoughts about the branching of the democratic system, which has two sides controlled by opposite rules: political bias of the participatory process and impartiality of the executive process [22]. Supporting this theoretical basis, F. Fukuyama takes it as an initial prerequisite for describing the common characteristics of the methodological framework for the assessment of governance. A significant feature of public administration is introduced by the point of ignoring the regime dominating in the country (democratic or authoritarian) [21]. We believe that this nuance reflects the meaning of paradoxical statements prevalent in political journalism claiming that in some totalitarian countries life is not worse than in liberal democracies. There is strange outrageous confusion between the concepts "state" and "democracy" in the criticism of "color revolutions" including on the part of their participants who are later disappointed that the democratic "revolutions" did not bring welfare. In fact, the solution to urgent and routine issues such as supplying settlements with drinking water, providing residents with education and healthcare services, fighting against unemployment and poverty are the objectives of government rather than democratic institutions [10; 19].

Russian scientists V.I. Yakunin, S.S. Sulakshin, V.E. Baghdasaryan and others and others in the book "The quality and success of public policies and administration" also stress their commitment to a marked duality principle. The proposed approach to the assessment of governance quality is based on comparing the results of management activities and publicly stated goals. However, criticizing alternative methods for susceptibility to influence of political preferences, the authors still refer to the method of expert interviews which is not devoid of subjectivity [6].

Erasing political undertones creates a number of interpretation problems. Indeed, if the quality of governance is measured without considering political aspects, one must impartially assess (the estimates may probably be high) the work of the US Ministry of Defense during the invasion of Iraq or Russia's "return of Crimea". If we agree with this principle, in fact, we get a sound argument in favor of the analysis of the Soviet administration in terms of finding the "best practices" or, approaching the problem from the opposite side, we can no longer explain any failure of the Soviet government by the viciousness of socialist ideas. The nomenclature principle of the state policy existed in the Soviet period by definition involved filling the "apparatus" with political appointees, but it was not always arbitrary, the professional qualities of "job seekers" were also taken into account. However, can one highly appreciate the work of the executive authorities who dedicate themselves to contradictory, absurd, or "annihilating" representative directives? Does this not contradict with the procedure requirements?

The separation between politics and administration is associated with difficulties of purely instrumental nature. For example, it is easy to constitutionally guarantee free social services but their practical implementation is extremely difficult. For example, during the assessment of performance of ministries there is the need to understand objective possibilities

of higher structural units start and end in terms of influencing the situation and where there are possibilities of negotiation between the civil society and legislative bodies with a slim chance to reach consensus. Indeed, there are many examples where criticism would be more fair to address to the civil society inactive to defending the interests of the population in, say, the allocation of budget funds, rather than to the executive authorities. What else except for lack of political traditions in reaching consensus between the civil society and the authorities, especially legislative, in the formation of the desired parameters and guidelines for the development of the healthcare system in Russia led to the formation of its eclectic and contradictory forms?

What criteria can serve as a framework for assessing the quality of public administration

Perhaps the most popular approach to the measurement of governance quality is the assessment of the social effect. Assessing the quality of governance from these perspectives means answering the question: how fully does the state implement its basic functions ensuring population's access to national (e.g., defense) and local (road-transport infrastructure, drinking water, etc.) public goods. Public goods provide benefits in a limited area, therefore they can form the basis for regional studies of effectiveness of executive authorities.

We recall that World Bank experts distinguish between three types of state functions according to the degree of difficulty: minimal functions, medium functions and functions of active interference. Minimal functions are basic and lay the basic principles of the state: defense, internal order, protection of property rights. As the state successfully addresses its minimum objectives, it can claim to implement more "energetic" functions [27].

Thus, addressing the issue of public administration quality in the territory requires the correlation of the degree of implementation of state functions and its capabilities. In this case, state guarantees of the full range of services can be regarded as both insufficient governance and an achievement depending on how well these guarantees are fulfilled. Moreover, the provision of basic social services may be supervised by different levels of hierarchical structures, including those differentiated according to administrative and territorial principles (state authorities at regional and municipal levels), which adds to the complexity of assessment, including due to absence of such data set. Most often researchers have to confine to official statistics and expert reports. But how valid are the indicators – do they reflect the real situation in the selected aspect and from the standpoint of governance?

This problem is traditionally solved by using indicators which theoretically define the broad social result (in education it can be the literacy rate, in healthcare – morbidity and mortality rates). For example, methods of assessing the performance of healthcare systems in Russian constituent entities developed by the experts of the Higher school of health organization and management of the Russian Federation under the leadership of G.E. Ulumbekova, are based on indicators of public funding of healthcare and life expectancy at birth in the regions taken as a result. However, life expectancy is determined by a complex of factors, the efforts of the authorities being among them. With all the positive aspects of these methods it is impossible to separate the

efforts of executive authorities and the influence of the environment. For the same reason the growth of life expectancy noted in Russia is demonstrated by the Ministry of Healthcare as a healthcare performance indicator. Indeed, during 2000–2015 life expectancy in Russia increased by 5.5 years. However, the positive trend in life expectancy is a natural global process covering almost all world countries. During the same period, this indicator increased in developed countries (In the US – by 3.8 years) and in countries with medium and low level of economic development: Romania and Belarus – 4.3 years, Ukraine – 3.8 years, Tajikistan – 6 years. Finally, the contribution of activities of executive bodies, medical services, etc., to the growth of life expectancy is difficult to assess, especially in terms of how adequate it was compared to the desired or potential option[4]. Thus, the assessment of governance quality based on the results of activities has fundamental and insurmountable limits.

Theoretically this problem can be solved by econometric techniques, for example, estimate the degree of influence of a set of exogenous factors on the outcome on the basis of correlation–regression analysis and develop the necessary equalizing indices; however, this will significantly reduce the reliability and functionality of the assessment methodology in terms of practical governance. Experts note that it is more correct to consider the social result as a variable dependent on a certain criterion of state capacity, formed on the basis of more reliable and theoretically sounds framework, rather than an independent criterion of governance quality [21].

Population surveys, being an alternative for statistical indicators, can be used as a basis for evaluating the activity of executive authorities but they are only indirect criteria of governance quality, therefore can hardly be interpreted. The citizens' opinion is important but it is not always competent. For example, the establishment of stabilization funds financed by commodity exports amid unstable commodity prices and maintaining the basic level of budget expenditures is a reasonable objective, yet the citizens are unlikely to agree to it [4].

There is a need to assess the system of governance prevailing in the country, industry or individual organization not from the standpoint the results of its work but from the point of view of the quality of institutions as such. There are variables reflecting the quality of the state in the procedural aspect. We have them in mind when we refer to effective modern state institutions established in post-industrial countries (recognized samples – Denmark, Sweden and Singapore), the effectiveness in this case is referred to as both social well-being and solely qualitative aspects (including absence of corruption). A classic attempt to define governance in the procedural aspect belongs to M. Weber. He formulated a number of criteria for modern bureaucracy (today referred to as "Weberian"). Government officials (bureaucrats) possess personal freedom and submit to authority only within the set issues, they are arranged in a pronounced hierarchy of offices with defined spheres of competence. Bureaucrats are hired on a contractual basis in strict accordance with their technical

[4] There are other limitations of these estimates. For example, V.I. Klistorin notes the risk of inconsistency between the indicators for assessing the effectiveness of authorities at the regional and municipal level in Russia and their real abilities to influence the situation, both due to the existing regime of inter-regional cooperation and active involvement of federal authorities in the regional policy [7].

qualifications; their career advancement is determined by personal professional achievements [2].

The theory of impartial political institutions became complementary to the concept of "Weberian" state. Impartiality, considered by B. Rothstein as a quality criterion of the executive power, is a property of governance, according to which government official implementing laws and policies should not take into consideration anything about the citizen or case except what is provided by law or policy in advance [22]. This principle also applies to social services, "recruitment" of government officials, and staff rotation which should be based on objective assessment of merits and qualifications, rather than on personal selfish motives and affections. The principle of impartiality has important advantages. Firstly, it combines three main features of modern governance: independence of government officials from principals and their political preferences, procedural maturity, and exclusion of discrimination forms from social services. However, as rightly noted by critics, the fact of impartiality does not solve the problem of quality of social services if the correlation between these variables is not proved [21].

At first sight it may seem that ideal Weberian bureaucracy already contains the criterion of professionalization of government officials. This is partly true: accounting of qualifications and merits of government officials is really built into the Weberian model. However, acquaintance with P. Evans' concept of embedded autonomy and some F. Fukuyama' ideas interpretations stemming from it inclines us to make a conclusion that a number of other elements conflict with important modern ideas about professional development of government officials. For example, strict discipline and control is contrary to the idea of bureaucratic autonomy, according to which officials of executive bodies do not just blindly take orders from principals, but also act independently within their competencies by setting development goals and objectives, not to mention the free choice of tools to achieve them.

The level of education and professionalization of government officials are things that are more elusive to formal analysis and measurement. Today we are witnessing the spread of professional training practices for government officials in Russia (in the framework of higher and vocational professional education). But can this fact indicate the movement in the right direction? Unlike natural sciences, management, marketing, and administrative management provide nutritious environment for arbitrary opinions and unprofessionalism. These disciplines will never speak the language of theorems; however, management mistakes here are no less dangerous.

There is a reason to believe that at the level of theoretical knowledge and attitudes among Russian government officials there is adequate understanding of the need to improve the quality of public administration. The proof is the State program "Development of public administration in the Vologda Oblast for 2013–2018" which sets forth correct quality criteria: availability of competitive procedures as a condition for admission to civil service, sophisticated system of professional development and remuneration based on performance, etc. However, the indicators

indicating the movement to theoretically correct reference points are too formal. The revival of policy-making work in civil service is not yet an evidence of improving the quality of governance: legal acts can be dubious and mutually inconsistent. Professional development of civil servants may be limited to attending scheduled routine activities such as seminars or lectures (see Appendix 2). Assessing their quality is impossible. Finally, even the fact that selection and rotation of government personnel is carried out according to strict formalized procedures does not exclude the possibility personal preferences influencing the outcome.

Assessment of the quality of governance based on the procedural aspect should be accompanied by consideration of at least three circumstances. First, lack of its direct correlation with the quality of public and social services. We agree that selection of employees for work in government agencies should be carried out according to objective criteria, rather than on the basis of clientelism and political preferences. However, the execution of this principle itself does not guarantee that the selected employees will perform their work efficiently and be responsive to the consumer demands [3]. Second, the standard organizational algorithm for solving problems of social services, which states "a need as a problem, supply as a solution, and civil service as a tool" is no longer sufficient. Mechanisms of social services require a more flexible approach to the division of obligations in supply and quality of services [25]. Finally, the condition of total accountability of officials formulated by M. Weber is not certain in modern conditions. Although no bureaucratic system can realize its own goal setting regardless of whether the regime is democratic or authoritarian, but the scope of orders and their amplification can vary greatly. Modern conditions demand the transfer of the freedom of decision-making to lower levels of the management hierarchy, the most important of them are taken not by a principal, but by an actor who possesses maximum operational information and can act on rapidly changing circumstances. Autonomy in modern bureaucratic structures is an important condition for governance quality and achievement of better results. However, autonomy cannot claim to be an independent criterion of governance quality for the reason that it has unstable boundaries. It is hard to state with certainty which "stone" generated this or that concentric circle of solutions. Moreover, a high level of independence in decision-making amid informational asymmetry may lead to negative consequences if the actor does not have sufficient skills or work motivation [16]. A reasonable solution to this dilemma is to study and evaluate the capacity and autonomy of bureaucratic structures in a single bundle: high capacity can justify broad autonomy and, vice versa, low performance requires the use of tools of strict control. For this reason, the most important aspect in assessing the quality of public administration is to determine the extent of balance between delegation of authority and system control in the context of the state structure with a particular level of capacity. However, what is meant by structure capacity? In the preferred variant, it should combine both procedural and functional elements while maintaining industry specification (for each separate industry or sphere the elements of capacity

may vary). Depending on this specific features capacity may reflect the ability of regional executive bodies to accumulate resources, monitor compliance with quality standards and availability of services, competently manage goal-setting, maintain the level of qualification and motivation of government officials and employees of subordinate organizations.

Conclusion

The paper should be regarded as both a continuation to the discussion initiated by a number of researchers about the choice of objective criteria for the quality of governance, and an attempt to focus on the practical aspects of measuring the effectiveness of executive authorities. The discussed conceptual and instrumental issues of assessing the quality of public administration deserve more attention than they currently receive.

Today, an important objective is the search for optimal models of assessing public administration quality based on the criteria described in the article. At the same time, none of them can qualify for completeness and versatility. Thus, the indicators of socio-economic development of territories traditionally used for measuring the performance executive bodies should not be perceived as a sole sufficient framework for assessing the quality of public administration. It is reasonable to consider indicators of the social effect as variables caused by the capacity of government authorities, rather than independent quality criteria. It is important to assess the balance between autonomy and subordination in relation to the measured level of efficiency of the bureaucratic structure. Objective assessment of the quality of governance needs to take into account the procedural criterion which includes transparency and rationality of the procedures for personnel recruitment, promotion and remuneration. However, the Weberian criterion loses its value without the accompanying study of social capability (demonstrating whether population's needs are achieved and satisfied), as well as flexibility of administrative structures, when lower levels of the hierarchy are provided with sufficient powers to act promptly on the basis of local conditions.

Assessment of the quality of public administration may not be absolute. The process of assessment will always be accompanied by more or less available indicators which, one way or another, will characterize the performance of executive bodies in territorial breakdown (country, region, municipal unit). In any case, analysis will be based on comparative regional context. The "consolidated" approach, however, implies a risk to face the issue of uneven development of state institutions – both territorial and sectoral. Even within one country the situation with the governance quality can vary considerably from industry to industry and from senior governance levels to local. It is important to remember that the overall negative context may hide good and noteworthy governance precedents. A decent alternative to formalized assessments of the quality of public administration is a deep analysis of practical experience, although it has constraints in terms of formulating recommendations and creating forecasts since the relevance of a positive government precedent in a new environment depends on a number of factors difficult to control.

Appendix 1

Quality of governance in World Bank assessments: examples of dichotomous development of countries in the post-Soviet period

To illustrate, we consider what changes occurred in the conjunction "accounting for population's opinion and accountability of government bodies/ government effectiveness" for the entire period of the World Bank measurements, chronologically coinciding with the post-socialist transformations. The greatest success in building a modern state was achieved in the Baltic countries; certain positive developments were possible in Armenia, Georgia, Ukraine and to some extent in Tajikistan. In these countries, during the period from the first to the last measurement of indicators, positive changes took place in both development directions (*Tab. 1*).

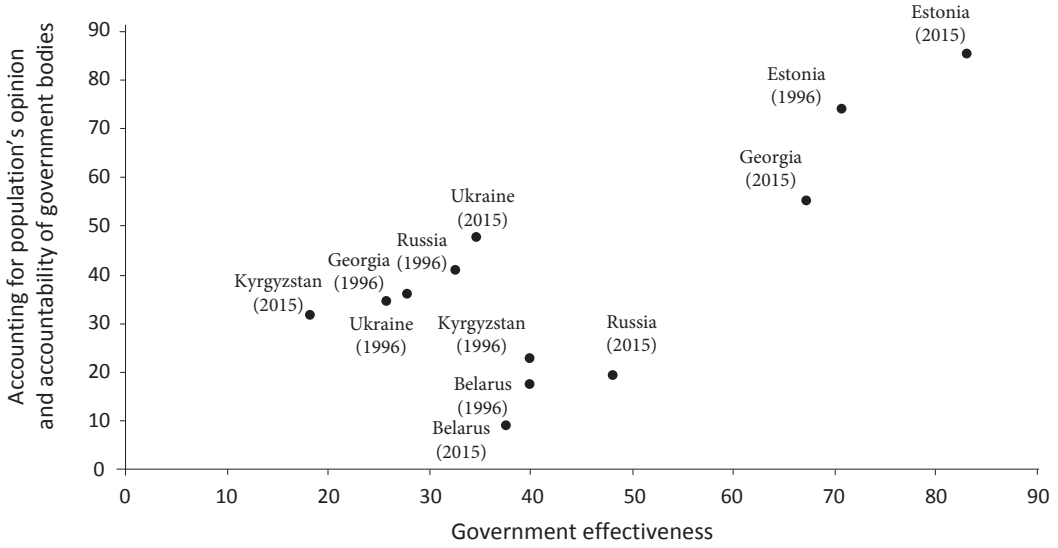
In Kyrgyzstan, there was improvement in communication between authorities and the civil society, while government effectiveness declined. The reverse situation is observed in Azerbaijan, Kazakhstan, Russia, Turkmenistan, and Uzbekistan: during the analyzed period, these states managed to achieve greater efficiency of government performance; however, there was no major progress in constructing feedback with the society and accountability of the authorities in these countries. The most unfavorable changes occurred in Belarus and Moldova, both their ratings declines (*Fig.*).

Table 1. Typological matrix: "accounting for population's opinion and accountability of government bodies/ government effectiveness"

		Government performance efficiency	
		Growth	Decline
Accounting for population's opinion and accountability of government bodies	Growth	Armenia, Estonia, Georgia, Latvia, Lithuania, Tajikistan, Ukraine	Kyrgyzstan
	Decline	Azerbaijan, Kazakhstan, Russia, Turkmenistan, Uzbekistan	Belarus, Moldova

Source: compiled from data from the World Bank.

Accounting for population's opinion and accountability of government bodies/ government effectiveness in post-Soviet countries (1996 and 2015)



Source: compiled from data from the World Bank.

During the post-Soviet period (1996–2015), former socialist republics demonstrated contradictory results in the development of state institutions. However, in some countries (Estonia, Latvia, Lithuania, Georgia) the evolution of state institutions (government effectiveness, rule of law, accounting for population's opinion) continues in all spheres of development, or, conversely, a decline in most aspects is observed (for example, Kyrgyzstan and Moldova); in other countries, the development is dichotomized. A particularly paradoxical situation is observed in Belarus where during this period there was an increase in the indicator of corruption control, political stability accompanied by declined parameters of the rule of law and government efficiency (*Tab. 2*).

Table 2. Typological matrix: "rule of law/government efficiency"

		Rule of law	
		Increase	Decline
Corruption control	Increase	Armenia, Azerbaijan, Estonia, Georgia, Kazakhstan, Latvia, Lithuania, Russia, Tajikistan, Ukraine	Belarus
	Decline	–	Kyrgyzstan, Moldova, Turkmenistan, Uzbekistan

Source: compiled from data from the World Bank.

The case of Belarus demonstrates that it is possible to achieve relative success in fighting corruption without increased confidence of different actors in the established legislative standards and their implementation; however, this belief itself helps "cleanse" the state government. In general, however, harmonization of the development of state and political institutions is required, success in moving towards one of the vectors is not enough.

Appendix 2

Formal indicators of professionalization of government officials in Russia

Even on the basis of a simple set of formal indicators, one can conclude that the movement towards modern efficient state institutions in constituent entities of the Russian Federation is uneven. The maximum we can take from statistics is the qualifications of government officials – or rather, the intensity and breadth of vocational professional education. Thus, in 2014, according to Rosstat, 23% of Russian government officials were trained in programs of vocational professional education. The share of individuals who received professional training does not exceed 2% of the total number of the trainees. However, there is a noticeable variation in the values of the share of the trained federal districts. The maximum value is recorded in the Crimean Federal district (44% of trained government officials); the minimum value is recorded in the North Caucasian Federal district, where only 18% of officials received vocational education in the form of professional training or qualification. However, other macro-regions have similar values of the analyzed index, ranging from 20 to 25% (*Tab. 3*).

There is also a differentiation in the values of the shares of those trained by constituent entity: from the maximum in Sevastopol (54%), Republic of Crimea (43%), Moscow (32%), Republic of Buryatia (28%), Republic of Mari El (27%) and the Tver Oblast (27%) to the minimum in the Saratov Oblast(17%), Krasnodar Krai (17%), the Kemerovo Oblast (16%), Republic of Dagestan (15%) and Ingushetia (14%) (*Tab. 4*).

Table 3. Training of government employees of the Russian Federation in programs of vocational professional education by federal districts in 2014

Federal District	Received vocational professional education, people	Including		Total number of trainees, in % of the total number of government employees in a particular constituent entity
		Those who were professionally re-trained	Those who improved their qualifications	
Russian Federation	176245	3048	173137	22.9
Central	48416	649	47750	25.2
Northwestern	21129	401	20726	23.7
Southern	13618	316	13298	20.2
North-Caucasian	8134	231	7894	17.7
Volga	31375	470	30890	22.1
Ural	14996	281	14710	24.0
Far Eastern	12117	245	11869	23.2
Crimean	3326	21	3305	44.5
Source: Rosstat, 2015.				

Table 4. The most successful and lagging regions in terms of training of workers of the state civil service of the Russian Federation according to programs of additional professional education in 2014, in %

10 regions with maximum indicator values	%	10 regions with minimum indicator values	%
City of Sevastopol	54.4	Karachay-Cherkess Republic	18.4
Republic of Crimea	43.2	Republic of Adygea	18.3
City of Moscow	32.4	Perm Krai	18.3
Republic of Buryatia	27.5	Altai Krai	17.7
Republic of Mari El	27.1	Chechen Republic	17.4
Tver Oblast	26.9	Saratov Oblast	17.2
Republic of Mordovia	26.2	Krasnodar Krai	16.8
Sakha Republic	26.2	Kemerovo Oblast	16
Chuvash Republic	26.1	Republic of Dagestan	14.6
Lipetsk Oblast	25.8	Republic of Ingushetia	13.9
National average: 22.9. Average of the Vologda Oblast: 22.1			
Source: Rosstat, 2015.			

The data are interesting, but do little for understanding the differences (there is high probability that these differences are present) in the quality of public institutions. In fact, high quality information about the prevalence of corruption, including in separate sectors, degree of implementation of principles of meritocracy and personnel recruitment in assessing their personal merits, etc. is required.

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Information about the Author

Konstantin Nikolaevich Kalashnikov – Ph.D. in Economics, Research Associate at the Department for Living Standards and Lifestyle Studies, Vologda Research Center of the Russian Academy of Sciences (56A, Gorky Street, Vologda, 160014, Russian Federation; e-mail: konstantino-84@mail.ru)

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SPATIAL ASPECTS OF TERRITORIAL DEVELOPMENT

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The Phenomenon of Unevenness of Socio-Economic Development of Cities and Districts in the Murmansk Oblast: Specifics, Trends, Forecast, Regulation*

Tat'yana Petrovna
SKUF'INA
Luzin Institute for Economic Studies of the Kola Science Centre, Russian Academy of Sciences
Apatity, Russian Federation, 24A, Fersman Street, 184209
e-mail: skufina@gmail.com

Sergei Vladimirovich
BARANOV
Luzin Institute for Economic Studies of the Kola Science Centre, Russian Academy of Sciences
Apatity, Russian Federation, 24A, Fersman Street, 184209
e-mail: bars.vl@gmail.com

Abstract. The article studies the transformation and regulation of the phenomenon of unevenness of socio-economic space. We provide detailed comments on a fundamental nature of the unevenness of development of socio-economic space in any territorial entity (region, country, district, etc.) and point out the importance of research on the unevenness of development from the standpoint of science and management. We substantiate a priority approach to the study of unevenness; in the framework of this approach we move consistently from quantitative assessment of the phenomenon of unevenness of space through identification of specifics and patterns to forecasting and practical recommendations

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for management. All this is related to the prospects of further research. We present the importance and relevance of this study, which aims to identify specifics of the phenomenon of unevenness of socio-economic development of cities and districts of the Murmansk Oblast, and to forecast its dynamics and regulation in present-day crisis conditions. The paper presents a comprehensive vision for methodological support of research on the differentiation of socio-economic space; it also substantiates the authors' own version of methodological tools to assess the phenomenon of differentiation of socio-economic development in cities and districts of the region. Having tested the proposed techniques that help assess differentiation, we consider comparative dynamics of cities and districts of the Murmansk Oblast: we rank the objects by level of socio-economic development and identify trends and patterns in the development of the phenomenon. We make a forecast of how the crisis can impact the development of differentiation between cities and districts of the Murmansk Oblast according to two scenarios: the basic scenario assumes that most social indicators will either remain stable or experience slight differentiation, and a further slight increase is expected in the differentiation of economic indicators. The target scenario assumes a similar situation on social indicators and a higher growth rate of differentiation of economic indicators. Having identified trends in the development of differentiation of socio-economic space in the Murmansk Oblast and having forecast the impact of the crisis on the ratio of differentiation parameters we substantiate a comprehensive vision of immediate actions and management perspectives: it is necessary to pursue the regional policy defined by specific objectives of strategic planning in the Murmansk Oblast; to prevent further reduction in the number of medical organizations in the region, to maintain and increase the number of medical personnel in municipalities; to enhance regional measures in the investment sector; to stimulate economic growth in the Kola bearing zone, including the establishment of new legal and regulatory environment. Scientific novelty of the findings consists in the fact that they contribute to the development of theoretical and methodological ideas about the formation of the phenomenon of differentiation of cities and districts in the Arctic region. Our research is different from other works on this topic due to its comprehensiveness and a certain originality in using assessment techniques, which made it possible for the first time to identify specifics and development trends of this phenomenon in the Murmansk Oblast that are relevant for management theory and practice. In view of the above, the findings can be widely used in fundamental and applied science and in territorial management.

Key words: differentiation, socio-economic development, cities, districts, Murmansk Oblast.

Introduction. The study is part of a range of fundamental tasks aimed to identify trends, patterns, and opportunities of regulating the phenomenon of unevenness of socio-economic space. The fundamental nature of these tasks is due to constant contradictions between management efforts in any country, region, municipality, aimed to reduce socio-economic imbalances on their territory, and objective laws of the capitalist system that reproduce and deepen differentiation of socio-economic space of any territorial entity.

Objective nature of this contradiction is reflected in the limitations of theories of development and regulation of the phenomenon of socio-economic development unevenness of territories [15; 16; 23] and in the fact that they are not enough to meet the requirements of management practices [3; 8; 9; 13, 18; 20]. For this reason, theories aimed to address the differentiation of socio-economic space gradually lost their strength and were reduced to several theoretical constructions that largely represent either a purely theoretical interest or the product of exports of developed countries to less developed ones [13; 23; 24]. At the same time, one more trend is gaining power, it aims to analyze in detail the actual development of differentiation and to identify threats caused by socio-economic development unevenness of

certain territorial objects [1; 4; 5; 7; 8; 14; 17]. We attribute this to the fact that simultaneously with the limitations of the theory, within its framework there is a reasonable criticism of modern world order which deepens the gap in the development of territories, and the danger of differentiation of socio-economic space is pointed out [18; 20; 22; 24]. This criticism and the actual needs of territorial development management remind us of an old moral: "In order to defeat the old theory, it is not enough to expose its background to destructive criticism... it is necessary to propose a new theory" [19, p. 659]. The message of this moral is that it urges us to accumulate and generalize facts. This determines the priority of the approach to the study of unevenness based on a sequential movement from a quantitative assessment of space unevenness, by identifying the features, perhaps, patterns, and to the forecast and recommendations to management [1; 6; 10; 13].

The goal of the present study lies in the very framework of this approach; the goal is to identify the specifics of the phenomenon of socio-economic development unevenness of cities and districts of the Murmansk Oblast, to forecast the dynamics and propose ways to regulate it in crisis conditions.

The choice of the Murmansk Oblast as the object of our research is due to the following factors. First, the Murmansk Oblast is a pilot region of the Arctic zone of the Russian Federation (the Russian Arctic), in which the Kola bearing zone is being formed. It is expected that if a series of large-scale investment projects is implemented, it will have a significant impact on socio-economic development in the region by changing the configuration of socio-economic space, the ratio of social and economic development parameters of cities and districts. This factor determines a special significance of diagnostics of the phenomenon of differentiation in this region. Second, the Murmansk Oblast has the most diversified economy among Russian Arctic regions; it has a developed system of science and education, which, along with opportunities, creates higher requirements to promoting the development of socio-economic space in the region. This factor determines not only the importance of identifying the specifics and trends of differentiation development to forecast the situation and plan administrative activities. Logical difficulty of managing a complex object also determines that the Murmansk Oblast can be a testing ground for public administration efficiency from the standpoint of ensuring balanced regional development.

Specific features of the Murmansk Oblast predetermine the theoretical, methodological and practical significance of the research. In particular, when developing scientific recommendations on territorial development management, one often turns to foreign experience. However, the use of foreign approaches in this case is difficult because there is a primary limitation to the use of the analogy – lack of high-quality objects of comparison in close proximity. For instance, there is no foreign region in the foreign part of the Arctic, which would be comparable with the Murmansk Oblast in terms of population and complexity of economic and social development. Owing to the qualitative complexity of socio-economic space of the Murmansk Oblast, management action will produce a different effect on the ratio of parameters than international experience implies[1]. In addition, in 2016, a fundamentally new approach to the management of the Russian Arctic started to be implemented; it considers the Russian Arctic as a single macro-region through the system of bearing development zones linked to specific Arctic actors, in particular

[1] We note the stability of the main task of foreign management in the northern territories: it is to ensure convergence of social characteristics of settlements, relative equality of people's access to goods and services.

the Murmansk Oblast. There is no foreign experience in the management of such projects. From this perspective, it is important to define specific features in the differentiation of the Murmansk Oblast not only for the development of modern recommendations, but also as the basis for future studies of the behavior of the phenomenon of differentiation, linked with the implementation of a pilot project on formation of the Kola bearing zone. Such information is important for providing substantiated scientific support to the management of the regions of the Russian Arctic.

Techniques and basic indicators in assessing uneven socio-economic development

The most important part of the studies of differentiation of socio-economic space is the research in the methodological field, including the development of methods and justification of techniques in the study of spatial development unevenness [1; 7; 11; 12; 15]. However, as we note, in science, "importance" does not determine the quantity and quality of work. We agree with S.A. Suspitsyn who points out that "unfortunately, we do not see that the same amount of attention, which is paid to the use of these techniques, is paid to the improvement of the very techniques of cross-regional comparison, verification of correctness of assessment methods and reliability of results of the comparisons" [14, p. 97]. In this context, a particular scientific importance is attached to consideration of assessment tools to ensure comprehensive elaboration of regional asymmetry, and also the analysis of results that demonstrate not only specific features of the object of study, but also the capabilities and limitations of the methodological assessment tools applied.

We propose to use three techniques based on three major methods of the study of socio-economic inequality[2].

The first technique is based on the method of factor ranking without intervals, interconnected with the point estimate. In this method, we propose to use a technique called "average by positions", often used not only for research, but for practical purposes of state regulation of territorial development[3].

The sequence of iterations of this method is as follows: 1) we determine the rank of each object for each of the assessment indicators – the best value (first place), the worst value (last place); 2) point estimate is calculated for each of the indicators for each object (the mean value is assumed to be zero) as the difference between the rank of average and the rank of any object in the overall ranking series; 3) for each object the point ratings are summarized by indicators and further divided by the number of indicators.

It is generally accepted that the required assessment objectively describes the state of each regional object in comparison with other objects. However, it has an inherent disadvantage: it does not allow us to quantitatively characterize the extent of differences; in fact it only allows us to rank the objects of comparison [1, p. 50-51].

The second technique is based on an index method using the relative strength index. We tested this technique for the first time when we identified the comparative dynamics of Russia's Northern regions [2].

The essence of index methods lies in the transition from indicators expressed in economic (physical) units to dimensionless indexes that can be compared visually. From the standpoint of economic analysis of differentiation of cities and districts, of greatest interest is the fact that index methods allow us to track and actually compare the rate of change. These properties of information are important for managing regional development,

[2] A detailed critical analysis of the main methods for assessing differentiation is given in [1; 12; 14]

[3] It is contained, for example, in Annex 6 to the federal target program "Reduction of differences in socio-economic development of regions of the Russian Federation (2002–2010 and till 2015)".

because first, they characterize transformation processes; second, they are indicators of management efficiency; third, they provide an opportunity of comparison with other objects (in our case – cities and districts).

The sequence of iterations of the proposed technique is as follows.

We assume that *V(t)* is the value of some economic indicator, expressed in natural units (e.g., cost) in year *t*. Then the index *V* is given by the ration of its values to the values for the base year t_0:

$$I(t) = V(t) / V(t_0). \quad (1)$$

Possessing individual indices for any indicator for several objects, we can build the index for the whole regional group, or the composite index. By adding together the indices for several objects and dividing the sum by the number of objects in the group we will receive a combined arithmetic average index of the group:

$$IG(t) = (I_1(t) + ... + I_N(t)) / N, \quad (2)$$

where *N* is the number of objects in the group.

Dividing the individual index of the object by the index of the group we will receive the index of the relative strength of the object relative to the group of objects.

From the standpoint of regional economic objectives the methodological sense of the relative strength index of the object shows how its dynamics for the individual regional object (in our case – a city or district) differ from general group dynamics; it is actually a measure of differentiation and a rating of development of the object by a particular indicator. The more the values of the relative strength index, the stronger it stands out from the group.

The comparison of the index with the unit shows whether the region is developing better or worse in comparison with the regional group as a whole. If the values of the relative strength index of a region are less than 1, then it develops worse than the group as a whole, if they are greater than 1, then it develops better. This information can be useful to public authorities, since it helps highlight problematic and successful regions.

The relative strength index is a tool commonly used in financial analysis. However, in regional studies the use of the relative strength index is not practiced. It is hard to explain why, especially since the calculation is simple, the interpretation is simple and obvious, and the results of comparison are clear and they help display disparate values in a single chart (because the indices lack dimensionality).

The third technique is based on calculating the analogue of the Gini coefficient commonly used to study income inequality. For each of the basic indicators of regional objects of the Murmansk Oblast we propose to calculate the analogue of the Gini index (let us call it differentiation index *RDI*). The formula for calculation is as follows:

$$RDI = \frac{\sum_{i=1}^{n} (2i - n - 1) y_i}{n^2 E[y]}, \quad (3)$$

where y_i – i is the i-th index value in ascending data set ($y_i \le y_{i+1}$); n is the number of indicator values; $E[y]$ is the average value of the index y.

We will use this technique for short-term forecasting of differentiation of cities and districts of the Murmansk Oblast[4].

[4] We note the following methodological feature dictated by the specifics of the Murmansk Oblast: an opportunity to consider urban districts (the city of Murmansk, Kovdorsky District, the towns of Apatity, Kirovsk, Monchegorsk, Olenegorsk, and Polyarnye Zori) and municipal districts (Kolsky, Kandalakshsky, Lovozerskiy, Pechengsky, Tersky) of the Murmansk Oblast as a single object of statistical research. Let us explain that this is caused not only by the properties of the scheme of calculations, for example, of the Gini coefficient, but also by the object characteristics of the Murmansk Oblast that allow us to consider these two groups as a whole in connection with qualitative proximity of the objects. Both groups are the enlarged groups of municipalities, and they do not differ much by their number and by their socio-economic characteristics. In addition, a specific feature of the Murmansk Oblast is its relatively small number of municipalities included in urban districts and municipal districts, which also allows us to consider these groups together.

Table 1. The rating of "average by positions"*

Urban district / municipal district	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
city of Murmansk	3.88	2.63	2.63	2.75	2.38	2.5	1.75	2.75	2.63	1.88	2	1.38	1.88	1.63	1.77
Kovdorsky District**	0.5	-1.25	-1.5	-1.38	-2.25	-1.5	-1.38	-1.75	-2.25	-2	-2.75	-2.38	-3.88	-2.88	-2.08
town of Apatity	0.5	-0.25	0.13	0.38	-0.13	-0.25	-0.88	-0.75	0.25	-1	-1.75	-1.63	-1.25	-1	-1.03
town of Kirovsk	1.38	0.75	1	0.75	0.63	0.88	1.38	1.88	0.88	0.75	1.13	0.25	0.13	0	0.20
town of Monchegorsk	1	1.25	1.5	1.88	1.13	1.38	1.25	1	0.75	0.13	0.25	0.38	0.88	-0.13	0.23
town of Olenegorsk	-2.13	-2.5	-2	-2.25	-2.13	-2.13	-2.75	-2.38	-2.75	-3.38	-3.13	-3.25	-3.5	-3.38	-3.00
town of Polyarnye Zori	0.75	-0.25	0.13	0.25	-0.25	-0.75	-0.75	-0.88	-0.5	-0.63	-0.5	-0.38	0.25	-0.38	-0.54
Kolsky District	-3.63	-3.75	-3.13	-2.75	-3.38	-4.13	-4	-2.88	-2.38	-1.88	-1.88	-2.13	-2.88	-2.13	-2.78
Kandalakshsky District	-1.13	-0.88	-1.38	-0.88	-1.5	-1.75	-2.38	-2	-1.25	-1.75	-0.75	-1.25	-1	-1.63	-1.01
Lovozersky District	-4.5	-6	-6	-5.88	-6.38	-5.5	-5.5	-4.88	-5.25	-5.25	-5.63	-5.25	-5.13	-5.5	-5.44
Pechengsky District	-2.75	-3.75	-4.25	-3.88	-4.75	-4.88	-4.88	-3.25	-3.25	-3.63	-3.63	-3.5	-2.88	-3.25	-2.98
Tersky District	-2	-2.25	-1.75	-2	-2.88	-3.38	-4.63	-4.75	-4.75	-2.75	-2.88	-3.38	-2.13	-2.5	-3.00

* Calculated with the use of official statistics data provided by the territorial office of the Federal State Statistics Service in the Murmansk Oblast. Available at: http://murmanskstat.gks.ru/wps/wcm/connect/rosstat_ts/murmanskstat/ru/statistics/
** Kovdorsky District is an urban district.

We choose ***basic assessment indicators*** in accordance with the requirements of comprehensiveness, accessibility, consistency and the minimum required number of indicators. We propose the following version of the indicators that show differentiation of cities and districts of the region: 1) investments in fixed capital of large and medium-sized organizations per capita; 2) average retail trade turnover per capita; 3) the volume of paid services per capita; 4) average monthly nominal accrued wage; 5) the number of registered crimes per 1,000 population; 6) officially registered unemployed persons at the end of year; 7) the number of doctors per 1,000 population, at the end of year; 8) the total area of residential premises on average per inhabitant, at the end of year[5].

[5] The principle of indicators used in the calculation of integrated assessment according to the "average by positions" is "the more, the better"; therefore, model parameters that did not correspond to this principle, are translated in reverse ones. In the assessment of the relative strength index and calculation of the Gini coefficient the initial state of the indicators was preserved.

The results of assessing the phenomenon of socio-economic development unevenness of cities and districts of the Murmansk Oblast.

The rating of "average by positions". We note that the rating estimates have a negative sign for almost all objects. The reason is that the assessment includes a set of indicators characterizing social, economic, resource, and infrastructure components of regional development. The negative sign indicates the imbalance of these components. That is, if the object (urban district or municipal district) demonstrates good data on any specific indicators, it "falls behind" in the group of other indicators, and this is reflected in the negative sign of the ranking. The situation is stable only in the cities of Murmansk, Kirovsk and Monchegorsk, which consistently occupy the best positions in the ranking *(Tab. 1)*. The pattern Among municipal regions is relatively even, but Lovozersky District shows a more negative trend.

The rating by the relative strength index. We note that this rating gives more detailed infor-

Table 2. The rating according to the relative strength index by the indicator "investment in the fixed capital of large and medium-sized organizations per capita"*

Urban district/ municipal district	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
city of Murmansk	1	0.48	0.49	0.41	0.38	0.42	0.30	0.44	0.32	0.16	0.34	0.24	0.32	0.58	0.49
Kovdorsky District	1	0.51	0.46	0.91	0.45	1.25	1.13	0.59	0.42	0.63	1.22	1.08	0.02	0.99	1. 00
town of Apatity	1	1.25	1.25	0.91	1.04	1.23	1.66	1.42	1.74	0.56	0.74	1.62	3.48	1.83	1.12
town of Kirovsk	1	1.00	1.16	0.92	1.11	0.74	0.60	0.57	0.84	1.18	1.71	2.33	1.87	1.94	1.65
town of Monchegorsk	1	2.11	2.61	2.03	1.26	1.07	1.05	0.32	0.28	0.13	0.24	0.27	0.27	0.46	0.30
town of Olenegorsk	1	0.37	0.54	1.96	3.84	2.19	2.39	2.11	0.65	0.91	1.82	2.02	1.47	1.53	1.43
town of Polyarnye Zori	1	1.57	1.03	1.05	0.64	0.51	0.35	0.32	0.58	0.57	0.40	0.32	0.40	0.34	0.33
Kolsky District	1	2.07	2.26	1.83	1.36	1.25	1.39	1.81	2.91	5.00	2.52	1.39	1.06	1.29	1.08
Kandalakshsky District	1	0.84	0.63	0.55	0.39	2.04	0.96	0.32	0.35	0.28	0.63	0.38	0.35	0.36	0.70
Lovozersky District	1	0.49	0.54	0.45	0.43	0.79	1.70	0.95	0.53	0.44	0.36	0.22	0.24	0.24	0.31
Pechengsky District	1	0.35	0.10	0.20	0.06	0.12	0.17	2.38	2.89	1.70	1.73	1.84	2.21	2.16	1.87
Tersky District	1	0.95	0.93	0.78	1.02	0.38	0.30	0.75	0.50	0.43	0.29	0.28	0.30	0.30	0.26

* Calculated with the use of official statistics data provided by the territorial office of the Federal State Statistics Service in the Murmansk Oblast. Available at: http://murmanskstat.gks.ru/wps/wcm/connect/rosstat_ts/murmanskstat/ru/statistics/

mation for each indicator and characterizes not only the measure of differentiation, but also the dynamics of modifications. Recall that comparing the index with the unit shows whether the situation in the region is worse or better than that in the regional group as a whole. If the values of the relative strength index for a region are less than 1, then it develops worse than the group as a whole, if they are greater than 1, then it develops better.

The best positions according to the indicator "investment in the fixed capital of large and medium-sized organizations per capita" that are better than those of the group are demonstrate by city districts of Kirovsk, Apatity[6], and Olenegorsk *(Tab. 2)*.

The dynamics of the rating according to the indicator "average retail trade turnover per capita" reflects the development of retail trade in conjunction with the purchasing power of citizens and satisfaction of demands of visitors whose inflow is increasing. Among urban districts the best positions are consistently demonstrated by Murmansk and Monchegorsk *(Tab. 3)*. The "worst" positions are also relatively stable: they are shown by Kovdorsky District and the town of Olenegorsk. It is interesting to note the improved position of Kirovsk according to the indicator under consideration[7]. Among municipal regions the rating shows good positions for Kandalakshsky District. Lovozersky and Tersky municipal districts show poor comparative positions.

Consumption of paid services by citizens is an important socio-economic indicator associated with income level, with specific economic situation in the locality, with types

[6] The situation in Apatity should be characterized as extremely favorable, because this urban district has no mining orientation; consequently, the activation of its internal resources for socio-economic development determined its high positions.

[7] In 2014, there has been a shift of all objects according to the studied indicator. This is due to an outlier of the original indicator in the Kolsky District (the calculations showed more than a five-fold excess relative to the group-wide level). Most likely it is an error of the original data because the review of the socio-economic situation pointed to the impossibility of using objective facts to explain the outlier.

Table 3. The rating according to the relative strength index by the indicator "average retail trade turnover per capita"*

Urban district / municipal district	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
city of Murmansk	1	1.02	1.04	1.05	1.06	1.08	1.12	1.12	2.43	2.15	1.86	1.95	1.42	0.90	1.02
Kovdorsky District	1	1.01	0.95	0.97	0.98	1.00	0.98	0.96	0.63	0.75	0.61	0.56	0.79	0.51	0.60
town of Apatity	1	0.92	0.95	0.96	0.95	0.92	0.88	0.85	1.67	1.55	1.17	1.20	1.13	0.72	1.00
town of Kirovsk	1	0.98	0.98	0.97	0.97	0.96	0.96	0.97	0.85	0.88	0.70	0.78	0.94	0.58	0.70
town of Monchegorsk	1	1.01	1.02	1.01	1.02	1.05	1.04	1.05	0.70	0.64	0.87	1.24	1.44	0.83	0.80
town of Olenegorsk	1	0.94	0.94	0.92	0.90	0.87	0.81	0.82	1.02	0.94	0.84	0.93	0.84	0.52	0.76
town of Polyarnye Zori	1	0.95	0.95	0.96	0.96	0.93	0.90	0.89	1.40	1.53	1.68	1.44	1.27	0.74	1.08
Kolsky District	1	0.97	0.97	0.94	0.90	0.89	0.89	0.90	0.47	0.63	0.82	0.91	0.79	5.19	0.89
Kandalakshsky District	1	1.11	1.11	1.12	1.13	1.14	1.18	1.21	1.54	1.56	2.29	1.79	1.90	1.03	1.00
Lovozersky District	1	0.96	0.96	0.98	0.99	0.99	1.02	1.12	0.21	0.32	0.20	0.19	0.15	0.09	0.01
Pechengsky District	1	1.09	1.09	1.11	1.14	1.20	1.28	1.38	0.76	0.76	0.68	0.78	1.15	0.78	0.70
Tersky District	1	1.02	1.03	1.01	1.01	0.97	0.93	0.74	0.32	0.29	0.27	0.24	0.19	0.10	0.17

* Calculated with the use of official statistics data provided by the territorial office of the Federal State Statistics Service in the Murmansk Oblast. Available at: http://murmanskstat.gks.ru/wps/wcm/connect/rosstat_ts/murmanskstat/ru/statistics/

Table 4. The rating according to the relative strength index by the indicator "the volume of paid services rendered to citizens per capita"*

Urban district/ municipal district	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
city of Murmansk	1	0.97	0.98	1.05	0.97	0.93	0.91	0.88	0.87	1.06	1.02	0.97	1.31	1.02	1.01
Kovdorsky District	1	0.97	0.98	0.94	0.85	0.87	0.86	0.84	0.84	0.90	0.37	0.58	0.43	0.37	0.40
town of Apatity	1	1.04	1.01	1.03	0.99	0.96	0.98	0.95	0.91	0.60	0.62	0.62	0.53	0.52	0.61
town of Kirovsk	1	1.06	0.99	1.09	1.07	1.08	1.05	1.04	1.05	0.84	0.94	1.09	1.08	1.02	1.09
town of Monchegorsk	1	1.11	1.12	1.11	1.02	0.95	0.94	0.96	0.96	1.31	0.85	0.86	0.96	0.91	0.80
town of Olenegorsk	1	1.02	1.12	0.98	0.88	0.90	0.90	0.90	0.89	0.62	0.56	0.57	0.31	0.33	0.68
town of Polyarnye Zori	1	1.03	0.97	1.24	1.14	1.15	1.14	1.09	1.13	1.07	1.21	1.16	1.43	1.36	1.09
Kolsky District	1	1.09	1.14	1.01	1.08	1.04	1.04	1.06	1.10	0.69	0.86	0.92	1.00	0.94	0.92
Kandalakshsky District	1	1.03	1.03	1.08	1.18	1.13	1.12	1.14	1.17	1.09	1.28	1.23	1.02	0.99	1.19
Lovozersky District	1	0.81	0.82	0.70	1.01	1.17	1.22	1.36	1.35	1.42	1.56	1.53	0.60	1.46	1.34
Pechengsky District	1	0.92	0.81	0.74	0.80	0.79	0.80	0.85	0.81	0.93	1.03	1.24	1.26	1.17	1.01
Tersky District	1	0.95	1.03	1.03	1.01	1.02	1.05	0.92	0.92	1.47	1.71	1.22	2.06	1.92	1.90

*Calculated with the use of official statistics data provided by the territorial office of the Federal State Statistics Service in the Murmansk Oblast. Available at: http://murmanskstat.gks.ru/wps/wcm/connect/rosstat_ts/murmanskstat/ru/statistics/

of households etc. The rating according to the indicator "the volume of paid services rendered to citizens per capita" indicates that three urban districts such as Polyarnye Zori, Murmansk, and Kirovsk show better results *(Tab. 4)*. The lowest values of the rating are demonstrated by urban districts such as Kovdorsky District and the town of Olenegorsk. Among municipal districts, the highest positions are held by Lovozersky and Tersky districts.

Wage rate determines employment-related, economic and social behavior of people and is a measure of implementation of their socio-economic potential in a certain territory. The rating according to the indicator "average monthly nominal accrued wages" demonstrates consistently high positions of the towns of Kirovsk, Apatity, Polyarnye Zori, and the city of Murmansk *(Tab. 5)*. Pechengsky Municipal District shows steadily worse positions.

Crime rate is the most important characteristic of the quality of life in a certain territory. The rating according to the indicator "the number of registered crimes per 1,000 population" shows the following *(Tab. 6)*: the worst situation among urban districts is

Table 5. The rating of the relative strength index by the indicator "average monthly nominal accrued wages"*

Urban district / municipal district	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
city of Murmansk	1	1.00	0.99	1.00	0.99	1.02	1.01	0.99	1.05	1.07	1.04	1.04	1.01	1.02	1.08
Kovdorsky District	1	0.97	0.91	0.87	0.91	0.91	0.89	0.94	0.99	0.92	0.90	0.89	0.88	0.89	0.83
town of Apatity	1	1.04	1.05	1.10	1.14	1.18	1.17	1.18	1.19	1.18	1.17	1.17	1.18	1.15	1.19
town of Kirovsk	1	1.01	1.01	1.05	1.07	1.08	1.06	1.05	1.13	1.13	1.16	1.21	1.22	1.24	1.23
town of Monchegorsk	1	0.94	0.91	0.88	0.84	0.84	0.86	0.85	0.79	0.79	0.80	0.79	0.76	0.72	0.80
town of Olenegorsk	1	0.92	0.91	0.94	0.96	1.02	0.96	0.93	0.88	0.90	0.91	0.92	0.97	0.97	0.95
town of Polyarnye Zori	1	1.10	1.22	1.09	1.04	1.05	1.15	1.10	1.06	1.12	1.10	1.07	1.01	0.98	1.14
Kolsky District	1	1.03	1.11	1.18	1.20	1.16	1.15	1.16	1.19	1.18	1.14	1.13	1.13	1.14	1.14
Kandalakshsky District	1	0.99	1.02	1.04	0.96	0.95	0.89	0.83	0.83	0.83	0.86	0.85	0.83	0.84	0.85
Lovozersky District	1	0.99	0.98	0.98	1.02	1.00	0.95	0.99	0.97	0.93	0.93	0.97	1.00	1.01	0.99
Pechengsky District	1	0.85	0.82	0.78	0.71	0.72	0.74	0.74	0.72	0.73	0.72	0.71	0.68	0.66	0.70
Tersky District	1	1.17	1.07	1.08	1.16	1.08	1.16	1.23	1.22	1.22	1.25	1.24	1.34	1.38	1.26

* Calculated with the use of official statistics data provided by the territorial office of the Federal State Statistics Service in the Murmansk Oblast. Available at: http://murmanskstat.gks.ru/wps/wcm/connect/rosstat_ts/murmanskstat/ru/statistics/

Table 6. The rating according to the relative strength index by the indicator "the number of registered crimes per 1,000 population"*

Urban district / municipal district	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
city of Murmansk	1	1.25	1.17	1.29	1.39	1.43	1.35	1.18	1.03	1.08	1.02	0.92	0.85	0.84	1.01
Kovdorsky District	1	0.93	0.92	0.75	0.89	0.83	0.97	0.81	0.75	0.97	0.92	0.92	0.80	0.84	0.92
town of Apatity	1	1.05	1.12	1.31	1.61	1.50	1.47	1.42	1.19	1.21	1.12	0.98	0.91	0.89	0.99
town of Kirovsk	1	0.89	0.91	0.88	0.97	0.99	1.42	1.25	1.22	1.21	1.61	1.42	1.28	1.30	1.21
town of Monchegorsk	1	0.95	0.88	0.91	0.88	0.86	1.03	0.99	1.08	1.11	1.04	1.00	1.05	1.06	1.03
town of Olenegorsk	1	1.00	0.88	0.93	0.93	0.82	0.77	0.91	0.93	0.67	0.93	0.92	1.05	1.05	0.98
town of Polyarnye Zori	1	0.89	0.98	0.86	0.81	0.63	0.70	0.63	0.71	0.75	0.74	0.74	0.86	0.83	0.78
Kolsky District	1	1.07	1.40	1.25	1.38	1.47	1.32	1.47	1.24	1.24	1.23	1.34	1.25	1.30	1.27
Kandalakshsky District	1	1.03	0.90	1.01	0.88	0.75	0.77	0.81	0.92	0.79	0.75	0.64	0.85	0.83	0.77
Lovozersky District	1	0.88	0.84	0.98	0.82	1.15	0.86	1.05	1.29	1.23	1.06	1.16	1.05	1.09	1.10
Pechengsky District	1	0.98	0.80	0.91	0.70	0.93	0.81	0.90	1.01	0.91	0.89	1.02	1.03	0.99	0.94
Tersky District	1	1.08	1.20	0.90	0.72	0.66	0.53	0.57	0.64	0.83	0.69	0.95	1.02	0.98	0.88

* Calculated with the use of official statistics data provided by the territorial office of the Federal State Statistics Service in the Murmansk Oblast. Available at: http://murmanskstat.gks.ru/wps/wcm/connect/rosstat_ts/murmanskstat/ru/statistics/

observed in Monchegorsk and Murmansk; the best situation is observed in Kovdorsky Urban District. Among municipal districts, the highest number of crimes is observed in Kolsky District; the situation is good in Kandalakshsky and Pechengsky districts.

The indicator "the number of officially registered unemployed at the end of year" characterizes the labor market and economy of the territories under comparison. The situation is developing negatively in the urban district of Murmansk *(Tab. 7)*. The lowest ratings and, therefore, a less critical situation with the problem of unemployment are observed in the urban districts of Kirovsk and Kovdorsky District. Among municipal districts, the problem of unemployment is most acute in Kandalakshsky, Pechengsky, and Tersky districts.

The most important indicators of social infrastructure of the territory are the indicators characterizing the accessibility of healthcare services. The rating according to the relative strength index on the indicator "the number of doctors per 1,000 population, at the end of year" shows that the best situation with the doctors is in the urban district of Murmansk *(Tab. 8)*.

Provision with housing is the most important characteristic of the quality of life in a certain territory. The rating according to the relative strength index by the indicator "the total area of residential premises on average per inhabitant, at the end of year" shows the expected minimum endowment with living quarters in the urban district of Murmansk *(Tab. 9)*. The best indicators of endowment with housing among urban districts are observed in Kovdorsky District, among municipal districts – in Kandalakshsky District.

Evaluation of differentiation according to the analog of the Gini coefficient. Recall that the Gini coefficient equal to 0 (0%) indicates total equality and if it is equal to 1 (100%) then there is absolute inequality. That is, the closer to unity the values we obtain for each indicator, the greater the differentiation for a specific indicator *(Tab. 10)*.

Table 7. The rating according to the relative strength index by the indicator "the number of officially registered unemployed, normalized by the number of population at the end of year"*

Urban district / municipal district	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
city of Murmansk	1	1.02	0.83	0.85	0.81	0.75	0.94	1.24	1.22	1.42	1.23	1.21	1.16	1.03	1.20
Kovdorsky District	1	1.00	1.03	0.94	0.92	0.90	0.72	0.72	0.69	0.62	0.70	0.71	0.85	0.82	0.78
town of Apatity	1	1.08	1.14	1.00	0.85	0.80	0.72	0.88	0.89	0.89	0.80	0.58	0.87	1.11	0.81
town of Kirovsk	1	0.90	0.93	0.86	0.91	0.80	0.76	0.69	0.58	0.52	0.59	0.60	0.67	0.65	0.62
town of Monchegorsk	1	1.27	1.59	1.82	1.95	2.61	2.49	2.01	2.03	1.59	1.72	1.93	1.85	1.60	1.73
town of Olenegorsk	1	1.33	1.30	1.11	1.13	1.20	0.96	1.23	1.36	1.48	1.35	1.38	0.94	1.35	1.22
town of Polyarnye Zori	1	1.00	0.81	0.83	0.94	0.80	0.96	0.87	1.24	1.01	1.21	1.20	1.27	1.22	1.19
Kolsky District	1	0.84	0.67	0.92	0.87	0.74	0.78	0.89	1.04	1.27	1.01	0.87	0.85	0.81	0.90
Kandalakshsky District	1	0.84	0.82	0.81	0.76	0.70	0.70	0.61	0.66	0.68	0.72	0.76	0.64	0.62	0.71
Lovozersky District	1	0.87	1.10	1.12	1.13	1.20	1.44	1.50	1.10	1.06	1.26	1.39	1.51	1.44	1.37
Pechengsky District	1	0.96	0.97	0.92	0.90	0.72	0.69	0.50	0.52	0.58	0.54	0.50	0.53	0.51	0.54
Tersky District	1	0.91	0.81	0.83	0.85	0.80	0.84	0.87	0.66	0.89	0.88	0.87	0.87	0.83	0.87

* Calculated with the use of official statistics data provided by the territorial office of the Federal State Statistics Service in the Murmansk Oblast. Available at: http://murmanskstat.gks.ru/wps/wcm/connect/rosstat_ts/murmanskstat/ru/statistics/

Table 8. The rating according to the relative strength index by the indicator "the number of doctors per 1,000 population, at the end of year"*

Urban district / municipal district	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
city of Murmansk	1	1.01	1.05	1.07	1.19	1.22	1.23	1.19	1.24	1.22	1.18	1.18	1.19	1.20	1.19
Kovdorsky District	1	0.99	0.99	0.96	0.88	0.95	0.88	0.88	0.77	0.83	0.84	0.82	0.05	0.05	0.84
town of Apatity	1	0.97	1.03	1.03	1.01	1.04	0.95	0.95	0.91	0.93	0.97	1.29	1.27	1.27	0.97
town of Kirovsk	1	0.98	0.97	0.98	0.98	1.00	1.00	0.84	0.86	0.91	0.90	0.06	0.15	0.15	0.90
town of Monchegorsk	1	1.02	1.09	1.13	1.09	1.00	1.02	0.98	0.89	0.93	0.91	0.93	1.14	1.13	0.91
town of Olenegorsk	1	0.99	1.01	0.97	1.01	1.05	0.99	1.07	1.29	1.41	1.10	1.07	1.11	1.10	1.10
town of Polyarnye Zori	1	1.01	1.05	1.04	1.12	1.02	1.02	0.98	0.91	1.00	1.07	1.11	1.21	1.15	1.07
Kolsky District	1	0.99	1.07	1.03	1.00	1.06	1.17	1.38	1.32	1.36	1.22	1.36	1.51	1.53	1.18
Kandalakshsky District	1	0.99	0.97	0.95	0.97	0.98	0.96	0.92	0.97	0.87	0.88	1.04	1.10	1.09	0.88
Lovozersky District	1	0.89	0.76	0.72	0.73	0.71	0.78	0.75	0.77	0.76	0.95	1.11	1.17	1.21	0.95
Pechengsky District	1	0.99	0.99	0.99	0.92	0.99	1.07	1.16	1.20	0.94	0.96	0.99	1.07	1.06	0.96
Tersky District	1	1.18	1.03	1.11	1.10	0.98	0.93	0.90	0.88	0.86	1.02	1.03	1.05	1.05	0.99

* Calculated with the use of official statistics data provided by the territorial office of the Federal State Statistics Service in the Murmansk Oblast. Available at: http://murmanskstat.gks.ru/wps/wcm/connect/rosstat_ts/murmanskstat/ru/statistics/

Table 9. The rating of the relative strength index by the indicator "the total area of residential premises on average per inhabitant, at the end of year"*

Urban district / municipal district	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
city of Murmansk	1	0.90	0.90	0.92	0.92	0.92	0.91	0.92	0.91	0.87	0.87	0.86	0.88	0.88	0.87
Kovdorsky District	1	0.94	0.94	0.96	0.96	0.96	0.97	0.98	0.98	0.96	0.96	0.97	1.02	1.02	0.99
town of Apatity	1	0.95	0.95	0.96	0.95	0.94	0.94	0.94	0.94	0.91	0.91	0.90	0.94	0.95	0.93
town of Kirovsk	1	0.96	0.96	0.97	0.97	0.96	0.96	0.94	0.93	0.93	0.93	0.91	0.95	0.95	0.94
town of Monchegorsk	1	1.00	1.00	1.01	1.01	1.01	1.00	1.00	1.00	1.01	1.00	1.00	0.99	1.00	1.00
town of Olenegorsk	1	1.00	0.99	1.00	0.97	0.97	0.96	0.96	0.92	0.92	0.95	0.94	0.94	0.93	0.95
town of Polyarnye Zori	1	0.97	0.96	0.96	0.96	0.95	0.94	0.95	0.97	0.94	0.93	0.92	0.95	0.95	0.94
Kolsky District	1	1.19	1.19	1.16	1.16	1.16	1.15	1.15	1.16	1.20	1.20	1.21	1.13	1.13	1.19
Kandalakshsky District	1	1.10	1.10	1.11	1.12	1.11	1.11	1.12	1.12	1.17	1.19	1.20	1.22	1.22	1.20
Lovozersky District	1	0.95	0.95	0.97	0.98	0.99	1.00	0.99	0.99	1.01	1.01	1.01	1.00	1.00	1.01
Pechengsky District	1	1.06	1.06	1.06	1.06	1.05	1.04	1.03	1.03	1.11	1.08	1.08	1.09	1.10	1.06
Tersky District	1	0.98	1.00	0.92	0.95	0.98	1.00	1.02	1.04	0.96	0.98	1.00	0.89	0.89	0.90

* Calculated with the use of official statistics data provided by the territorial office of the Federal State Statistics Service in the Murmansk Oblast. Available at: http://murmanskstat.gks.ru/wps/wcm/connect/rosstat_ts/murmanskstat/ru/statistics/

Table 10. Differentiation Index (Gini coefficient) according to indicators for 2001–2015*

Indicators	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Investments in fixed capital of large and medium-sized organizations per capita	0.63	0.73	0.71	0.68	0.67	0.57	0.53	0.50	0.63	0.71	0.68	0.74	0.75	0.68	0.69
Average retail trade turnover per capita	0.30	0.29	0.29	0.29	0.29	0.29	0.28	0.29	0.60	0.56	0.56	0.54	0.47	0.63	0.58
The volume of paid services per capita	0.37	0.39	0.39	0.41	0.38	0.36	0.36	0.35	0.35	0.38	0.38	0.36	0.47	0.42	0.40
Average monthly nominal accrued wage	0.32	0.30	0.31	0.29	0.27	0.27	0.29	0.28	0.28	0.29	0.28	0.28	0.26	0.26	0.27
The number of registered crimes per 1,000 population	0.27	0.31	0.34	0.33	0.37	0.35	0.36	0.33	0.29	0.30	0.28	0.27	0.26	0.26	0.27
Officially registered unemployed persons, at the end of year	0.47	0.46	0.44	0.44	0.43	0.44	0.46	0.46	0.47	0.49	0.46	0.47	0.45	0.41	0.44
The number of doctors per 1,000 population, at the end of year	0.34	0.34	0.36	0.36	0.38	0.38	0.37	0.35	0.35	0.36	0.35	0.42	0.46	0.46	0.42
The total area of residential premises on average per inhabitant, at the end of year	0.23	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.22	0.21	0.21	0.21	0.21	0.21	0.21

* Calculated with the use of official statistics data provided by the territorial office of the Federal State Statistics Service in the Murmansk Oblast. Available at: http://murmanskstat.gks.ru/wps/wcm/connect/rosstat_ts/murmanskstat/ru/statistics/

The majority of indicators that characterize the social aspect of development of the Murmansk Oblast show a slight differentiation and are continuously declining. For instance, we observe a decreasing trend in differentiation for the indicators "average monthly nominal accrued wages", "the number of registered crimes per 1,000 population"[8], "the number of officially registered unemployed at the end of year"; differentiation remains low for the indicator "the total area of residential premises on average per inhabitant, at the end of year".

[8] As a rule, this important social indicator is included in the list of indicators characterizing the quality of life. We note that we are talking about the reduction of differentiation and not about the reduction of crime rate. The involvement of the original data allows us to assert, that the number of crimes has reduced. For instance, in some municipal objects, the number of crimes increased, in others – decreased; in addition, we observe a heterogeneous pattern by each year and for each of the objects under consideration.

Table 11. Forecasting the index of differentiation (the Gini coefficient) by indicators (baseline and target scenarios)

Indicators	Baseline scenario		Target scenario	
	2016	2017	2016	2017
Investments in fixed capital of large and medium-sized organizations per capita	0.71	0.70	0.73	0.73
Average retail trade turnover per capita	0.60	0.61	0.69	0.72
The volume of paid services per capita	0.42	0.42	0.43	0.43
Average monthly nominal accrued wage	0.26	0.26	0.26	0.26
The number of registered crimes per 1,000 population	0.27	0.27	0.28	0.28
Officially registered unemployed persons at the end of year	0.41	0.42	0.40	0.40
The number of doctors per 1,000 population, at the end of year	0.47	0.48	0.47	0.48
The total area of residential premises on average per inhabitant, at the end of year	0.21	0.21	0.22	0.22

Among the social indicators only the indicator "the number of doctors per 1,000 population, at the end of year" shows a rising trend.

Indicators such as "investment in fixed capital of large and medium-sized organizations per capita", "average retail trade turnover per capita", and "the volume of paid services per capita" show a trend of growth. In addition, these very indicators in recent years show the greatest differentiation.

Thus, having considered the results of assessments with the use of a set of techniques, we can make a conclusion: there are indications that the region shows two trends – an increase in differentiation by economic performance and a reduction in differentiation by social indicators.

Forecasting the effects of the crisis on the development of differentiation of cities and districts of the Murmansk Oblast

Forecast period: 2016–2018[9]. The forecast period is due to two factors: 1) limitations of forecasting in the period of crisis; 2) our forecast uses the conditions set out in the main forecast document of the Murmansk Oblast – the Forecast of socio-economic development of the Murmansk Oblast for 2017 and the planning period of 2018 and 2019 (Appendix to the Decree of the Government of the Murmansk Oblast dated November 10, 2016 No. 551-PP).

Let us consider two scenarios of initial conditions (they correspond to the conditions of the Forecast of socio-economic development of the Murmansk oblast in 2017 and the planning period of 2018 and 2019): 1) baseline scenario; 2) target scenario[10] *(Tab. 11)*.

When the baseline scenario is implemented, it is implied that a slight differentiation of the majority of social indicators will remain, and a growing (declining) trend will not continue. The exception is the indicator "the number of doctors per 1,000 population", which is expected to increase slightly. The target scenario shows almost a similar picture on social indicators.

[9] The inclusion of the year 2016 in the forecast period is determined by the fact that the statistics are available only for 2015.

[10] We note that the Forecast for the Murmansk Oblast contains a conservative scenario that assumes a significant deterioration in the external and internal environment for the functioning of the economy. We do not consider this extreme option, because there is no reason to expect such a significant deterioration in the external and internal situation. If we consider the data of macroeconomics, we see that the socioeconomic situation in Russian Federation in 2017 is stabilizing.

In the baseline scenario it is forecast that there will be further slight growth of economic indicators of territories ("investments in fixed capital of large and medium-sized organizations per capita", "average retail trade turnover per capita", "the volume of paid services per capita"). The target scenario forecasts a somewhat greater growth of differentiation according to these indicators, especially for the indicators such as "investments in fixed capital of large and medium-sized organizations per capita".

Discussion of the problem of differentiation of cities and districts of the Murmansk Oblast from the standpoint of territorial development management

We note that our analysis demonstrates the stability of the situation concerning the differentiation between urban districts and municipal districts in the Murmansk Oblast. It means there is no reason to believe that any component of regional development can destabilize the socio-economic situation in the region. Thus, our *first recommendation* is to carry on implementing the general socio-economic policy and management practice in the socio-economic development of the Murmansk Oblast defined by specific tasks of strategic planning.

We should also note that regional differentiation trends characterize the goals of regional management as socially oriented. This is evidenced by a low differentiation and a trend of its further reduction according to indicators such as "average monthly nominal accrued wages", "the number of registered crimes per 1,000 population", "officially registered unemployed", and "the total area of residential premises on average per inhabitant". However, noteworthy is the growth of differentiation according to the indicator "the number of doctors per 1,000 population". Given the fact that a significant area of the region is located in the Arctic, and, moreover, that there is a lack of good transport links within the region, and that people's incomes are reducing (respectively, reduction of spending on disease prevention, good nutrition, etc., which determines an increase of morbidity), this trend should be considered definitely negative. Thus, our *second recommendation* is to prevent further reductions in the number of medical organizations, particularly those providing primary health care, and to provide them with equipment in accordance with the standards approved by respective regulations; to maintain and increase the number of medical personnel in most municipalities of the Murmansk Oblast.

The increasing differentiation between economic indicators of territories and indicators of economic viability of the population ("investments in fixed capital of large and medium-sized organizations per capita", "average retail trade turnover per capita", "the volume of paid services per capita") – this feature is typical of territorial entities under the modern model of the capitalist market. Therefore, it is impossible to affect differentiation fundamentally in this area; however, it is possible to adjust the situation by finding new investment projects in less developed municipalities. Thus, our *third recommendation* is to preserve the guidelines of investment development of the Murmansk oblast and further enhance regional investment measures.

The intensity of investment processes in the Murmansk Oblast is largely determined by the activity of the federal policy on development of the Arctic zone of the Russian Federation [2; 6]. Thus, our *fourth recommendation* (federal level) is to stimulate investment activity and economic growth in the Arctic zone of the Russian Federation, in particular in the Kola bearing zone, by establishing a new legal and regulatory environment that includes preferences and strategic investment.

Conclusion

Summing up, we emphasize once again the fundamental nature of socio-economic development unevenness of the space of any territorial entity. It is shown that the lack of theoretical developments in the field of regulating development unevenness determines the relevance of studying the parameters of socio-economic space differentiation, identifying trends, patterns, forecasts, and then developing practical recommendations to governing bodies to ensure balanced territorial development of the territorial entity. We put forward our own version of a comprehensive assessment of the phenomenon of socio-economic development unevenness of cities and districts of the region, in which each technique complements other ones, denies the shortcomings of other ones and provides new information. Thus, having analyzed the results of assessments according to the three techniques, we revealed not only the specifics of the object of study, but also the capabilities and limitations of the applied assessment tools: the "average by positions" rating only ranks cities and regions by a complex estimation; the rating of "relative strength" quantifies the dynamics of development of each object relative to the general group situation, the analogue of the Gini coefficient characterizes the degree of differences for each of the baseline assessment indicators. Having studied the differentiation of cities and districts of the Murmansk Oblast, we determine specific features of comparative development of these entities and for the first time to identify two steady trends – the growth of differentiation according to economic indicators and the reduction of differentiation according to the majority of social indicators. The specific features and trends that we reveal allow us to talk about socially oriented management goals and the success of management within these goals. The substantiated recommendations to management based on forecast estimates that take into account the decisive influence of the crisis processes and the identified specifics and patterns of spatial unevenness are important for making well-considered management decisions to ensure balanced development of the Murmansk Oblast.

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Information about the Authors

Tat'yana Petrovna Skuf'ina – Doctor of Economics, Professor, Acting Director, Luzin Institute for Economic Studies of the Kola Science Centre, Russian Academy of Sciences (24A, Fersman Street, Apatity, 184209, Russian Federation; e-mail: skufina@gmail.com)

Sergei Vladimirovich Baranov – Ph.D. in Physics and Mathematics, Associate Professor, Leading Research Associate, Luzin Institute for Economic Studies of the Kola Science Centre, Russian Academy of Sciences (24A, Fersman Street, Apatity, 184209, Russian Federation; e-mail: bars.vl@gmail.com)

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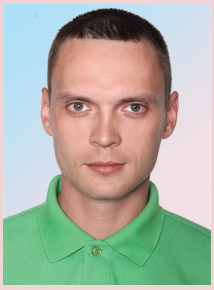
Cluster Development of the Region on the Basis of Innovation Under the Sanctions (Case Study of the Petrochemical Complex in the Samara Oblast)*

Galina Anatol'evna KHMELEVA
Samara State University of Economics
Samara, Russian Federation, 141, Sovetskoi Armii Street, 443090
E-mail: galina.a.khmeleva@yandex.ru

Svetlana Viktorovna SVIRIDOVA
Voronezh State Technical University
Voronezh, Russian Federation, 14, Moskovsky Avenue, 394026
E-mail: sviridovas1@yandex.ru

Nikolai Mikhailovich TYUKAVKIN
Academician S.P. Korolev Samara National Research University
Samara, Russian Federation, 1, Academician Pavlov Street, 443011
E-mail: tnm-samara@mail.ru



Dmitrii Aleksandrovich CHERTOPYATOV
OOO Samara Engineering and Technological Center
Samara, Russian Federation, 49, Yarmarochnaya Street, 443090
E-mail: Chertopjatov@mail.ru

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Abstract. In modern conditions, ensuring rapid economic development is a priority task for industrial policy, but its achievement is hampered by the sanctions imposed on Russia. Russian oil industry has become an object of special attention to the countries that initiated the sanctions. The goal of the paper is to substantiate a set of practical measures that promote cluster development through innovation as an opportunity to facilitate economic growth in the region under the sanctions. In the framework of the goal we achieve the following objectives: we substantiate the cluster approach as a theoretical framework for the innovation-driven development of the industrial complex; we explore the current state and the value of the petrochemical complex in the economy of the Samara Oblast; we justify the stages of formalization of the industrial cluster on the basis of innovation. Scientific novelty of the research consists in the fact that it expands the existing system of knowledge about economic sanctions not only as a tool of political pressure, but also as a resource for priority development of regions. The application of the research findings is associated with substantiating a set of practical measures to achieve priority development taking into account economic specialization of the region. The goal is achieved with the use of logical, systematic and statistical analysis of the regional economic system, and the data is taken from publicly available official sources. We prove that the nature of the sanctions is similar to that of economic crises, and the sanctions can and should be used to promote advanced growth in regional economies. We point out that one should not underestimate the role and importance of the raw materials sector in economic development in the regions where it can serve as a driver of development for manufacturing industries. The Samara Oblast is one of such regions; it has a petrochemical cluster, which in fact is an archaic system of a territorial-industrial complex. The paper reveals opportunities and proposes a set of practical measures to facilitate priority development of an emerging petrochemical cluster in the Samara Oblast on the basis of innovation. The prospects for further research include a search for new opportunities to accelerate innovative development of regions under the sanctions.

Key words: clusters, innovation development, industry, region, sanctions.

Introduction

Since 2014 the Russian economy has been under the sanctions imposed by Western countries, due to which the already unfavorable economic situation in the regions is becoming even worse [18; 19]. Under the circumstances it seems necessary to work out practical measures to engage internal resources for the purpose of providing economic growth in the regions on the basis of scientific research into effects of the sanctions.

International economic sanctions are a means of political pressure, but their effect is not always unambiguous [17]. Originally introduced by the U.S., supported by the EU and other countries and intended more as political action against certain politicians and officials, the sanctions have later adopted a clear economic nature and caused debates and controversial opinions on the subject. Scientists such as A.N. Barkovskii, S.S. Alabyan, and O.V. Morozenkova [2] point out "the necessity to restore economic cooperation between the EU and Russia". In contrast to this approach, S.Yu. Glazyev [5, 6] suggests we should shift from external to internal sources of development. When pointing out a possible long-term negative impact of the sanctions on the Russian economy, researchers M.V. Klinova and E.A. Sidorova propose a more vigorous development of market mechanisms for the formation of new business models "with the use of tools of fiscal and monetary policy and mechanisms of partnership between the state and private capital" [10].

Due to the existence of controversial views on this issue, we have set ourselves the goal of substantiating a range of practical measures on innovation-based cluster development as an opportunity to ensure economic growth in the region under the sanctions.

We achieve the goal by implementing the following tasks: 1) we substantiate the cluster approach as a theoretical basis for the development of the industrial complex on an innovation basis; 2) we explore the current state and the value of the petrochemical complex in the economy of the Samara Oblast; 3) we substantiate the stages of formalization of the industrial cluster based on innovation. The principal novelty of our viewpoint lies in the fact that we expand the existing system of knowledge about economic sanctions not only as a tool of political pressure, but also as a resource for priority development of regions. The applied use of the research results is related to the justification of a set of practical measures aimed at priority development of a region taking into account its economic specialization, which determines the originality of our ideas.

The Russian economy that depends heavily on the mining sector was meant to be seriously damaged and put into a prolonged recession[1], according to the intent of those who designed the sanctions. It should be noted that the sanctions, just as the fall in oil prices that accompanied them, had a negative impact on innovation activity in Russia. In 2015 in comparison with the previous period the innovation activity of organizations remains low: 9.3%, compared with a target value of 11.3%. Expenditures on technological innovation in the manufacture of coke, petroleum and chemical products decreased by 33.5% and 20.5%, respectively. Industrial production experiences a reduction in the proportion of innovative products for the second year in a row. However, expenditures on technological innovation in the extraction of fuel and energy resources increased by 11.1%[2]. From 2016 onward, we can say that the effect of the sanctions is mitigated (in the first place we mean inflation targeting regime and direct government programs to support industries), which increases the sustainability of the corporate oil and chemical sector. As a result, the volume of investments in fixed capital has come very close to the 2013 level, and we observe certain growth in mining and chemical industry: by 114.4% and 109.6%, respectively, compared to the 2015 level.

In 2016–2017 we can point out the following sanctions-driven conditions that can establish trends promoting the integrated development of oil and chemical industry in the form of a cluster:

1. In 2016 the chemical industry is one of the drivers that can take the Russian economy out of recession by providing a growth of 107% on average. The volume of shipped goods in the chemical industry increased by 25.4%[3], labor productivity increased by 23.5%, which is a proof of modernization of production in this sector. Chemical production and "oil and petrochemical companies with resource base" play a major role in import substitution[4].

[1] Weiss A.S., Nephew R. *The Role of Sanctions in U.S.-Russian Relations*. 2016. Available at: http://carnegieendowment.org/2016/07/11/role-of-sanctions-in-u.s.-russian-relations-pub-64056 (accessed: 10.03.2017).

[2] *Official website of Rosstat. Science and innovation*. Available at: http://www.gks.ru/wps/wcm/connect/rosstat_main/rosstat/ru/statistics/science_and_innovations/science/# (accessed: 11.03.2017)

[3] *Official website of Rosstat.* Industrial production. Available at: http://www.gks.ru/wps/wcm/connect/rosstat_main/rosstat/ru/statistics/enterprise/industrial/# (accessed: 27.07.2017).

[4] Plants themselves will concoct something. *Rossiiskaya Gazeta. Federal Edition,* 2016, no. 6996 (128). Available at: https://rg.ru/2016/06/14/dolia-importa-v-himicheskoj-promyshlennosti-upala-na-tret.html (accessed: 27.07.2017).

2. The imposition of the sanctions incited oil companies to take steps to reduce their dependence on imported equipment and technology, including software. For example, Rosneft has updated its corporate program for import substitution and localization of engineering and technology, which includes three priority goals: strategic agreements with leading manufacturers, launching the assembly of high-tech equipment on the territory of Russia, and achieving the level of localization of 70 to 100%. If in 2014 the share of foreign purchases was 22%, then in 2015 it reduced to 17%.

A new package of restrictive measures as of July 2017 jeopardizes the implementation of international investment projects in the oil and gas sector, affecting the interests of a wide range of domestic and foreign participants (investors, creditors, suppliers and consumers of goods or services for Russian export projects). It can be assumed that the implementation of a new package of sanctions will to a certain extent stimulate additional domestic demand in the oil sector for high quality products and services of technological, industrial, engineering, logistics and service companies and financial institutions that were previously provided by American and European companies.

In our opinion, the sanctions, together with unfavorable trends in oil prices are not just a challenge, they can become an efficient driver of innovation in the economy of Russian regions by promoting the conditions for accelerated development and implementation of measures for priority innovation development.

We can support this viewpoint with the opinions of M.V. Ershov [9] who says it is necessary to use internal resources to enhance the role of national market; A.G. Aganbegyan [1] who points out it is advisable to boost investments in fixed capital and human resources by allocating funds to technological renovation of existing production. We probably are already on the verge of a "new industrial revolution" [11], but in pursuit of high technology we must not forget about the powerful industrial production systems of the petrochemical sector and its huge potential market, including the export market.

E.V. Romanov [13] expresses a different opinion concerning the commodity sector, which, in his view, represents significant potential for funding future re-industrialization, because it allows its processing segment to be enhanced. In turn, S.D. Bodrunov [3; 4], R.S. Grinberg, and D.E. Sorokin [4] see the problem in the fact that the level of development of the manufacturing sector is lagging significantly behind that of the raw materials extracting sector. According to S.Yu. Glazyev, the Russian economy has all the capabilities for priority growth, but they are currently impeded by insufficient utilization of production capacities, low efficiency in the use of the raw materials base and science and technology potential [5]. The time has come for structural reforms, in the course of which it is certainly necessary to develop the mining sector, which must become a source of finance, raw materials and technology for establishing production of goods with high added value not only in petrochemical industry, but also in associated industries (mechanical engineering, aircraft building, etc.). According to the Plan for development of gas- and petrochemical industries in Russia for the period up to 2030, per capita consumption of polymers for the next 20 years will increase considerably and will exceed the current European indicators,

which provides significant opportunities for the development of domestic production[5]. It is of interest that the above numbers refer to the country as a whole. Unfortunately, at the regional level there is a clear gap in the research dedicated to development of regions under sanctions. The present study aims to understand the role of sanctions from the perspective of opportunities for regional economic growth. The task becomes more complicated due to a high differentiation of the regions by level of their socio-economic development and specialization, which denies the application of common approaches to the development of practical measures to ensure economic growth in regions under sanctions. At the same time the Samara Oblast is among the old industrial Russian regions with a developed petrochemical complex. Therefore, our study is important to researchers, specialists, representatives of the authorities involved in the development of strategies and regional development programs in the period of the sanctions pressure on the Russian economy.

Research methodology

The system approach and the methods of logical, systematic and statistical analysis form the methodological basis of our study. We have chosen these methods because, first, they allow us to describe qualitatively the state of the analyzed object, and second – to ensure the comprehensiveness and completeness of coverage of all elements of the regional economic system.

The method of logical analysis helps us justify the use of the cluster approach to innovative development of the region under the sanctions and to work out the stages of formalization of the cluster. We use the method of statistical analysis to confirm the findings on the current state of the petrochemical cluster in the Samara Oblast. In this paper we also use the following general research methods: induction, deduction, analysis and synthesis. Through the use of these methods we ensure the scientific nature of the study.

The results of the study

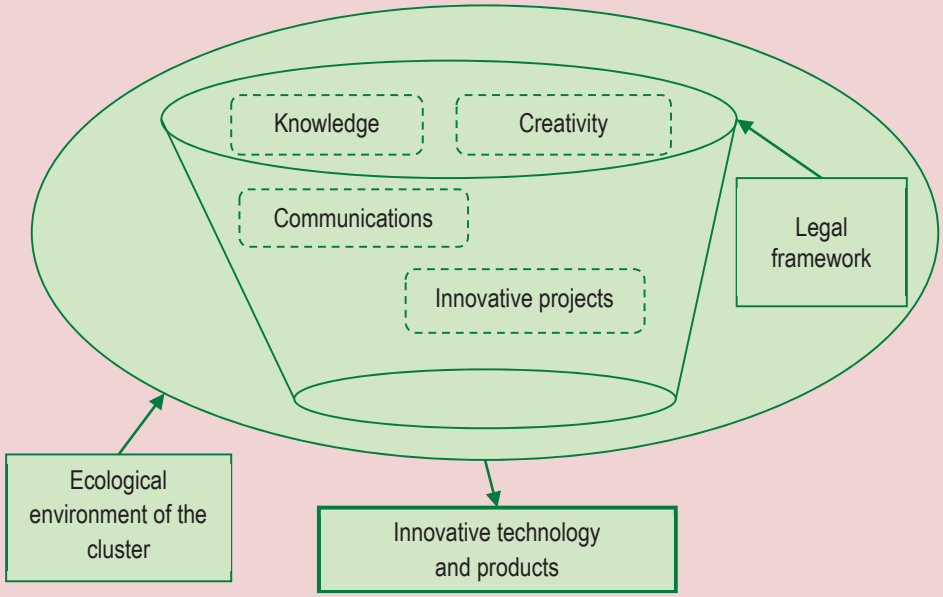
International theory and practice of ensuring competitiveness of regional economy motivates the development of Russian industry on the cluster basis due to a more comprehensive use of regional competitive advantages, extension of vertical and horizontal links between participants and promotion of innovation activities [12; 16; 21]. In this case it is the very innovation activity that comes to the fore and becomes a driver to fill the entire economic space and the base that forms an ecosystem of the cluster in which creativity, knowledge, communication, and regulatory environment are vital to such innovation *(Fig. 1)*.

In a general sense, clusters are a concentration of positively interacting economic entities located in close proximity to each other. The Federal Law "On industrial policy in the Russian Federation" defines the industrial cluster as "a set of actors in the industry that are connected through the relationships in this sphere due to territorial proximity and functional dependence and located on the territory of the same constituent entity of the Russian Federation or on the territories of several constituent entities of the Russian Federation"[6]. The definition of "industrial cluster" limits the concept of cluster

[5] *Plan for development of gas- and petrochemical industries in Russia for the period up to 2030 approved by Order 79 of March 1, 2012 by the Ministry of Energy pf the Russian Federation*. Available at: http://www.consultant.ru/cons/cgi/online.cgi?req=doc;base=EXP;n=588708#0 (accessed: 11.03.2017).

[6] *Federal law 488-FZ of December 31, 2014 "On industrial policy in the Russian Federation"*. Available at: http://base.garant.ru/70833138/ (accessed:11.04.2017).

Figure 1. The funnel of innovations in a cluster



Source: compiled by the authors.

to a group of industrial entities only and does not include other participants who carry out support functions, an innovation component among them.

In contrast to the Russian practice, the EU Commission for state support of research and innovation has included the creation and development of clusters in one of the methods for stimulating innovation activity and defined the term "cluster" as "a system of interconnected enterprises and research institutes located in the same place" [23].

Thus, the development of the cluster cannot be considered in isolation from innovation activities of enterprises participating in the cluster, since it is the very innovation activity that becomes the foundation for further development of the cluster.

Taking into consideration the voluntary nature of interaction between cluster members, we note that coordination of their economic interests is a factor that ensures stability of the whole cluster system. Therefore, it is advisable to pay attention to technology platforms as a new instrument of state regulation, introduced just over 10 years ago in the countries of the European Union with the aim of harmonizing cross-national interactions.

Technology platforms were identified as the sites where the strategy for science and technology development is elaborated, which then becomes the basis for specific programs and projects of the EU Framework Program for Research [8]. It should be noted that in Russia certain industries already have technology platforms; a list of 27 of them has been approved by the Government Commission on high technology and innovation[7]. Petrochemistry has two technology platforms: "New polymeric

[7] Innovations in Russia: official website of Rosstat. Available at: http://innovation.gov.ru/ru/taxonomy/term/2331 (accessed: 15.04.2017).

composite materials and technologies", and "Deep processing of hydrocarbon resources and the disposal of oil refinery waste".

Technology platform is a communication tool designed to boost the work on creating new advanced technologies and products. Technology platform is a sort of site (not connected to any territory) for sharing resources, engaging stakeholders to implement joint projects, and it can be used as a mechanism of interregional cooperation in the functioning of a cluster in the implementation of innovative projects.

Another tool of innovative development actively supported by the government in recent years is the national technology initiative, in particular: "TechNet" and "EnergyNet". The national technology initiative, which Russian President declared to be a response to the sanctions imposed against Russia and a priority of governmental policy when delivering his Address to the Federal Assembly on December 4, 2014, is a program of measures for creating fundamentally new markets and establishing conditions for global technological leadership of Russia by 2035[8].

The development of the petrochemical cluster in the long term must be linked to the "roadmaps" of technology platforms and the national technology initiative.

In cases when cluster activities intersect with the activities of technology platforms and the national technology initiative, we can recommend the following:

– link the activities within cluster initiatives to the activities within technology platforms;

– organize cooperation between representatives of technology platforms, the national technology initiative and stakeholders (participants. – Author's note) of the cluster in the implementation of research projects and technological developments.

We agree with I.G. Dezhina [8] who points out that technology platforms can serve as a tool to enhance network interactions within the cluster and between clusters. This is justified by the fact that the sites of technology platforms in the elaboration of strategic development areas serve as centers of attraction for experts in their fields, but are not tied to specific territories.

A little over ten years ago, G.R. Khasaev was one of the first in Russia to launch cluster policy in the Samara Oblast, and he supported the succession of clusters as an alternative model of territorial-industrial complexes [14, 15]. It is for a reason that the Samara Oblast is one of Russia's first regions that started to study and use the cluster approach in regional development management.

In order to create a full-fledged petrochemical cluster in the Samara Oblast it is necessary to implement a coordinated development of oil refining, petrochemical, and chemical enterprises and the enterprises that use base polymers as petrochemical feedstock for further processing.

Both an advantage and disadvantage can be found in the prevailing value added chain in the Samara Oblast, from mining to the production of finished products. The segment of production of secondary products like solvents, plastics, rubber, etc. is less developed. There is a large number of industrial design and educational organizations. It is an advantage since the region already possesses all the basic entities of a cluster, an established base and infrastructure. The drawbacks can be found in

[8] The session of the Presidium of the Council on Economic Modernization and Innovation Development of Russia under the President of the Russian Federation. Available at: http://government.ru/news/26436/ (accessed: 17.04.2017).

the traditional production cycle and resource-driven production, they will be significant obstacles to the development of the cluster of a new type, based on innovations. High oil prices until 2014 provided a margin sufficient for a comfortable existence of oil companies and impeded the transition of the sector to innovative development, which can be linked to the Groningen effect[9]. A "double blow" on the Russian economy expressed in the decline in world oil prices and the imposition of economic sanctions aimed mainly at the oil and gas sector necessitated a revision of the tools for development of the industry.

In this regard, in the Samara Oblast there is an understanding that the development of clusters should be carried out only with the support of their "innovativeness"[10]. When considering the petrochemical cluster, we must take into account its specific features, which consist in the vertical integration of the corporation – the core of the cluster (PAO NK Rosneft), which extends geographically beyond a single region as an administrative-territorial unit, which makes it difficult to carry out organizational-economic regulation of the cluster development on the level of regional administrative decision-making. However, cluster policy in the petrochemical sector implemented on the basis of innovation is a priority in the Samara Oblast.

So, currently the draft Strategy for socio-economic development of the Samara Oblast for the period till 2030[11] in which the strategic prospects for development of the oblast are directly related to the petrochemical cluster, one of the three priority clusters. The Resolution of the Government of the Samara Oblast "On the approval of the state program of the Samara Oblast "The creation of favorable conditions for investment and innovative activity in the Samara Oblast for 2014–2018" determines that "the main prospective task for the Government of the Samara oblast is to work on a system basis in order to form and implement innovative projects, promote innovative products on the domestic and world markets, develop cooperation in the innovation sector, ensure coordinated work of innovative development institutions, and promote the implementation of cluster initiatives and projects"[12].

The oil industry in the Samara Oblast has special competitive advantages in comparison with other regions. First, it is because oil raw materials go through the entire production chain – from extraction to commercial production – on the territory of the oblast. Assessing the dynamics of production and processing in 2013–2016 we note a growth of production alongside a decline in the volume of processing *(Table)*.

Positive dynamics of oil production are associated with the fact that innovative technology in recent years was introduced in this sector due to major investments of oil-producing companies. For instance, in the period from 2012 to 2015, investment in the oil

[9] The Groningen effect (Dutch disease) is a negative effect caused by the strengthening of national currency due to high prices for exported raw materials, which contributes to the development of commodity sectors in the economy. This effect was observed in the Russian economy since the beginning of the 2000s. For more information see: Humphreys M., Sachs J.D., Stiglitz J.E. *Kak izbezhat' resursnogo proklyatiya* [Escaping the Resource Curse]. Moscow: In-t Gaidara, 2011. 464 p.

[10] The Order of the Ministry of Industry and Technology of the Samara Oblast "On approval of the Plan for development of the petrochemical complex of the Samara Oblast for the period until 2018" No. 170-p of December 22, 2015.

[11] The draft Strategy for socio-economic development of the Samara Oblast for the period up to 2030. Available at: http://economy.samregion.ru/

[12] The Resolution of the Government of the Samara Oblast "On approval of the state program of the Samara Oblast "Creation of favorable conditions for investment and innovation activity in the Samara Oblast for 2014–2018" dated November 14, 2013 No. 622. Available at: http://www.innovation.gov.ru/sites/default/files/documents/2016/71103/6364.pdf (accessed: 17.05.2017).

Dynamics of oil extraction and refining in the Samara Oblast (2013–2016)*

Year	Extraction		Refining	
	Volume, mln tons	Growth, %	Volume, mln tons	Growth, %
2013	15.2	-	22.0	-
2014	15.6	2.6	22.1	0.45
2015	16.5	5.8	20.8	-5.9
2016	16.7	1.2	19.7	-5.29

* Compiled by the authors with the use of the data of the Ministry of Economic Development, Investments and Trade; Samarastat.
Sources: Scenario conditions for socio-economic development of the Samara Oblast for 2015 and for the planning period of 2016 and 2017; Scenario conditions for socio-economic development of the Samara Oblast for 2016 and for the planning period of 2017 and 2018; Natural resources and environmental protection: Samara statistical yearbook. 2015. P. 234.

industry in the Samara Oblast was 10.34 billion rubles. In 2016–2018 it was planned to allocate additional investment in the amount exceeding 63.4 billion rubles.

Oil processing in the Samara Oblast is carried out at three major refineries within OAO NC Rosneft: JSC Novokuibyshevsk Refinery, JSC Kuibyshev Refinery, and JSC Syzran Refinery. The capacity of the three refineries of the Samara group of Rosneft exceeds 21 million tons per year. The largest share in the processing of crude oil belongs to Novokuibyshevsk Refinery. The reduction in the volume of refining is due mainly to a reduction in the volume of oil received for processing. In the circumstances and in connection with reducing exports of oil products by 23% in 2016 – to the level of 2013 (six million tons), more importance is attached to the questions of increasing the efficiency of refineries through the introduction of new technology that improve the depth of refining. The value of this indicator in the Samara Oblast in 2016 amounted to 74%. In 2018, the figure is planned to increase up to 90%[13].

In order to increase the depth of refining and improve environmental and industrial safety the petrochemical industry constructs new and upgrades existing processing units. For example, in 2016–2019, Domanik Oil AS company in the framework of a pilot project will drill and test at least three horizontal exploratory wells; it will also carry out an advanced research at the license subsoil blocks of JSC Samaraneftegaz, one of the largest petrochemical enterprises in the Samara Oblast. JSC RITEK, a subsidiary of LUKOIL is a specific scientific and technological facility for testing new progressive technologies of oil production. Many small deposits in the Samara Oblast contribute to the testing of new developments in the oil industry.

The chemical industry is actively developing and it is one of the backbone industries in the region, since it provides 14% in the structure of regional industrial production. In 2016, unlike other types of activities, the chemical industry shows a 104% growth compared with the level of 2015 due to a situation favorable for import substitution[14].

The development of the chemical industry in the Samara Oblast is promoted by the implementation of investment projects at major chemical plants and at the industrial site of the specialized Industrial Park Togliattisyntez. Despite the fact that the petrochemical sector

[13] The results of socio-economic development of the Samara Oblast for January – August 2016 and the expected development outcomes for 2016. Available at: http://economy.samregion.ru/upload/iblock/c28/2_itogi_2016.docx (accessed: 14.04.2017).

[14] Ibidem.

has long occupied a stable position in the economy of the Samara Oblast and it currently comprises more than 30 companies, it is still premature to identify their joint activity as a cluster, because the structure and model of interaction between industrial enterprises, universities, and support organizations were established quite a long time ago and they are now developing in the framework of current economic needs. In order to achieve breakthrough development of the petrochemical cluster on the basis of innovation it is necessary to develop and implement practical measures aimed to streamline economic and administrative relations on the basis of creativity, creation and use of knowledge, networking and communication in the process of joint implementation of innovative projects, including those in related fields.

Relying upon the works of leading Russian scientists (A.G. Aganbegyan [1], I.V. Pilipenko [12] S.D. Bodrunov [3; 4], R.S. Grinberg, Yu.V. Yakovets [4], and others) and foreign scientists (M. Porter [21; 22], M. Enright [16], etc.) devoted to regional industrial development, we believe that all the work on cluster formalization should be arranged so as to bring the petrochemical cluster of the Samara Oblast in line with the world's leading petrochemical clusters and make it a highly integrated industrial environment for the sector in which many partners (suppliers, contractors and customers) provide the most efficient innovation-based interaction within the chain of business processes. We suggest that practical measures for the development of the petrochemical cluster on the basis of innovation should be implemented in several stages *(Fig. 2)*.

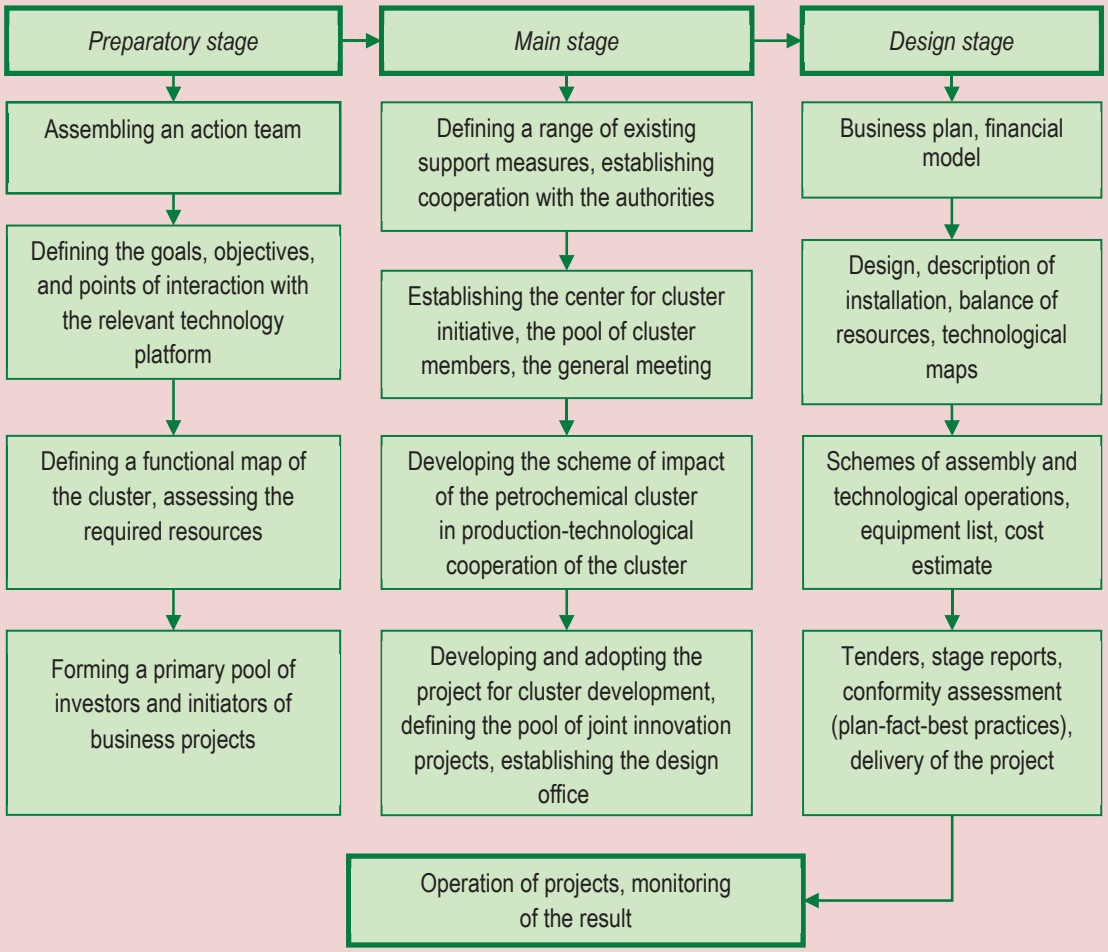
Preparatory stage. It is necessary to form an action team from among organizations that are technologically united by core and support business processes. Any of the large petrochemical enterprises that work in the Samara Oblast, namely OJSC Samaraneftegaz, JSC Kuibyshev Refinery, JSC Novokuibyshevsk Refinery, JSC Novokuibyshevsk Petrochemical Company, JSC Syzran Refinery, PAO KuibyshevAzot, OJSC TogliattiAzot, LLC SIBUR Togliatti, JSC Promsintez and others can be initiators of the cluster formalization.

Research support to the petrochemical complex is carried out by the following specialized research institutes: JSC Giprovostokneft, OJSC SamaraNIPIneft, PAO Samaraneftehimproekt, PAO Srednevolzhsky Research Institute for Oil Refining, JSC Togliatti Institute for Nitrogen Industry, etc., and the following educational institutions: Samara State Technical University, Togliatti State University, etc.

Main stage. A necessary condition for the formation of the petrochemical cluster in the Samara Oblast consists in providing support to the project by federal and regional authorities. Along with addressing organizational issues the action team should determine the goals and objectives of the cluster formation, areas of its development, points of its interaction with a relevant technology platform, prospects of cooperation with the national technology initiative, and develop a draft functional map of the cluster.

In order to coordinate the work on innovative development of the cluster, it is necessary to create a management company (a center for cluster initiative) in the form of a non-profit organization or association. Centers for cluster initiatives should aim to identify the needs of both industry and academia and serve as a means to satisfy the need for collaboration with the help of a supportive regional ecosystem.

Figure 2. Stages of innovation-based formalization of the petrochemical cluster



Source: compiled by the authors.

Financial assistance to the coordinator organization is provided at the expense of contributions paid by cluster participants and also through paid services provided by the management company of the cluster in the interests of its members and the cluster infrastructure. The main functions of the management company are related to the rendering of organizational, methodological, expert, and analytical and information support to cluster members for the purpose of its progressive development.

Working jointly, cluster participants develop the scheme of influence of the petrochemical cluster on its production-and-technology cooperation that is a graphic diagram of the changes in cooperation between the participants in the joint activities within the cluster. The draft Strategy for socio-economic development of the Samara Oblast for the period up to 2030[15] contains

[15] The draft Strategy for socio-economic development of the Samara Oblast for the period up to 2030. Available at: http://economy.samregion.ru/ (accessed: 10.04.2017).

an implementation chart for development of the cluster of oil production, refining, petrochemical and chemical production in the Samara Oblast.

Cluster members develop a program (project) for development, which includes a pool of joint projects, the implementation of which aims to develop the participants taking into account necessary support from the authorities. Preference should be given to innovative projects and to projects that address import substitution and innovative development issues. In order to boost efforts for creating promising commercial technology, new products (services) and attracting additional resources for research and development by involving all stakeholders (business, science, government, civil society) it is advisable to use the technological platform "New polymeric composite materials and technologies", and "Deep processing of hydrocarbon resources and the disposal of oil refinery waste".

At the preparatory and main stages one should use the guidelines developed by the Ministry of Industry and Trade of the Russian Federation, and National Research University "Higher School of Economics"[16]. The guidelines contain quite a detailed description of organizational and methodological support to establishing a cluster.

Design stage. It involves the establishment of a design office as part of the center for cluster initiatives; the office will be responsible for planning, methodological support and monitoring of joint projects implementation. In the composition of the design office it is possible to allocate a group of research projects (enterprises, universities, research institutes, grant makers), a group of industrial projects (with the involvement of engineering companies FEED, PMC, EPC contractors) and a group of service and infrastructure projects.

We should note that the Samara Oblast has all the preconditions for the petrochemical cluster to be established and developed. The oblast is included in the federal program for development of petrochemical industry. The oblast has a stable and favorable investment climate and is among the top ten subjects of the Russian Federation in terms of investment potential. The leadership of the oblast considers the establishment of a petrochemical cluster as a priority activity for a long time.

Upon the initiative of the Samara Oblast Government a system of infrastructure organizations for support and promotion of innovative developments was created with the use of regional budget funds and federal funds. The system includes the Innovation Fund of the Samara Oblast, the Regional Center for Innovation and Technology Transfer, the Regional Venture Fund, the Center for Innovation Development and Cluster Initiatives, a technology park, five business incubators, the Guarantee Fund, the Information and Advisory Agency, the Association of Small Innovative Enterprises of the Samara Oblast, microfinance and other organizations.

Among the achievements in this direction we can name two industrial chemical parks that are to be opened in the oblast. One of them is under the control of SIBUR, a Russian chemical colossus. The parks will be able to accommodate successful Russian and

[16] Methodological guidelines on the creation of industrial cluster. The project dated December 1, 2015. The Ministry of Industry and Trade, National Research University "Higher School of Economics". Available at: http://spbcluster.ru/files/proekt_metodicheskih_rekomendacij_po_formirovaniyu_promyshlennogo_klastera_23_11_15.pdf (accessed: 10.04.2017).

international companies. Furthermore, the development of the petrochemical cluster is held with the involvement of NK Rosneft – a major player in the industry – in the framework of the adopted and regularly updated cluster strategy.

Analysis and explanation of the obtained results

Thinking about the ways to advance Russia's development in conditions of a global crisis, S.Yu. Glazyev in his monograph points out that "for any country, a necessary condition for successful recovery from a crisis is to have its own strategy focused on the preservation of its economic potential and rapid creation of preconditions for the growth of new industries" [6].

The results obtained extend scientific ideas concerning the fact that sanctions are not the only a source of negative impacts on the economy, but they also provide opportunities for advancing innovation development in regions. It is justified by the following.

First, sharing the viewpoint of leading Russian scientists (S.Yu. Glazyev, S.D. Bodrunov, R.S. Grinberg, etc.), we prove that under economic sanctions the raw materials sector needs to be developed in associated processing industries.

Second, it is necessary to shift from regional pseudo-clusters that in fact represent an archaic structure of territorial-industrial complexes (like the petrochemical complex of the Samara Oblast) to clusters of a new formation (the relevant international experience has already been accumulated) that are based on the network interaction of participants in the implementation of innovative projects in close cooperation with the national technology initiative according to the specialization of the clusters.

Third, taking into account current experience, new institutions for innovative development, such as the national technology initiative, and with regard to regional specifics of the structure of the petrochemical complex, we propose the stages of formalization of the petrochemical cluster on the basis of innovation, which will, in our view, give new impetus to its development.

The development of the petrochemical cluster is of fundamental importance for future economic development of the Samara Oblast, because according to forecasts it has a significant potential market that provides a higher rate of growth compared with other industries, such as the automotive industry that has dominated in the region until recently. In addition, it employs a significant part of the workforce.

Summarizing the above, we note the following key opportunities for innovative development of the cluster:

– providing support to cluster initiatives on the federal and regional levels;

– implementing the national technology platform, a set of programs on import substitution, technological development, since the chances of participation in them increase with the implementation of major joint innovative projects;

– integrating the petrochemical industry of the Volga region with oil refining and petrochemical enterprises of the Samara Oblast, allowing to produce a large number of products, which is a competitive advantage over the enterprises located in Western Siberia[17];

– enterprises are located in close proximity, which helps optimize logistics.

[17] The Samara Oblast is recreating its petrochemical cluster. Available at: http://tlt.volga.news/article/216413.html (accessed: 02.05.2017).

Controversy concerning the results

Successful innovation activity in clusters requires a proper ecosystem; moreover, the presence of transparent relationships between stakeholders is a necessary condition. Russian regions have only recently embarked on a course of cluster development, while Western countries have already accumulated sufficient experience in this regard [24], positive as well as negative, which leaves room for scientific debate in our country. For example, Ch.R. Østergaard and E. Park [20] in their study show certain skepticism about the developmental role of the cluster and prove that in case of unexpected changes in technologies and market conditions the clusters are reduced, and one of the reasons for such reduction is the work of multinational companies that are capable of taking out considerable resources in the short term. Such results must be considered, and moreover, the issue concerning negative effects of the cluster requires deeper study, but apparently it is a matter for the future.

In our study we use the Samara Oblast as an example to show the process of identifying opportunities for development of regional economy under sanctions, taking into account regional specialization. The proposed practical measures of formalization of the petrochemical cluster can be used by regional authorities and interested business entities in the course of innovative development of the region, and not only in the Samara Oblast, but also other regions with similar specialization. It appears that cluster development is not a panacea in conditions of sanctions, and it is necessary to study promising opportunities for innovative development of regions under sanctions while taking into account specific features and specialization of the regional economy.

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Information about the Authors

Galina Anatol'evna Khmeleva – Doctor of Economics, Associate Professor, Professor at the Department of Regional Economics and Management, Samara State University of Economics (141, Sovetskoi Armii Street, Samara, 443090, Russian Federation; e-mail: galina.a.khmeleva@yandex.ru)

Nikolai Mikhailovich Tyukavkin – Doctor of Economics, Associate Professor, Head of the Department of Economics of Innovation, Academician S.P. Korolev Samara National Research University (1, Academician Pavlov Street, Samara, 443011, Russian Federation; e-mail: tnm-samara@mail.ru)

Svetlana Viktorovna Sviridova – Doctor of Economics, Associate Professor, Professor at the Department of Economics and Management at Mechanical Engineering Enterprises, Voronezh State Technical University (14, Moskovsky Avenue, Voronezh, 394026, Russian Federation; e-mail: sviridovas1@yandex.ru)

Dmitrii Aleksandrovich Chertopyatov – First Category Inspector at the Department of Oilfield Equipment, OOO Samara Engineering and Technological Center (49, Yarmarochnaya Street, Samara, 443090, Russian Federation; e-mail: Chertopjatov@mail.ru)

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Development of the Government Procurement Institution (Toward the Formation of a New Model for the Contract Procurement System)

Irina Ivanovna
SMOTRITSKAYA
Institute of Economics of the Russian Academy of Sciences
Moscow, Russian Federation, 32, Nakhimovsky Avenue, 117218
E-mail: irinasmot@yandex.ru

Sergey Sergeevich
SHUVALOV
Institute of Economics of the Russian Academy of Sciences
Moscow, Russian Federation, 32, Nakhimovsky Avenue, 117218
E-mail: shuvalov@iacenter.ru

Abstract. The paper considers institutional changes in the sphere of procurement of goods, works and services for public purposes. The goal of the paper is to develop a new conceptual approach to the formation of an institutional model for the contract procurement system. It is shown that basic concepts of the current model of contract system remain outside the framework of the universally binding and formally defined categories in conditions of legal regulation instability. We formulate the task of systematizing the set of concepts and definitions in order to separate and differentiate individual segments of the procurement market. In order to implement this task we analyze fundamental definitions contained in legislative acts of international organizations and countries, review key approaches and principles, and highlight specific national features of procurement regulations. We draw attention to the fact that the greatest volume of purchases is observed in the public sector. In the process of our research we use a method of normalized weighted average indicators to calculate an integral index that characterizes the

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scale of the public sector and also to obtain expert assessment of the extent of procurement control. Judging by the results of the study, the scope of procurement control correlates to a large extent with the size of the public sector. Our research helps lay out the principles of institutional reform of the contract procurement system. We propose a conceptual approach to the strategy for development of the government procurement institution taking into consideration international experience and structural specifics of the Russian economy and its public sector. The novelty of the proposed approach lies in the fact that it discloses the concept of government procurement as a substantive framework of the contract system; it corresponds to modern trends in the development of legal capacity of public legal entities and public companies. The article proposes a corresponding framework for the thesaurus of the contract system. The proposed regulation of a set of concepts and terms acts as a methodological framework for allocating and distinguishing individual segments in the market for procurement of goods, works and services. The new model of contract system will require optimization of legal regulation of contract relations based on restructuring and differentiating the regulatory framework, taking into account strategic goals and objectives of a relevant segment of the government procurement sector.

Key words: institutional reform, public procurement, contract procurement system, government procurement, public sector, new thesaurus, procurement market segmentation.

Introduction. The system of procurement of goods, works and services for public purposes is one of the key areas of institutional change that has been going on for the past twenty years in Russia. At present, a new institutional model for public procurement and procurement by the enterprises of the public sector is being formed in context of a new strategy for socio-economic development of the country [10; 18].

The government is one of the largest consumers of goods, works and services in the Russian economy. Total government purchases (the aggregate demand of the authorities at different levels) accounted for 6.5 trillion rubles in 2016 [7, p. 3]. In turn, the volume of purchases of natural monopolies and enterprises of the public sector (companies with state participation, unitary enterprises, state-financed and autonomous institutions) in comparison with 2015 increased by 10% and amounted to 25.7 trillion rubles [8, p. 2]. From the point of view of its scope, public procurement is a powerful financial tool in the hands of the state; this tool can and should be involved in implementing a new strategy for economic development.

The present work is based on a conceptual premise that the development of contract procurement system as an institution of state management and a mechanism of economic management should be considered a strategic goal. New scale and level of the tasks to be solved allows us to speak about a new ideology of development of the contract system of procurement. In order to implement this strategic goal, we should first define the essence and role of the new institution of procurement, its interaction with other economic sectors, the scope of tasks, powers to regulate certain areas, which requires revision, systematization and regulation of definitions and terms of the contract procurement system used in modern legislation. In our view, regulating the set of concepts and terms is a necessary methodological foundation for selecting and delineating separate segments on the markets for procurement of goods, works and

services and a foundation for development of a differentiated approach to the legislative regulation of relevant activities.

Currently, Federal Law 44-FZ "On the contract system in procurement of goods, works, services for state and municipal needs" dated April 5, 2013 (hereinafter: Federal Law 44-FZ) serves as an institutional framework of public procurement. The law includes a set of rules and regulations governing public procurement as a single cycle consisting of the following key stages: forecasting the supply of goods, works and services for state and municipal needs; developing the plans for meeting state (municipal) needs; placing orders for the supply of goods, works and services and conclusion of contracts; execution and monitoring of government contracts. In turn, procurement made by state enterprises and natural monopolies (regulated procurement) is regulated by Federal Law 223-FZ "On the procurement of goods, works, services by separate types of legal entities" dated July 18, 2011 (hereinafter: Law 223-FZ) and also included in the framework of the contract system.

In the process of reforming, the architecture of the contract system in the sphere of public procurement was formed largely spontaneously. The composition and structure of the elements, their hierarchy and relations – such major parameters were introduced and regulated so as to deal with particular issues: import substitution, innovation, control of price hikes, increasing the procurement of small and medium enterprises, etc. In the end, basic concepts of the contract system remain outside the mandatory and formally defined categories [4, pp. 50-53]. In the current conditions of instability of legal regulation[1] it is not possible to develop and introduce in legal practice the general concepts, terms and definitions of the elements of the contract system. The development of fundamental elements of the contract system is uneven and unbalanced, and it has its own specifics in comparison with international practice.

It should be noted that upgrading the system of public procurement is quite a popular research topic in various scientific disciplines and publications. At the same time, a continuing reform going on for several years is often criticized by both theorists and practitioners [3; 16; 17]. The debate is centered around the problems of departmental authorities, expansion of the scope and scale of procurement, and their compatibility with the role of the public sector in the Russian economy. However, with regard to the experience of foreign countries, it is anti-corruption, procedural and informational aspects that are studied in most cases. In this regard, it is necessary to conduct a more profound comparative analysis of currently used institutional definitions and conceptual approaches to the organization and legal regulation of public procurement. The present article generalizes and analyzes international experience of national procurement systems for the aim of developing proposals for the formation of a new framework and content for the thesaurus of an institutional model of the contract system, and the implementation of a differentiated approach to legislative regulation of the relevant activities.

[1] Suffice it to say that since the adoption of Law 223-FZ in 2011 and Law 44-FZ in 2013, 35 federal laws were adopted that amended Law 44-FZ, and 16 federal laws that amended Law 223-FZ.

Review of international practices for the systematization of the conceptual framework of the contract procurement system

In order to clarify the terminology in the field of procurement, we have accumulated and systematized the information about the content of respective concepts in the documents of several countries and authoritative international organizations.

The UNCITRAL[2] Model Law on Public Procurement dated 2011 uses the term *public procurement*[3], which means the acquisition of goods, construction or services by governmental departments, agencies, organs or other units, or any subdivision or multiplicity thereof. The relevant regulations of the World Trade Organization[4] (WTO) use the term *government procurement*[5], which refers to the procurement made by the authorities and other bodies working in the interests of the authorities. The Organization for Economic Cooperation and Development (OECD) uses the term *public procurement* [28, p. 136], which refers to the acquisition of goods, works and services by governments and state-owned enterprises. In turn, a state-owned enterprise (SOE), according to OECD definition, is any legal entity (corporate structure), in which the state exercises the right of ownership, including joint stock companies, limited liability companies, limited liability partnerships [33].

The relevant Directive of the European Union (EU) [24] also uses the term *public procurement*, which refers to the procurement made by authorities of any level and legal persons and governed by public law. In turn, legal persons governed by public law are understood as legal persons that are established for specific purposes and in the general interest that do not have industrial or commercial purpose, and which at the same time are either financed mainly by public authorities (self-government) at any level, or are subject to management oversight of the authorities (self-government).

The relevant regulations of EU member states, which we have considered, also use the term *public procurement*, which is quite natural, as since January 1, 2016 onward, the standards of the European Directive under consideration are implemented in the national procurement systems of all these countries. A separate European Union Directive regulates the procurement by entities operating in the water, energy, transport and postal services sectors [25]. Comparable concepts and legal regimes are used in a number of national documents, as well. For example, in the UK the concept of *utilities procurement*[6] includes the procurement by contract structures, public enterprises and other entities, on condition that the purchased goods, works and services are designed to achieve the goals in one of the relevant fields[7].

[2] United Nations Commission on International Trade Law, UNCITRAL.

[3] Some authors translate *public procurement* as *obshchestvenniye zakupki* [9].

[4] The older and the newer versions of the agreement on government procurement – t*he Agreement on Government Procurement (GPA 1994) and the Revised Agreement on Government Procurement* 30 March 2012 (GPA/113).

[5] Some authors translate *government procurement* as *pravitel'stvenniye zakupki* [12].

[6] The Utilities Contracts Regulations 2016. No. 274.

[7] In these countries infrastructure sectors include gas and heat supply, production and supply of electricity, water and sanitation, transportation, operation of ports and airports, postal services, extraction of oil and gas, exploration or mining of coal or other solid fuels.

The United States at the federal level use the term *federal procurement* regarded as the acquisition of goods or services (including construction) by federal executive authorities and federal corporations on the basis of contract, regardless of whether these goods and services are available or are to be created, developed, and tested [26].

China uses the term *government procurement* to define procurement activities carried out at the expense of budget funds by governmental departments, institutions and public organizations at all levels [35].

Thus, the analysis allows us to conclude that the documents of most leading international institutions (UN, OECD, EU) mainly use the term *public procurement*. However, the substantive content of *public procurement* in the documents of various international organizations is different. In OECD documents, this concept combines the purchases made by state authorities and the purchases made by state-owned enterprises. And in the documents of the European Union, the framework of the concept in addition to the purchases made by state authorities includes the purchases made by legal persons governed by public law, which is a broader concept in comparison with state-owned enterprises.

The principles and scope of procurement regulation

Our review of national and international legislation allows us with a certain degree of conditionality to systematize the information about the scope of procurement regulation in the countries under consideration. The maximum scope of procurement regulation is observed in EU directives and legal acts of the European countries that we have considered, and in which the subject of regulation includes the purchase made by the structures governed by public law. At the same time, in China, the scope of regulated procurement is smaller. Minimum coverage of procurement regulated by national (federal) legislation is observed in North America. For example, in Canada, it is only the procurement made by federal executive authorities and public corporations that is the subject of such regulation, and in the United States – the procurement effected by federal executive authorities and federal corporations.

In the EU, *utilities procurement* is a special subject of regulation; it can be translated into Russian as *procurement of utilities or infrastructure companies*. At the level of the European Union such purchases are governed by a special Directive, and in the UK, Ireland and Sweden – by special legal acts providing for more flexible rules compared to *public procurement*. In Poland and Finland the rules for *utilities procurement* are included in the general rules for *public procurement*, but there are certain exceptions provided for *utilities procurement*, making their regulation less strict. The summary of the survey results is presented in *Table 1*.

Public sector and the procurement regulation system

As we have noted previously, the largest volume of public procurement is observed in the public sector. Currently, in connection with the efforts to work out a strategy for development of the Russian economy for a long-term period there is a fierce debate about the extent and effectiveness of the public sector [1; 2; 19].

Table 1. National actors, the procurement of which is legally regulated by the government

Country (organization) and the subject of regulation	National (federal, central) authorities	Authorities of other levels	Spheres regulated by public law (nonprofit sector)	Public (government) enterprises (commercial sector)
UN (UNCITRAL) (public procurement)	Yes	Yes	Yes	Yes [i]
WTO (government procurement)	Yes	Yes	Yes[ii]	Yes [ii]
OECD (public procurement)	Yes	Yes	No	Yes
EU (public procurement)	Yes	Yes	Yes	Yes [iii]
UK (public procurement)	Yes	Yes	Yes	Yes [iii]
Ireland (public procurement)	Yes	Yes	Yes	Yes [iii]
Sweden (public procurement)	Yes	Yes	Yes	Yes [iii]
Finland (public procurement)	Yes	Yes	Yes[iv]	Yes [v]
Poland (public procurement)	Yes	Yes	Yes	Yes [v]
USA (federal procurement)	Yes	No	No	Yes
Canada (government procurement)	Yes	No	No	Yes
China (government procurement)	Yes	Yes	Yes	Yes
Israel (government procurement)	Yes	Yes	Yes[iv]	Yes
Australia (procurement)	Yes	Yes	Yes	Yes
Russia (government procurement)	Yes	Yes	Yes	Yes [iii vi]

Notes:
[i] State-owned enterprises and enterprises of infrastructure sectors are included in the sphere of regulated procurement taking into consideration the specifics of national law,
[ii] according to the list coordinated with each country,
[iii] and also the enterprises of infrastructural sectors (special rules),
[iv] and also some religious organizations (associations),
[v] and also the enterprises of infrastructural sectors (general rules *mutatis mutandis*),
[vi] special rules.

Source: compiled with the use of the corresponding documents (see paginal footnotes).

When carrying out the study, the authors proceeded from a scientific position, according to which the role of the state in the economy should be reduced gradually, as market competencies are accumulated and mass culture develops [15]. When placing orders for innovative products [21, p. 15-21] and concluding contracts on performance of research and development, State-owned enterprises can serve as an important tool of industrial policy [14, pp. 259-273], "providing the formation of new industries, development of new technologies and methods of management. The experience of rapidly developing countries confirms these considerations" [15, p. 41].

At the same time, the very notion of the public sector and the issues concerning the choice of criteria for assessing the scale of the public sector remain controversial. There are at least three alternative concepts: the concept of functions, the concept of ownership, and the concept of control [32, pp. 4-7]. We can say that currently the definition given by the OECD is the most common and it to some extent takes into account all the three concepts, with an emphasis on the concept of control.

In accordance with OECD definition, the public sector includes enlarged government and public corporations, including quasi-corporations owned by public bodies [28, p. 208]. The composition of enlarged government includes all central, regional and local governments, nonprofit entities controlled by public authorities, and social insurance funds [28, p. 207].

In turn, the choice of methodology and criteria for assessing the scope of the public sector is determined by available assumptions, data and the necessary focus of the study [30]. And there is no single quantitative criterion sufficient to assess objectively the scope of the public sector [23, p. 6], and a variable list of possible criteria (indicators) is proposed [29, pp. 3-9].

Modern foreign literature distinguishes the following most common indicators to assess the extent of the public sector [22]:

– the proportion of public revenues in GDP;

– the proportion of public expenditure in GDP;

– the proportion of taxes in GDP;

– the proportion of people employed in the public sector in total employment.

When assessing the scope of the public sector, Russian researchers [11; 13] tend to rely on the system criteria suggested in a monograph of E.V. Balatsky and V.A. Konyshev [5, p. 45-48] and consisting of such criteria as:

– the share of the public sector in total employment;

– the share of the public sector in total volume of fixed assets;

– the share of the public sector in gross output;

– the share of the public sector in the total number of enterprises;

– the share of the public sector in total investment.

However, attempts to make international comparisons in the context of these criteria are inevitably associated with objective difficulties caused by a lack of complete and comparable data for all the countries under consideration. In this regard, based on the available data for estimating and mapping the extent of the public

Table 2. Estimates of the scale of the public sector

Country (association)	(1) Share of taxes in GDP (%) (2012–2014)	(2) Share of government revenue in GDP (%) (2012–2014)	(3) Share of expenditures of enlarged government on final consumption in GDP (%) (2012–2014)	(4) Share of SOE в in the volume of sales of the ten largest companies in the country (2016)
USA	10.5	18.3	15.2	0.0
Canada	11.8	17.1	20.9	0.0
China	10.0	12.6	13.4	93.0
Israel	22.8	31.9	22.5	20.0
Australia	21.9	24.3	17.9	0.0
EU	19.9	34.7	21.0	18.1
UK	25.2	34.9	20.2	0.0
Ireland	22.8	32.1	17.0	0.0
Sweden	26.2	31.9	26.1	7.5
Finland	20.6	39.1	24.6	46.0
Poland	15.6	30.9	18.0	89.4
Russia	13.6	27.5	19.0	64.9
Sources: for the indicators (1), (2), (3) – [6], for the indicator (4) – authors' calculations based on [27].				

sector from the point of view of its participation in the redistribution of national income, we used the following indicators in our work:

– the share of taxes in GDP (%);

– the share of government revenue in GDP (%);

– the share of expenditures of enlarged government on final consumption in GDP (%).

Due to the fact that for some of the countries under consideration the above indicators in their dynamics show large fluctuations, we calculated average values of the relevant indicators over the past three years in order to smooth the respective effect and achieve greater objectivity.

To evaluate the scope of the public sector from the point of view of its participation in the formation of national income, and given the absence of reliable statistical data, we applied the approach used by OECD experts and based on estimating the proportion of state-owned enterprises (SOEs) in various indicators of the ten largest companies in the country, in this case – in the volume of sales [31, pp. 21-22]. And SOE included the enterprises in which the government share exceeds 10% [34, p. 10]. Of course, this indicator cannot be considered sufficient to assess the extent of the public sector, but it indirectly reflects the significance of the latter in the national economy. The relevant data are presented in *Table 2*.

To obtain an integral indicator of the scale of the public sector (in this paper it is conventionally called the indicator of the scale of the public sector) we used the method of normalized weighted average indicators [20]. To this end, each of the four indicators characterizing the scale of the public sector

in each country was normalized to the corresponding average value in the sample. Then, based on the assumption about the equal importance of each of the four indicators, we calculated the corresponding integral indicator for each country:

$IPS_i = 0.25T_i + 0.25I_i + 0.25C_i + 0.25S_i$,

where:

IPS_i – index of the scale of the public sector in the i-th country;

T_i – normalized indicator of the share of taxes in the GDP of the i-th country;

I_i – normalized indicator of the share of state revenues in the GDP of the i-th country;

C_i – normalized indicator of the share of expenditures of enlarged government on final consumption in the GDP of the i-th country;

S_i – normalized indicator of the share of SOEs in the sales of the ten largest companies in the i-th country.

Similarly, in order to obtain an expert assessment of the extent of procurement based on the data from Tab. 1, we introduced the index of procurement regulation, defined as a scoring in which every point is assigned for the presence of norms concerning the regulation of procurement of the relevant subjects in the national framework:

– central government;
– authorities of other levels;
– structures of the nonprofit sector governed by public law;
– SOE or their analogues;
– enterprises in the infrastructure sectors.

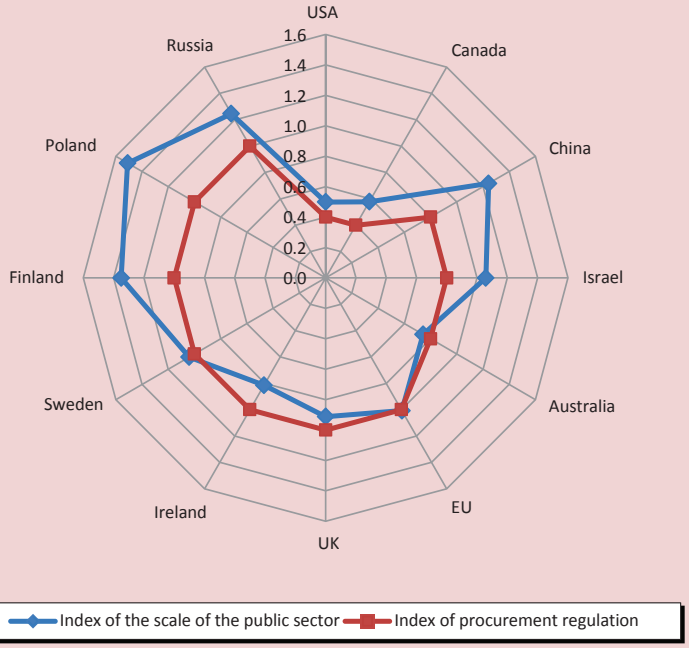
For convenience of graphical representation, the final score was normalized by the maximum score. The results of comparison of the index of the scale of the public sector and the index of procurement regulation are presented in *Tab. 3* and in the *Figure*.

According to the diagram, the sample under consideration shows a definite relationship between the scale of the state sector and the extent of procurement regulation – the bigger the public sector, the wider is the list of subjects, the procurement of which are regulated by law.

Table 3. The index of the scale of the public sector and the index of procurement regulation

Country	Index of the scale of the public sector	Index of procurement regulation
USA	0.5	0.4
Canada	0.6	0.4
China	1.2	0.8
Israel	1.1	0.8
Australia	0.7	0.8
EU	1.0	1.0
UK	0.9	1.0
Ireland	0.8	1.0
Sweden	1.0	1.0
Finland	1.3	1.0
Poland	1.5	1.0
Russia	1.2	1.0
Source: authors' calculations based on data from Tables 1–2.		

Comparison of the scale of the public sector and the extent of procurement regulation (with selected EU countries)



Source: authors' calculations based on data in Tables 1 and 2.

Summarizing the comparative analysis of the experience of national contract systems, we can make the following conclusions.

1. At the international level there are no unified approaches to the definition of institutional concepts and the system of procurement (with the exception of the EU, where national definitions and regulations, with minor changes, are harmonized with European directives).

2. The scale of procurement quite strongly correlates with the size of the public sector and with the volumes of purchases of various public sector entities. On the whole, the scale of procurement regulations corresponds to the role of the public sector in the Russian economy.

3. A necessary condition for reforming the contract procurement system in our country consists in developing a new outline and content of the contract system thesaurus, an appropriate differentiated approach to legal regulation taking into account international experience and the structural specifics of the Russian economy and its public sector.

Proposals to form a new outline and content for the thesaurus of the public procurement institution

As follows from the results of our analysis, the formation and regulation of the public procurement institution is connected with specific features of socio-economic development in each country. It should be noted that Western countries do not use the concept of *procurement for public and municipal needs*, the concept that is quite common for Russia. Instead, they use the term *public*

procurement and the procurement that satisfies *public needs*. The concepts of *government needs* and *government procurement* used in the Russian economy primarily refer to the subject of procurement – the state in a broad sense (including all state and municipal bodies and public sector enterprises), which determines conditions, procedural and legal aspects of procurement.

However, at present, the term *public procurement* is actively used in Russian economic and expert literature. At the same time, the concept of *public procurement* does not have a regulation and a clear legal definition. As a result, it includes state and municipal purchasing, as well as the procurement at the expense of budget funds in general. In some cases, the term *public procurement* is used as a synonym of the term *state procurement*. In our opinion, it is extremely relevant to introduce and regulate the term *public procurement*, since various aspects of public law are being currently developed and, therefore, the use of the term *public* as applied to business entities in the legislative regulation of economic activities. For example, Federal Law 224-FZ "On public-private partnership, municipal-private partnership in the Russian Federation and amendments to certain legislative acts of the Russian Federation" dated July 13, 2015 introduces the concept of public partner as the subject of implementation of PPP projects.

That is, the subjects of emerging economic relations are public legal entities. In the procurement of goods, works and services for public needs public entities act through the relevant executive authorities within the framework of the established competence. Thus, considering the authorized executive bodies of public legal entities as subjects of procurement (public and municipal customers), we can conclude that state and municipal purchases can be combined in one concept of *public procurement*.

We should also consider the procurement of enterprises of the public sector (regulated procurement). In this case, customers are state corporations and companies, natural monopolies, state and municipal unitary enterprises, autonomous institutions, business entities with more than fifty percent participation of the Russian Federation, a subject of the Russian Federation or a municipal formation in their capital. As we noted earlier, the implementation of such procurement is regulated by Federal Law 223-FZ "On the procurement of goods, works, services by separate types of legal entities" dated July 18, 2011. It is necessary to mention that the group of economic entities falling under action of this law in accordance with the definition of the Civil Code of the Russian Federation may be public companies. A public company means a joint-stock company, the shares and securities of which, convertible into its shares, are publicly placed (via open subscription) or publicly traded on the conditions established by laws on securities. In this case, the term *public* means *open* companies; at the same time, the purposes of procurement activity of these subjects of the contract system allow us to include this category of procurement in the *outline of the concept of public procurement*. The proposed approach is consistent with the world procurement practice.

So, we propose to regard public procurement as state and municipal procurement, procurement of enterprises and organizations of the public sector, and procurement of public legal entities. Obviously, in the short term and due to specifics of the Russian legislation, the same procurement categories can fall under the "regulated" procurement and the procurement of public legal entities. However, in the long term, along with the development of public law, these categories of procurement can be delineated more clearly.

We should also mention the problem concerning the allocation of procurement categories that cover *the procurement of utilities and/or infrastructure entities*. The analysis of world practice shows that due to the specifics of its activity this category of procurement is a separate subject of regulation (*utilities procurement*). In particular, they include the procurement made by companies holding a monopoly position in a number of infrastructure sectors that are of strategic importance to the economy of the country. At the same time these companies can be subjects with the private form of ownership, which requires a special and more flexible regulation.

Thus, the category of public procurement is the basis of the contract system, which corresponds to modern trends in the development of legal capacity of public legal entities and public companies. The proposed regulation of the conceptual and terminological framework acts as a methodological basis for the allocation and differentiation of individual segments in the market of procurement of goods, works and services.

Basic principles of institutional reform of the contract procurement system

Summarizing all the above we can point out that *a differentiated approach* to legal regulation of procurement should become the basic principle of institutional reform in public procurement. It is proposed to divide the regulatory system of procurement into three separate segments: procurement effected by the state; procurement effected by state-owned enterprises; procurement effected by utilities and/or infrastructure entities. This will make it possible, on the one hand, to expand the boundaries of the contract system, and on the other hand – develop more segmented and "targeted" procurement regulation mechanisms.

The experience of contract systems in other countries and the analysis of specific features of the procurement system in Russia allows us to allocate the following most important principles and directions for institutional reform in public procurement:

- legislative regulation of general unified principles of public procurement for all entities in the system (openness, transparency, competition, efficiency, innovativeness, expertise, control and responsibility), ensuring the variability of procurement methods corresponding to specific features of business processes of companies in different segments;
- definition of key objectives and functions for each segment of public procurement in accordance with the need to address social issues;
- preparation of a special law on procurement effected by infrastructure companies (natural monopolies);

• modernization of the system of pricing in public procurement; introduction of regulatory models for contracts with flexible pricing that create opportunities for the market behavior of customers corresponding to rapidly changing market conditions;

• professionalization of customers, providing greater freedom to procuring entities (preparation of procurement specifications, selection of methods of procurement, criteria for evaluation of proposals) while strengthening personal responsibility for the adoption of important financial procurement decisions by the parties of the contract system (personal responsibility of managers, employees, contract services);

• promotion of technological, socially significant and environmental innovations, including the development of innovation on a turnkey basis according to customer specifications and the adaptation of initiative innovation proposed by innovation-active companies; introduction of the right to pilot innovative projects in procurement in the legislation;

• development of PPP principles in the system of public procurement by expanding the possibilities of using life cycle contracts, and long-term contracts with reputable suppliers.

Such a model of the procurement system will require optimization of legislative regulation through restructuring and differentiating the regulatory framework, developing regulatory mechanisms for procurement based on strategic goals and objectives of a relevant segment of public procurement. For example, for the segment of public procurement it is possible to allocate the following targeted measures and regulatory mechanisms in order to implement the directions of institutional reform.

1. Introduction of a system of categorical management of state and municipal procurement, providing differentiation of the mechanisms and methods of procurement depending on the category (type) of purchased products. This system should ensure professionalization of procurement and logistics activities. In particular, the procurement of the model and standard products (stationery, office equipment, etc.) should be centralized, among other things, with the help of specialized logistics centers and electronic commerce mechanisms.

2. Development of mechanisms of interaction with suppliers, which involves establishing long-term contractual relations on the basis of qualifications and business reputation of the suppliers in order to prevent unfair competition and reduce risks of failure (or low quality) in execution of contracts.

3. Formation of associations (consortia) with developers and potential suppliers for creating/introducing new innovative products to execute large government orders.

4. Abandonment of existing principle of a single normative model of state contract (on the basis of a firm fixed price of the contract) and the introduction of a regulated but flexible mechanism of contractual arrangements that enable customers to implement government procurement effectively.

Our conceptual approach to the development of the public procurement institution needs detailed elaboration, its implementation would require the adoption of

a set of legal, regulatory and methodological documentation and search for new solutions for organization of management and control. However, the program of reforms based on this approach will significantly improve the efficiency of public procurement, because it will take into consideration economic principles and the specifics and results of the final activities of relevant actors of the contract system.

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Information about the Authors

Irina Ivanovna Smotritskaya – Doctor of Economics, Chief Research Associate, Institute of Economics of the Russian Academy of Sciences (32, Nakhimovsky Avenue, Moscow, 117218, Russian Federation; e-mail: irinasmot@yandex.ru)

Sergey Sergeevich Shuvalov – Ph.D. in Economics, Senior Research Associate, Institute of Economics of the Russian Academy of Sciences (32, Nakhimovsky Avenue, Moscow, 117218, Russian Federation; e-mail: shuvalov@iacenter.ru)

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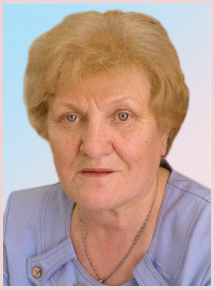
The Role of Industrial Production Localization in the Import Substitution Policy*

Svetlana Nikolaevna
KOTLYAROVA
Institute of Economics, Ural Branch of the Russian Academy of Sciences
Yekaterinburg, Russian Federation, 29, Moskovskaya Street, 620014
E-mail: Sv_gavrilova@mail.ru

Yuliya Georgievna
LAVRIKOVA
Institute of Economics, Ural Branch of the Russian Academy of Sciences
Yekaterinburg, Russian Federation, 29, Moskovskaya Street, 620014
E-mail: k515l@mail.ru



Lidiya Mikhailovna
AVERINA
Institute of Economics, Ural Branch of the Russian Academy of Sciences
Yekaterinburg, Russian Federation, 29, Moskovskaya Street, 620014
E-mail: laverina@mail.ru

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Abstract. The article is devoted to defining the role of localization of industrial production in the implementation of the import substitution policy. The methodological framework of the research consists of the system approach, methods of structural, object, functional, and statistical analysis, as well as the method of expert estimations. The article reviews the concept of "import substitution" and "localization"; it is concluded that the implementation of the import substitution policy is inextricably linked with the localization. It provides examples of successful localization policy in individual industries (automotive, pharmaceutical and railway engineering), proves its effectiveness in creating high-tech industries for industrial output. The mechanism of localization in the railway engineering sector, whose competitiveness is currently provided largely by imported technology, is discussed in the case of locomotive engineering and rolling stock manufacturing for high-speed operation. There is an example of successful implementation of the import substitution policy in the framework of catching up development of the Ural railway engineering cluster – including foreign technology in order to establish in Russia firstly assembly and later localized production of foreign technology based on domestic materials, components, and resources. It has been determined that basic conditions for localization are availability of capital, availability of technology, production capacity and availability of market. The paper examines the legal framework for promoting import substitution in Russia and its regions, presents an overview of legislatively mandated programs, concepts and development plans for import substitution in Russian constituent entities. The authors demonstrate that the implementation of the import substitution policy in the regions is based on creating and developing special economic zones, clusters, industrial and technology parks; however, regulatory documents in the regions do not pay enough attention to localization issues. It is concluded that Russia's import substitution based on localization is a platform for economic diversification and transition to production of high value added technological products. Separate research concepts are used for developing the Strategy of the Ural railway engineering cluster and the Sverdlovsk Oblast cluster for transport and logistics. The research results can be used in further research of the effectiveness of implementing the import substitution policy and economic modernization in Russia and its constituent entities, as well as by *federal and regional authorities in drafting and adopting strategic documents of regional development and stimulating import substitution*.

Key words: import substitution, localization, regional policy, economic modernization, industrial production, technological development.

Introduction. The government of the Russian Federation implements the modernization of domestic economy through the policy of import substitution. For effective application of tools and mechanisms of import substitution it is important to determine the priorities and understand which branches of industry require import substitution and what approaches need to be used to achieve the goals.

The highest share of imports now accounts for machine tool building, mechanical engineering and textile industry. In terms of import substitution it is advisable to refer to the experience of the localization policy which creates new jobs and industries on its own territory, and stimulates the development of knowledge-intensive industries turning domestic companies into strong competitors on the global level. Thus, the industrial policy

should be aimed at developing of Russian products in order to replace imports (import substitution) and, as a consequence, increase the volume of domestic products (production localization). In this regard, the purpose for the study is to determine the role of localization of industrial production in the import substitution policy based on systematization of theoretical and methodological approaches to the definition of localization, to systematize localization experience in specific industries and study the legal framework for promoting import substitution in Russia and its regions.

Theoretical and methodological substantiation of the role of production localization

The category of "import substitution" has lately received increased attention from both public authorities and scholars. In particular, import substitution is regarded as a type of industrial policy aimed at replacing imported industrial goods with domestic ones [15]. Production of commodities similar to the imported ones and reduction or elimination in this context of their imports is a different approach to the definition of import substitution[1]. At the same time, these products should possess higher consumer properties, their price should be lower that of the imported ones [10]. V.V. Zaryankin formulates three alternative approaches to the definition of import substitution [8]. Import substitution may be regarded as: an economic category representing a system of economic relations aimed at substitution of the imported goods; an economic process where increased production, consumption and exports of domestic goods and services take place amid reduced consumption of similar imported goods and services; public economic policy on rationalization and optimization of the imports of goods and services by promoting local producers.

The key success factor for the implementation of the policy of import substitution is often export-oriented localization and not only focused on import substitution. The substitution must be a tool of economic policy whose result must be the support of the development of enterprises whose products are aimed for the domestic market, and further improvement of the export potential of companies to occupy a niche in the global production market [6, 19].

In Russia, the concept of "localization" began to be widely used in the early 2000-s along with the increasing interest of foreign investors to our market. Lack of serious competition on the part of domestic manufacturers, along with rapid economic growth and potentially large market made Russia attractive to international corporations, which resulted in the establishment of multinational industries [14].

There are various interpretations of the term "localization" in recent scientific publications. A.M. Vaz'yanskii and S.Y. Obydennova define localization of production as the process of producing original goods of foreign origin on the territory of another country [4]. According to A.N. Makarov, localization involves the supply to foreign companies of components produced on the national territory on the basis of previously existing industries by local producers [13].

[1] *Economic dictionary.* Available at: http://abc.informbureau.com/html/eiiidoicaiauaiea.html

A number of authors develop this approach with an emphasis on opportunities to reduce the prime cost by saving on transaction and transport costs, taxes and costs for the development of technological solutions [17]. I.D. Kotlyarov considers localization as a complex phenomenon representing the development by foreign companies of their own production capacity on the territory of the country. At the same time, domestic manufacturers are mastering a certain number of production stages of the final product (from one to a full cycle) [9]. Based on this interpretation of the term "localization" D. Kotlyarov distinguishes between the following forms: primary, secondary, and tertiary localization depending on the number of production stages, their technological complexity, market characteristics, etc. We agree with the author that the national economy need to focus on the third stage as it gives an opportunity to form our own global value chain and enter the global market with the final product (*Tab. 1*).

According to V.K. Akinfiev, the term "production localization" means the process of transferring technologies to the territory of Russia, their adaptation and organization of assembly production of samples of foreign equipment with partial manufacturing of particular parts and components at Russian enterprises [2]. The degree of production localization characterizes the share of costs of Russian companies in the total production cost of equipment sample.

The concept of "localization" is inextricably linked with the concept of "production" used in economic geography. One may say that localization is a special case of location with a number of features. From our point of view, the essence of production localization lies in the supply by local manufacturers of parts and components manufactured within the country on the basis of previously existing or newly established industries to foreign companies. The framework conditions for localization are: availability of capital, availability of technology and production capacities, and availability of market. The main role of localization in import substitution in the region is modernization and creation of new industries in the country, increased production of imported

Table 1. Stages of localization and their content

Stage of localization	Content of the stage	Result of localization
Primary localization	The final stage of production of the finished product is transferred to the territory of the country	Creation of new jobs, increased tax revenues, easier consumers' access to the final product. Only the stage of assembly of the final product is localized, no real import substitution
Secondary localization	Domestic producers form a local supply chain replacing certain links in the overall chain	Measures of direct and indirect incentives for foreign producers and potential domestic suppliers of individual components for the final product
Tertiary localization	Nnational value chains are formed aimed at the release of final export-oriented product in the country created from domestic subcontractors serving the needs of localized foreign manufacturers	Formation of own value chain leading to production of the final product

products equivalent to foreign ones, more technologically sophisticated with the use of foreign technology; increased export potential of such products, preservation and creation of new jobs.

Domestic experience of localization in particular industries

A successful example of the localization policy is the promotion of domestic goods in the **automotive industry**. Since the beginning of the 2000-s, Russia has imposed reduced customs duties on imported automotive products provided that the importer relocates part of its production to Russia. The producers were also supported through signing of investment contracts providing for certain obligations (e.g. an obligation to annually increase the share of local value added and production of a certain amount of goods), and the Russian Government, in turn, received a zero duty on imported components necessary for production. Such benefits are applied today in almost all spheres of the automotive industry (cars, trucks, car parts). The level of localization at motor plants ranges from 30% (Toyota) to 95% (Chevrolet (Niva)) [7]. The largest automotive clusters have formed in the Volga region, in the North-West and the center part of the country (*Figure*).

The **pharmaceutical industry** also demonstrates the growth of localization. The objective to increase by 2018 the share of vital domestic pharmaceuticals to 90% set by the President of the Russian Federation is almost complete: 76% of pharmaceuticals on this list are produced in the country. Moreover, an active process of clustering of the pharmaceutical industry is taking place. The total number of cluster projects is close to fifteen. The main characteristics of the pharmaceutical cluster are presented in *Table 2*.

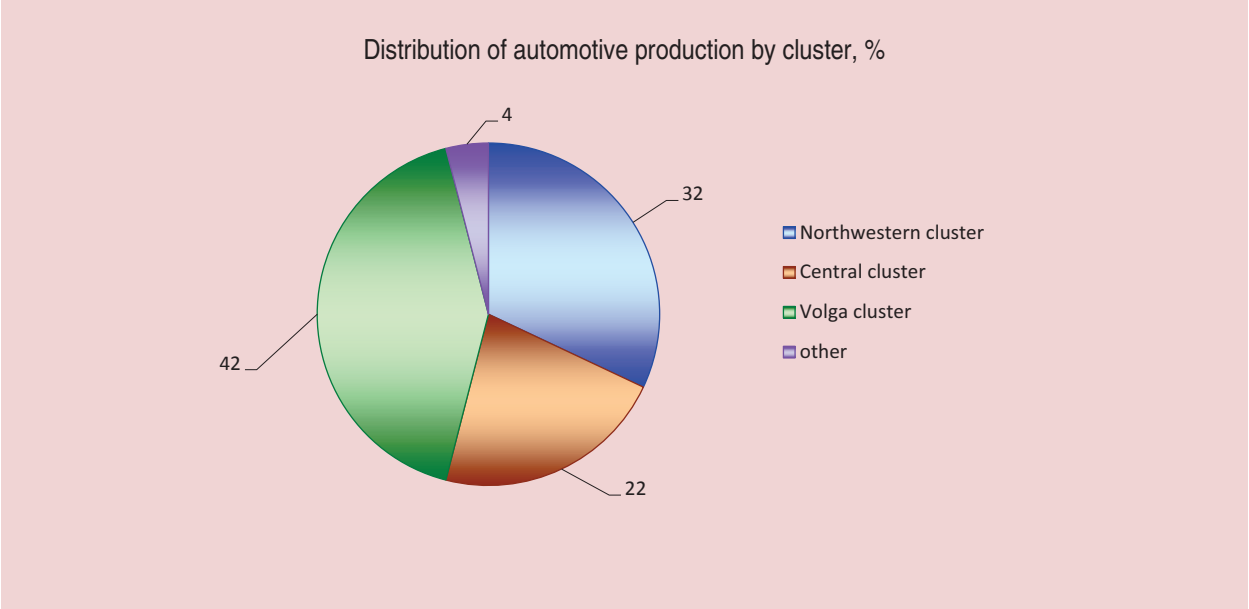

Table 2. Pharmaceutical clusters in Russia

Cluster	Russian constituent entity	Year of establishment	Number of participants	Included/Non included in the list of pilot territorial innovative clusters
Pharmaceutics, biotechnology and biomedicine	Kaluga Oblast	2012	> 50	Included
Altai biopharmaceutical cluster	Altai Krai	2008	> 10	Included
Tomsk Oblast cluster of pharmaceutics, medical equipment and information technology	Tomsk Oblast	2013	> 50	Included
Innovative cluster of information and biopharmaceutical technology of the Novosibirsk Oblast	Novosibirsk Oblast	2013	> 60	Included
Pushchino biotechnological innovation territorial cluster	Moscow Oblast	2012	> 70	Included
Saint Petersburg cluster of medical, pharmaceutical industry and radiotechnology	Leningrad Oblast	2011	> 10	Included
Ural biomedical cluster	Sverdlovsk Oblast	2010	> 40	Not included

The policy of localization has proven effective in creating high-tech industries in manufacturing products of **railway engineering**. Consumers of railway equipment place demands on its quality and performance parameters. The demand for locomotives, wheeled containers, units and components of outdated design will weaken; therefore, among mechanical engineering companies only those will survive who provide their consumers with modern products. The most obvious way of obtaining the necessary technology is the search for strategic partners, technology transfer and subsequent localization [5].

Let us consider the mechanism of localization in the case of certain sectors of the Russian railway industry whose competitiveness is currently largely ensured by foreign technology: this is locomotive engineering and rolling stock for high-speed rail. In recent years in Russia there appeared a number of new series of traction rolling stock: locomotives, electric locomotives and electric trains whose production is mastered in the framework of joint ventures with foreign manufacturers (Transmashholding CJSC and a French company Alstom Transport, Sinara Group JSC and a German company Siemens).

Sinara Group JSC unites enterprises of different sectoral focus. One of priority business directions of the company is mechanical engineering. The engineering holding of Sinara-Transport machines JSC includes Ural locomotives JSC whose key activity is production of freight DC and AC locomotives, electric trains "Lastochka". The manufacturing is based on Siemens technology with gradual localization of production.

The first project of the company in electric locomotive engineering was the manufacturing of electric locomotives with asynchronous traction engine "Granit" (series 2es1). In 2015, the level of its localization reached 80%. More recent developments of the company include TMH-EP20 and 2ES5 locomotives: their level of production localization in 2015 reached 55 % and 45 % respectively. It is planned to achieve the 80% level of local production for EP20 in 2017, and for 2ES5 – by 2020.

The most important direction of enterprise's activity is manufacturing of Desiro RUS high-speed trains ("Lastochka") launched in May 2013. The contract with Russian Railways JSC provides for strict conditions of localization of component production. The level of localization from the launching of production was expected to reach 55%, and by 2017 – 80%. By 2014, around Ural Locomotives have formed a cluster of more than 100 Russian suppliers of parts and components capable of operating according to international standards, adapting technology to customer needs and Russian conditions; the degree of localization reached 62%. In 2016, the level of localization of production of "Lastochka" was more than 70%, it is expected that in 2017, the localization will reach the target level of 80%[2].

At this enterprise, the first and the second form of localization became the stages of transition to tertiary localization. The complexity of tertiary localization explains the situation with components. Increased importance of components is determined by industry-specific features of railway engineering, i.e., its technological complexity and significant metal consumption[3]. At the same time, according to strategic documents of transport engineering development, there is no serial production of components in the country; without it, it is impossible to create technology corresponding to international standards. The share of foreign components in most manufactured types of machinery and equipment is 10–25%, in some cases – up to 80% of production costs. To create a modern production enterprises of transport engineering are forced to buy components of foreign production. Russia does not possess technology for serial production of components.

Given the existing experience, the main direction of the industry development in the near and medium term is production of modern rolling stock, including fast and high-speed rail traffic, in the required volume using foreign experience, taking into account Russian conditions and localization of the third type.

The activity of the Ural cluster of railway engineering is an example of successful implementation of the catching-up import substitution policy: with the use of foreign technology in order to establish in Russia assembly and then localized production of foreign technology on the basis of domestic materials, components, and resources (labor, raw materials and energy) [17]. The strategic goal of import substitution in sectors of railway engineering is to create new types of products which would provide Russia's technological equality along with advanced countries in transport development, and active influence on the world market of technology and knowledge-intensive products.

Thus, localization stimulates the emergence of Russian producers of final products with new technology and imposes requirements

[2] The enterprise's prospect plans include designing and organizing production of various models of high-speed trains. To implement this project, at the end of June 2016, Sinara Group and CRRC machine engineering (Changchun Railway Vehicles, China) signed an agreement to establish joint production of trains for high-speed highway Moscow–Kazan.

[3] In 2011, the share of transport mechanical engineering in total consumption of metal amounted to 2.75%, or 1.62 million tons, while in 2009, this figure reached 1.25%, or 0.66 million tons. Source: *Transport engineering development strategy of the Russian Federation for the period up to 2030.* Project. 2013. Institute of issues of natural monopolies.

applicable to providers at different levels. Producers of the final product focus producers of materials, logistics, service and financial institutions and thus form clusters [13].

Study of the legal framework in promotion of import substitution in Russia and its regions

Analysis of domestic experience of import substitution suggests that in Russian constituent entities, producers of import-substituting goods are supported in various ways: favorable environment (legal, administrative, financial, etc.), various regional preferences, formation and development of related infrastructure; promotion of local producers on the Russian market, assistance in cooperation with federal authorities, etc.

However, the emergence of individual programs of import substitution in a number of regions, large departments, companies and enterprises is more political in nature; regional and sectoral programs of import substitution often become inconsistent and contradict each other. The result is more severe restrictions than those specified in applicable federal regulations, or the expanding range of goods and services falling under restrictions [1].

The study of the regulatory framework in promoting import substitution in Russia and its regions indicates that the introduction of import substitution measures is observed. A condition for success in this direction is the development of appropriate legal acts, including programs of import substitution at both federal and regional level [16]. Most regions adopted plans to ensure sustainable economic development and social stability, plans to promote import substitution (action plans) (*Tab. 3*).

Table 3. Legal acts of Russian constituent entities regulating the processes of import substitution

RF constituent entity	Legal act	Localization
1	2	3
Programs		
Astrakhan Oblast	Import substitution program of the Astrakhan Oblast for 2015–2017 [1)]	Yes
Vladimir Oblast	State program "Development of industry in the Vladimir Oblast, raising its competitiveness and ensuring import substitution for 2015–2020"[2)] Sub-program "Development of intra-oblast and inter-regional cooperation, promotion of import substitution".	No
Penza Oblast	Import substitution and expansion of production release program of the Penza Oblast for 2015–2017[3)]	No
Sverdlovsk Oblast	State program "Development of industry and science in the Sverdlovsk Oblast up to 2020"[4)] Sub-program "Development of import substitution and production cooperation in industries in the Sverdlovsk Oblast"	No
Chelyabinsk Oblast	State program "Development of import substitution and production cooperation in industries in the Chelyabinsk Oblast for 2015–2020"	No
Chuvash Republic	Program of the Chuvash Republic "Economic development and innovation economy for 2012–2020"[5)] Sub-program "Development of import substitution in specific economic sectors of the Chuvash Republic"	Yes

End of the Table 3

Concepts		
Volgograd Oblast	Concept of import substitution in the Volgograd Oblast for 2015–2017 and plan of measures for promoting import substitution in the Volgograd Oblast for 2015–2017[6)]	No
Saratov Oblast	Concept of import substitution in the real economic sector of the Saratov Oblast	No
Plans		
Altai Krai	Action plan to promote import substitution in Altai Krai up to 2020[7)]	Yes
Republic of Bashkortostan	Action plan to promote import substitution in the Republic of Bashkortostan for 2015–2017[8)]	Yes
Belgorod Oblast	Action plan to promote import substitution in the Belgorod Oblast for 2016–2018	Yes
Voronezh Oblast	Plan to promote import substitution in industry in the Voronezh oblast, 2017	Yes
Irkutsk Oblast	Plan to promote import substitution for 2016–2018. Establishment of regional expert council on import substitution (2016)	No
Kursk Oblast	Regional plan on import substitution in the Kursk Oblast for 2016–2020[9)]	No
Saratov Oblast	Plan to promote import substitution in the real economic sector of the Saratov Oblast for 2015–2016[10)]	No
Republic of Tatarstan	Action plan to develop import substitution in the industry of the Republic of Bashkortostan for 2016 Concept of import substitution in construction for 2015–2016 in the Republic of Tatarstan[11)]	Yes
Vologda Oblast	Regional plan on import substitution in the Vologda Oblast for 2016–2020[12)]	Yes

[1)] Order of the Government of the Astrakhan Oblast No. 52-P "On the Import substitution program of the Astrakhan Oblast for 2015–2017", dated 04.03.2015. *Electronic periodical directory "Sistema GARANT"*. Available at: http://www.garant.ru/ (accessed: 23.08.2016).

[2)] Decree of the Vladimir Oblast Administration No. 562 "On the approval of the state program of the Vladimir Oblast "Development of industry in the Vladimir Oblast, raising its competitiveness and ensuring import substitution for 2015–2020"", dated 16.06.2015. *Electronic periodical directory "Sistema GARANT"*. Available at: http://www.garant.ru/ (accessed: 20.08.2016).

[3)] Resolution of the Government of the Penza Oblast No. 179-PP "On the approval of the program of import substitution and expansion of production in the Penza region for the years 2015-2017", dated 09.04.2015. *Electronic periodical directory "Sistema GARANT"*. Available at: http://www.garant.ru/ (accessed: 23.02.2017).

[4)] Resolution of the Government of the Sverdlovsk Oblast No. 1293-PP "On the approval of the state program of the Sverdlovsk Oblast "Development of industry and science in the Sverdlovsk Oblast up to 2020"", dated 24.10.2013. *Ministry of Industry and Science of the Sverdlovsk Oblast*. Available at: http://mpr.midural.ru

[5)] Resolution of the Cabinet of Ministers of the Chuvash Republic No. 398 "On the state program of the Chuvash Republic "Economic development and innovation economy for 2012–2020"", dated 21.09.2011

[6)] Resolution of the Volgograd Oblast Administration No. 527-p "On the approval of the Concept of import substitution in the Volgograd Oblast for 2015–2017 and plan of measures for promoting import substitution in the Volgograd Oblast for 2015–2017", dated 14.09.2015. *Electronic periodical directory "Sistema GARANT"*. Available at: http://www.garant.ru/ (accessed: 23.08.2016).

[7)] Resolution of Altai Krai Administration No.187-p "On the approval of the Action plan to promote import substitution in Altai Krai up to 2020", dated 30.06.2016. *AO "Kodeks"*. Available at: http://docs.cntd.ru/document/438964065 (accessed: 23.09.2016).

[8)] Order of the Government of the Republic of Bashkortostan No. 838-p "On the approval of the Action plan to promote import substitution in the Republic of Bashkortostan for 2015–2017", dated 07.08.2015. *AO "Kodeks"*. Available at: http://docs.cntd.ru/document/430502601

[9)] Resolution of the Kursk Oblast Administration No. 654-PA "On the approval of the Regional plan on import substitution in the Kursk Oblast for 2016–2020", dated 06.09.2016. *Electronic periodical directory "Sistema GARANT"*. Available at: http://www.garant.ru/hotlaw/kursk/954616/ (accessed: 23.08.2016).

[10)] Resolution of the Government of the Saratov Oblast No. 5-P "On the approval of the Concept of import substitution in the real sector of economy of the Saratov Oblast and plan for the promotion of import substitution in the real sector of economy of the Saratov Oblast for 2015–2016", dated 20.01.2015. *Official website of the Government of the Saratov Oblast*. Available at: http://konsultant.saratov.gov.ru/page.aspx?61154 (accessed: 22.08.2016)

[11)] Decision of the Cabinet of Ministers of the Republic of Tatarstan No. 639 "On the Action plan to develop import substitution in the industry of the Republic of Bashkortostan for 2016", dated 13.09.2016 *Electronic periodical directory "Sistema GARANT"*. Available at: http://www.garant.ru/ (accessed: 20.11.2016).

[12)] Resolution of the Government of the Vologda Oblast No. 858 "On the approval of the Regional plan on import substitution in the Vologda Oblast for 2016–2020", dated 29.09.2016. *Portal of the economic development of the Vologda Oblast*. Available at: http:// http://economy.gov35.ru/ (accessed: 23.02.2017).

Table 4. Main organizational forms of localization

Form of localization	Investment	Technology
Foreign company on a local market	Foreign	Foreign
Joint venture	Foreign /domestic	Foreign / domestic
Purchase of a license by a domestic company	Domestic	Foreign
Placement of order by a foreign company at a domestic enterprise	Domestic	Domestic

Programs for the development of import substitution are implemented in six Russian regions (the Chelyabinsk, Sverdlovsk, Astrakhan, Vladimir, and Penza oblasts, the Chuvash Republic). In the Volgograd and Saratov oblasts, concepts of import substitution were adopted and currently operate. About ten Russian constituent entities have not yet adopted such documents (Republic of Tyva, Krasnoyarsk Krai, the Magadan Oblast, Chukotka Autonomous Okrug, etc.). In some constituent entities, promotion of import substitution is conducted through plans to promote import substitution; programs of socio-economic development; regional sectoral programs and other documents [3].

According to the table, localization in regulatory documents of regions is not paid sufficient attention. As a rule, these papers devoted to the issue of localization of production are declarative. For example, the action plan on import substitution in the Republic of Tatarstan states the necessity of creating favorable conditions for production localization of priority products for enterprises with attraction of foreign partners; in the Voronezh Oblast when designing the action plan of import substitution the main objective becomes the promotion of cooperation between regional producers, transfer and localization of production technology of import-substituting products; in the Chuvash Republic, one of the major actions on the development of import substitution is the creation and localization on the territory of the Republic of new enterprises producing import-substituting goods or proprietary products with further export orientation.

There are four possible organizational forms of localization differing in sources of investments and technology (*Tab. 4*) [13].

During project implementation, the investor selects the supplier of domestic equipment, imported counterpart or the purchase of a localized product on the territory of the country. In recent years, developing countries and countries of South-East Asia and South America implementing the policy of production localization, have considerably increased their influence in the world. Considering these countries as new markets, transnational corporations demonstrate their growing interest in their companies, which helps the leadership of these countries dictate terms to foreign investors.

Conclusion

The implementation of the import substitution policy is aimed at solving key issues of the Russian economy – insufficient

competitiveness. Localization as one of the main tools of import substitution encourages the development of knowledge-intensive industries, creates new jobs and new industries on the country's own territory.

Analysis of the legal framework in the sphere of promoting import substitution at the national and regional levels has shown that regions are actively involved in the development of regulations encouraging the development of import substitution, they implement measures on import substitution. However, the issues of localization of industrial production are not fully covered in the documents. Inconsistent and sometimes contradictory regulations are also noted.

The industrial policy should be aimed at developing production of Russian goods, which should replace imported goods (import substitution) and, as a consequence, increase the volume of domestic production (production localization).

For Russia import substitution on the basis of localization of industrial production is a platform for economic diversification, the end of the era of oil and gas dependence, and the transition to production of high-value-added technology-intensive products. Increasing the number of operating enterprises located in the country provides opportunities for economic growth, attracting new technology, and creating jobs.

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Information about the Authors

Svetlana Nikolaevna Kotlyarova – Ph.D. in Economics, Associate Professor, Head of Department, Institute of Economics, Ural Branch of the Russian Academy of Sciences (29, Moskovskaya Street, Yekaterinburg, 620014, Russian Federation; e-mail: Sv_gavrilova@mail.ru)

Yuliya Georgievna Lavrikova – Doctor of Economics, Head of Department, Interim Director, Institute of Economics, Ural Branch of the Russian Academy of Sciences (29, Moskovskaya Street, Yekaterinburg, 620014, Russian Federation; e-mail: k515l@mail.ru)

Lidiya Mikhailovna Averina – Leading Economist, Institute of Economics, Ural Branch of the Russian Academy of Sciences (29, Moskovskaya Street, Yekaterinburg, 620014, Russian Federation; e-mail: laverina@mail.ru)

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Territorial Decomposition of Balanced Scorecard for Evaluation of Primary Energy Resources in Fuel and Energy Sector in the Northwestern Federal District to Ensure Its Sustainable Development

Tat'yana Konstantinovna
SALINA
Saint Petersburg State University of Economics
Saint Petersburg, Russian Federation, 21, Sadovaya Street, 191023
E-mail: salinatanya@mail.ru

Abstract. *The research subject* in the article is the correlation between evaluation indicators of primary energy resources in the fuel and energy sector in the Northwestern Federal District of the country. The purpose for the study is to evaluate the primary energy resources of the fuel and energy sector in the Northwestern Federal District in terms of economic, technological, energy, social, and environmental parameters with the use of balanced scorecard (BSC) for sustainable development of the sector in the Northwestern Federal District as a whole. *Methods.* The article proposes the methodology for territorial decomposition of the balanced scorecard for evaluating primary energy resources in the Northwestern Federal District. The region's balanced scorecard decomposition of evaluation of primary energy resources in the case of the Arkhangelsk Oblast fuel and energy sector, including Nenets Autonomous Okrug, is determined; the authors identify the degree of stability of the fuel land energy sector in the Arkhangelsk Oblast, according to the following parameters of sustainable development of the energy sector in the Northwestern Federal District: economic, technological, energy, social, environmental. *Research results.* The authors determine the degree of sustainability of the fuel and energy sector in the Arkhangelsk Oblast in general and by individual parameters of sustainable development. The state of sustainable development is observed only on by the energy parameter. *Conclusions.* It is concluded that instability may be due to the fact that the deposits of primary energy resources belong to the Northern Arctic areas. This factor directly affects the economic efficiency of deposit development in this territory as there is, on the one hand, a

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decrease in world energy prices and, on the other hand, – an increase in resource development costs. The growing costs are related to the necessary formation of the required infrastructure, social benefits, use of equipment suitable for operations in these conditions. The theoretical significance consists in the fact that the study expands scientific knowledge in the sphere of management decision-making for sustainable development of the sector in the region and its constituent entities through conducting territorial decomposition of BSC of evaluating primary energy resources in the fuel and energy sector. The practical value of the research is to develop the territorial decomposition of BSC of evaluation of primary energy resources which help correctly and objectively assess the sustainability of the fuel and energy sector development in the Northwestern Federal District, which contributes to the transformation of fuel and energy sector in the Northwestern Federal District into a flexible, adaptable system with high resistance to the disturbing environmental influences.

Key words: fuel and energy sector, balanced system of indicators, primary energy resources, sustainable development.

Introduction. The concept of sustainable development (SD), according to Agenda 21 adopted at the United Nations Conference on Environment and Development held June 14th, 1992 in Rio de Janeiro, and a number of subsequent documents[1] are the basis for the transition to sustainable development. The provisions of the concept are reflected in many international agreements developed on the basis of national concepts of sustainable development, including those published in Russia, such as the Concept of Russia's transition to sustainable development, the Environmental doctrine of the Russian Federation, the Climate doctrine of the Russian Federation, the Concept of long-term socio-economic development of the Russian Federation up to 2020, the Energy strategy of Russia up to 2030, and other legal acts reflecting the principles of sustainable development, as well as in the works of scholars working on the issues of sustainable development, for example, V.A. Vasilenko [5], Yu.P. Grigorieva [6], and in the proceedings of Institute of the energy strategy [1; 4].

The process of global sustainable development is based on the influence of global factors and the consideration of specific characteristics of each country's economy, its resource potential, economic, natural, geographical, and other conditions, namely, the components which form the framework of the system of sustainable development. In this regard, trends in the study of the issues of interaction between the society and environment, between nature and human activities become relevant.

In order to achieve sustainable development it is necessary to develop appropriate mechanisms to manage the sustainability of national economies, as well as its constituent regions [5] and industries, including fuel and energy complex (e.g., V.I. Kalika [10], T.A. Moiseenkova [12], Grigor'eva Yu.P. [7; 8]). In this term, the goal of the fuel and energy complex (FEC) is to meet the population's needs in energy resources at economically reasonable prices, maintain the stability of the energy market and ensure environmental safety [2; 9].

[1] One of the recent documents aimed at achieving sustainable development is the 2030 Agenda for Sustainable Development reflecting 17 goals of sustainable development. Available at: https://documents-dds-ny.un.org/doc/UNDOC/GEN/N15/291/92/PDF/N1529192.pdf?OpenElement (accessed: 01.01.2017).

The essence of the strategies of socio-economic development of the state, namely the Concept of socio-economic development of Russia up to 2020, the Strategy for socio-economic development of the Northwestern federal district (NWFD), as well as the Energy strategy up to 2030 (ES-2030) focused on innovative and sustainable development of FEC as a driver of economic growth is that they have a direct impact on the socio-economic development of the country in general and the Northwestern federal district in particular: on the achievement of economic growth, increase in population's welfare [8]. In this context, the study of the role of FEC in sustainable development of the country as a complex multilevel system becomes highly relevant.

Russia's Northwestern federal district is a major promising area of FEC development in the European Russia. The raw material profile of the region Is in the long term attributed to geographic proximity to major energy consumers and export pipeline systems.

Most modern FEC development scenarios for the country in general and NWFD in particular originate from the key role of primary energy resources (PER)[2] in the energy supply of the national economy [13]. Changes in conditions of FEC functioning, namely depletion of the developing supplies of energy resources, increasing competition for access to new mineral deposits, the influence of natural factors, the need for development of underdeveloped less efficient resource deposits, deposits located in remote areas with harsh geological and climatic conditions, and the need to develop the necessary infrastructure.

Thus, the development of economic tools for sustainable development of FEC in the NWFD[3] which would take into account economic, technological, energy, social, and environmental aspects of its functioning, as well as its components, namely FEC of its entities forming the FEC in the NWFD is an urgent objective [13].

In the article, the author offers balanced scorecard (BSC) assessment of PER of FEC in NWFD in general and of its separate elements as an economic tool for sustainable development of FEC in NWFD since this system has an advantage: there is a possibility to interrelate economic, technological, energy, social, and environmental parameters of functioning of FEC in NWFD. More about the advantages of BSC see in works by M.G. Brown [3], D. Norton and R. Kaplan [11; 19; 20] and other foreign studies [16; 17; 18].

The nature and content of BSC assessment of primary energy resources to ensure sustainable development of FEC in NWFD is covered in [18]. The article proposes a decomposition of BSC assessment of primary energy resources for individual entities in NWFD.

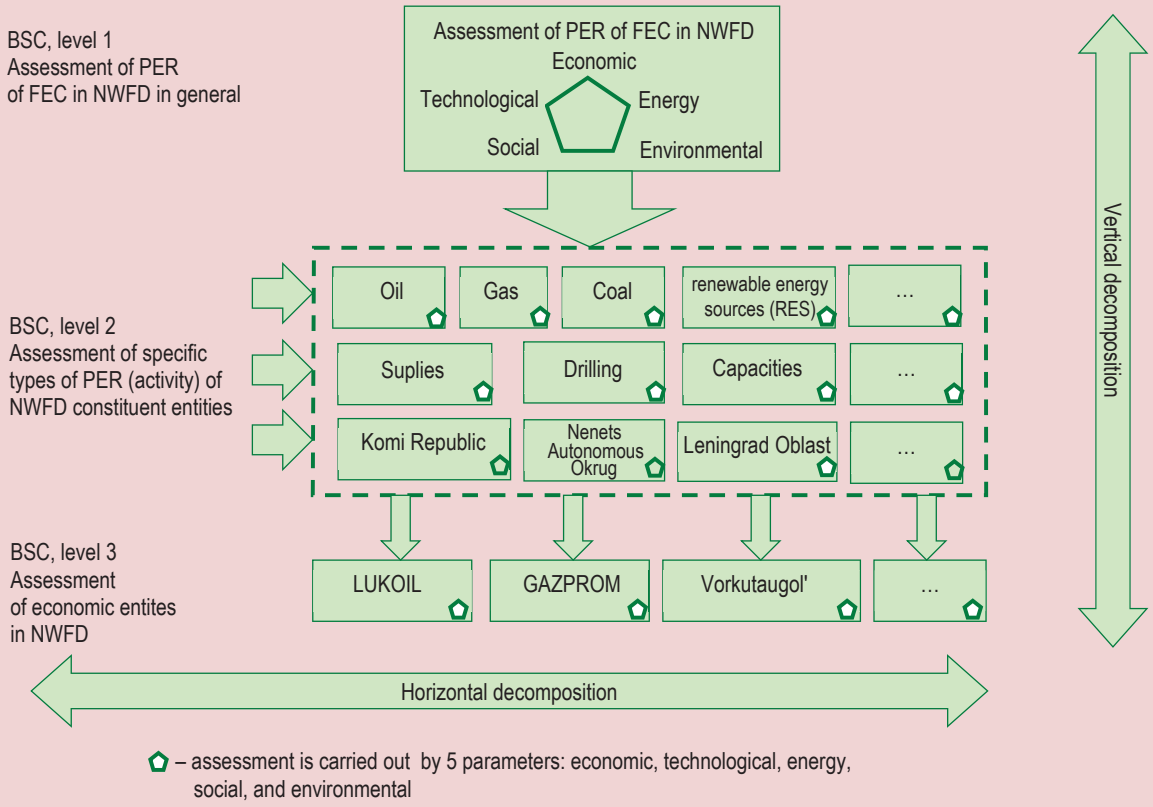
1. The decomposition methodology of the BSC assessment of primary energy resources of FEC in NWFD.

Decomposition to lower management levels of sustainable development of FEC in NWFD is carried out according to the development objectives so that the objectives of lower levels are not contrary to those of higher levels. The

[2] In the article, primary energy resources (PER) are referred to explored resources quantitatively confirmed by drilling with their possible delivery to material use for further preparation of secondary energy resources.

[3] *Sustainable development of FEC in the NWFD* – permanent, limited to a certain period of time accepted for planning and control, positive change in framework interdependent economic, social, technological, energy, and environmental parameters of the FEC system. More about the approach to the management of sustainable development in the FEC in the NWFD see in [13].

Figure 1. Horizontal and vertical decomposition of BSC assessment of primary energy resources



construction of BSC assessment of primary energy resources of a single entity in NWFD is advisable to be carried out according to specific features of a specific constituent entity of the Russian Federation which is a part of NWFD and produces energy resources. Goals of sustainable development of entities in NWFD should contribute to the achievement of the development goals of the entire complex.

According to the proposed approach, the decomposition of BSC assessment of PER in NWFD can be carried out in two directions (*Fig. 1*):

– horizontally (at the same hierarchical level): resource decomposition (by type of energy resource); process decomposition (by type of a process [7]);

– vertically – involvement of other management levels (territorial decomposition).

The article proposes the methodology for territorial decomposition of BSC assessment of PER in constituent entities of NWFD.

The territorial decomposition is carries out in order to:

1. Develop the indicators for assessment of PER of a constituent entity of the Russian Federation according to parameters of sustainable development of FEC in NWFD (economic, technological, energy, social, environmental);

2. Reflect the contribution of individual constituent entities of the Russian Federation to the achievement of target values of indicators of assessing PER.

3. Focus the management processes on key framework indicators for assessing PER to ensure sustainable development of FEC in NWFD.

The territorial decomposition of BSC is performed according to the following steps:

1. Defining the territorial structure of decomposition. Target indicators and their values for a constituent entity of the Russian Federation are formulated depending on the economic situation in the region. BSC in general acts as a framework within which BSC assessment of PER of a constituent entity in NWFD is formed for a lower level.

2. Framing of development goals for FEC of a NWFD constituent entity in the framework of general goals of sustainable development of FEC in NWFD.

3. Development of indicators for assessment of PER. The indicators are fully transferred from BSC assessment of PER of FEC in NWFD to regions. However, their target and threshold values may be adjusted depending on specific characteristics of the region on coordination with higher management levels in a way that does not contradict to sustainable development of the entire complex.

4. Reflection of cause-and-effect relations between parameters of sustainable development and their indicators (PER scorecard). PER scorecard reflects cause-and-effect relations between separate PER assessment indicators. Cause-and-effect relations are reflected in the scorecard in the following objectives:

– to demonstrate the relations and correlation between performance indicators;

– to reveal the mutual effects arising from the implementation of sustainable development objectives;

– to provide a common understanding of the state of FEC sustainable development;

– to ensure the achievement of goals of sustainable development;

– to contribute to the establishment of the management hierarchy.

5. The establishment of target indicator values. Assessments of PER of FEC in NWFD for its constituent entities are established based on target values of indicators. But, depending on specific characteristics of the region, they can change their value by decision of the governing bodies with stating the reason.

6. Threshold values of indicators. Threshold values for indicators are set to determine the degree of stability of development of FEC in NWFD.

A threshold indicator value is the value of the indicator of PER, the achievement or exceeding of which is considered as a transition of the given indicator to a qualitatively new larger area of with higher loss of sustainable development in FEC of the region. The degree of sustainability of the region's FEC is a conditional indicator characterizing the degree of achievement of target indicator values of assessment of PER for sustainable development of FEC of the region.

The author presents the following degrees of sustainable development of FEC in the region for each parameter. In turn, the borderline state and the state of instability are divided into three stages:

I. Sustainable development (SD) – achieving or improving of target indicator values.

II. Borderline state (BS): minor loss of sustainability (MLS) – a deviation of not more than 10% from target values of indicator of PER assessment; increasing sustainability loss (ISL) not more than 20%; the stage of transition to the state of unsustainable development (TSD) – no more than 30%.

III. Unsustainable development: the initial stage of unsustainable development (NSNU) – not more than 40%; significant loss of development sustainability (SLDS) – not more than 50%; complete loss of development sustainability (CLDS) – more than 50%.

The boundaries of states of sustainability may vary depending on the purpose of analysis and the state of FEC development, as well as on strategic goals of its development.

7. Assessment and specification of the degree of stability. The specification of FEC sustainability may be conducted based on the approach proposed in [7].

8. Documentation of results.

9. Coordination of decomposition results with higher levels of management. At this stage, depending on the obtained evaluation results, management influence may be adjusted to ensure sustainable development.

10. Comparison of assessment results with the FEC development goals in the region. At this stage, it is necessary to define the contribution of NWFD constituent entity in achieving the goals of sustainable development of FEC in NWFD. The goals at all management levels can be adjusted in order to develop mechanisms to achieve them.

2. **Territorial decomposition of BSC assessment of PER (the case of the Arkhangelsk Oblast, including Nenets Autonomous Okrug).**

2.1. *The structure of the territorial decomposition of BSC.*

Territorial decomposition is carried out for regions producing energy resources. In the article, the BSC decomposition will be carried out in the case of the Arkhangelsk Oblast.

2.2. *Formulating FEC development goals in the Arkhangelsk Oblast and formation of indicators to assess primary energy resources.*

When forming BSC assessment of PER in the Arkhangelsk Oblast, assessment indicators are fully transferred from the total BSC. In this case, the contribution of FEC in NWFD in the achievement of target indicator values of FEC in NWFD is determined (*Tab. 1*).

2.3. *PER scorecard in the Arkhangelsk Oblast.*

PER scorecard in the Arkhangelsk Oblast is created on the basis of overall scorecard of PER assessment of FEC in NWFD (*Fig. 2*).

Documentation of cause-and-effect correlation between separate indicators is carried out simultaneously with their development. The correlation is characterized by the following data: number of correlation, indicator which has an influence or is influenced; "transcript" of the correlation; how the change in A parameter value influences the achievement or non-achievement of the target parameter value; brief description of correlation content.

(1) strong influence. Short-term investments (E21, E22, E23) adversely affect the indicators of economic efficiency. At the beginning of the period there is an increase in the cost, later – a decrease.

(2) strong influence. Capital investments (E21, E22, E23) have a direct impact on the technological infrastructure (T11, T12) of the production process. Investments in modern equipment and technology improves the condition of fixed assets and increases innovation activity of fuel enterprises.

(3) strong influence. The technological infrastructure (T11, T12) of the production process has a direct impact on PER production efficiency (T21, T22, T23). The better the condition of fixed assets, the higher innovative activity, the higher is the efficiency of natural resource management (oil recovery rate, oil gas use rate).

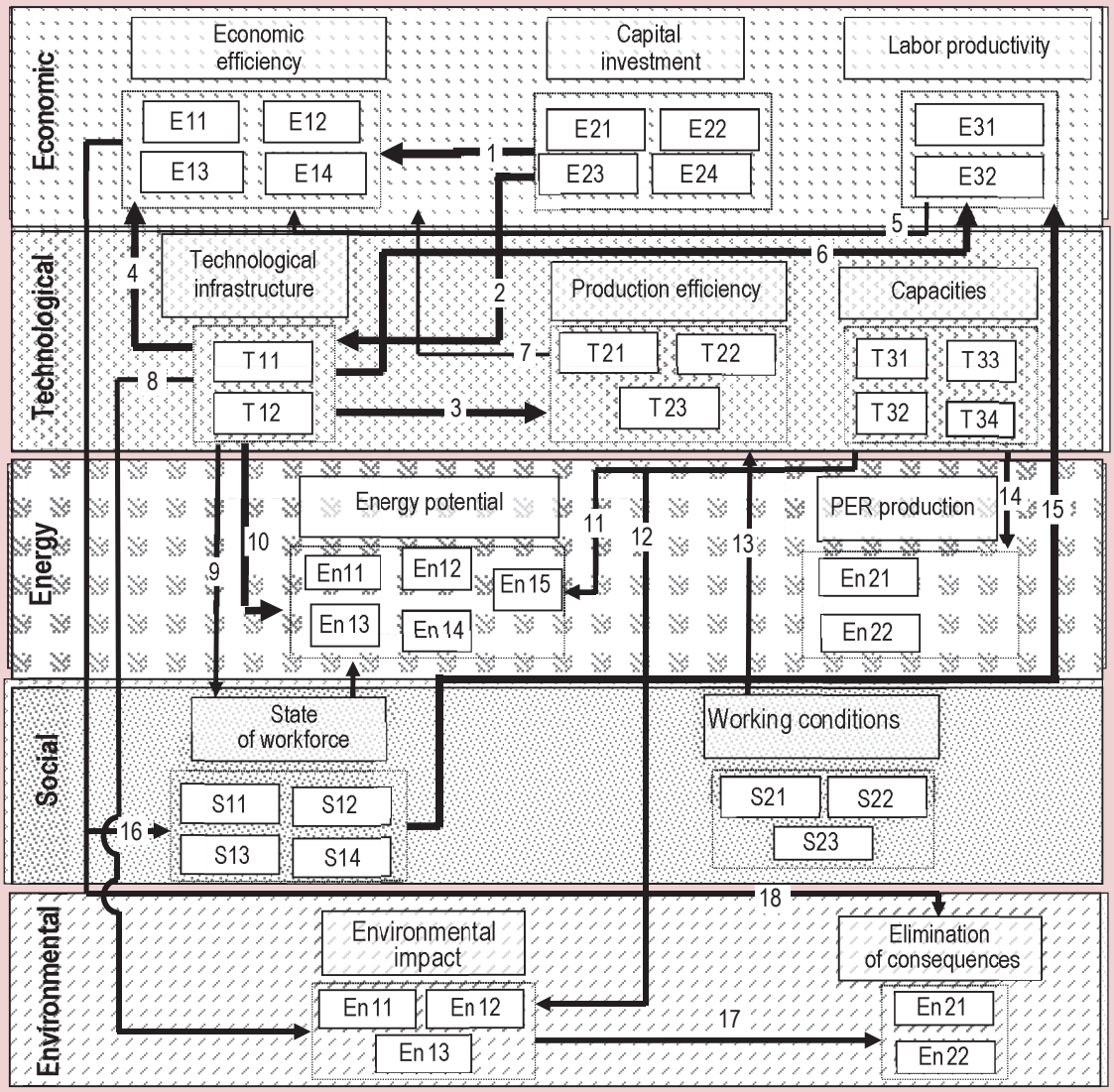
Table 1. Documentation of sustainable development goals and indicators for assessing PER in the Arkhangelsk Oblast (AO)

Goal of SD		*No. E1 (AO)*
Parameter of SD of FEC in NWFD	Economic	
Goal subject	Ensuring economic efficiency of PER production to ensure SD of EFC in NWFD	
Goal validation	Achieved through reducing the cost of PER production and financial sustainability	
Assessment indicators	Cost development rate Change in production costs per 1 RUR of gross output (GO) PER production profitability Financial sustainability	E11(***AO***) E12(***AO***) E13(***AO***) E14(***AO***)
Period	Up to 2030	
Goal of SD		*No. E2(**AO**)*
Parameter of SD of FEC in NWFD	Economic	
Goal subject	Increase in capital investment (CI) in PER production	
Goal validation	Contributes to modernization and increased efficiency of FEC functioning in NWFD	
Assessment indicators	Capital investment growth rate Specific capital investment per one PER unit Specific costs of innovation per one PER unit	E21*(AO)* E22*(AO)* E23*(AO)*
Period	Up to 2030	
Goal of SD		*No. E3(**AO**)*
Parameter of SD of FEC in NWFD	Economic	
Goal subject	Increase in labor productivity	
Goal validation	Will improve production efficiency	
Assessment indicators	Labor productivity growth rate Share of GO growth rate due to increased labor productivity	E31*(AO)* E32*(AO)*
Period	Up to 2030	
Goal of SD		*No.T1(**AO**)*
Parameter of SD of FEC in NWFD	Technological	
Goal subject	Modernization of PER production capacities	
Goal validation	Will increase PER production efficiency	
Assessment indicators	Degree of depreciation of fixed assets Innovation activity	T11*(AO)* T12*(AO)*
Period	Up to 2030	
Goal of SD		*No. **T**2(**AO**)*
Parameter of SD of FEC in NWFD	Technological	
Goal subject	Increase in PER production efficiency	
Goal validation	Will decrease PER production costs	
Assessment indicators	Mineral resource management efficiency Accident rate Energy consumption	**T21***(AO)* **T22***(AO)* **T23***(AO)*
Period	Up to 2030	
Goal of SD		*No. **T**3(**AO**)*
Parameter of SD of FEC in NWFD	Technological	
Goal subject	Development of PER production capacities	
Goal validation	Will help meet the need for PER	
Assessment indicators	Compliance of capacities to region's needs Share of new capacities in the total PER production output Share of Russian equipment	**T31***(AO)* **T32***(AO)* **T33***(AO)*

End of Table 1

Period	Up to 2030	
Goal of SD		*No. En1(AO)*
Parameter of SD of FEC in NWFD	Energy	
Goal subject	Reproduction of fuel and energy resources (FER)	
Goal validation	Ensuring reliable energy supply services for the population	
Assessment indicators	Access of the district to its own PER Rate of increase in FER supply Renewability of FER supplies Compliance of energy consumption to region's needs PER production increase rate	En11*(AO)* En12*(AO)* En13*(AO)* En14*(AO)* En15*(AO)*
Period	Up to 2030	
Goal of SD		*No. En2(AO)*
Parameter of SD of FEC in NWFD	Energy	
Goal subject	Rationalization of PER production structure	
Goal validation	Meeting the need for PER	
Assessment indicators	Share of FER supplies in new deposits Share of FER production in complex deposits	En21*(AO)* En22*(AO)*
Period	Up to 2030	
Goal of SD		*No. S1(AO)*
Parameter of SD of FEC in NWFD	Social	
Goal subject	Development and increased use of human potential	
Goal validation	Increasing the quality of human potential	
Assessment indicators	Share of the employed, under 40 Share of the employed with higher (professional) education Share of loss of working hours Personnel turnover	S11***(AO)*** S12***(AO)*** S13***(AO)*** S14***(AO)***
Period	Up to 2030	
Goal of SD		*No. S2(AO)*
Parameter of SD of FEC in NWFD	Social	
Goal subject	Increased social responsibility and satisfaction of the employees	
Goal validation	Increasing the quality of human potential	
Assessment indicators	Salary rate (compared to the district) Danger coefficient Average period of training for one employee	S21*(AO)* S22*(AO)* S23*(AO)*
Period	Up to 2030	
Goal of SD		*No. Ec1(AO)*
Parameter of SD of FEC in NWFD	Environmental	
Goal subject	Reduced emission of pollutants into the environment	
Goal validation	Natural resource management	
Assessment indicators	Environmental friendliness (share of toxic emissions) Share of generated waste Share of water consumption	Ec11***(AO)*** Ec12***(AO)*** Ec13***(AO)***
Period	Up to 2030	
Goal of SD		*No. Ec2(**AO**)*
Parameter of SD of FEC in NWFD	Environmental	
Goal subject	Elimination of consequences of PER production	
Goal validation	Restoration of environment	
Assessment indicators	Level of land re-cultivation Rate of expansion of disturbed lands Rate of increase of mud pits	Ec21***(AO)*** Ec22***(AO)*** Ec23***(AO)***
Period	Up to 2030	

Figure 2. PER scorecard assessment in the Arkhangelsk Oblast



(4) strong influence. The technological infrastructure (T11, T12) of the production process has a direct impact on production efficiency (E11, E12, E13, E14, E15). This correlation is due to the fact that the condition of fixed assets and innovative activities affects the growth rate of PER cost, profitability, etc.

(5) moderate mutual influence. Labor productivity (E31, E32) has an impact on economic efficiency (E11, E12, E13, E14). The more gross output per one employee engaged in production of PER, the more economically efficient it is. On the other hand, the more capital investments, the higher is labor productivity through the use of modern technology.

(6) strong influence. The technological infrastructure (T11, T12) of the production process has a direct impact on productivity.

(7) moderate influence. The efficiency of the production process (T21, T22, T23) has an

impact on economic efficiency (E11, E12, E13, E14) since, for example, accident elimination requires costs.

(8) rather strong influence. The technological infrastructure (T11, T12) in PER production has a direct impact on the environment (accident spills due to deterioration of equipment).

(9) strong influence. The technological infrastructure (T11, T12) in PER production characterizes the working conditions.

(10) strong influence. The technological infrastructure (T11, T12) of the production process characterizes the reproductive capacity of the district. This is due to the fact that there are resource supplies whose development is possible only with the use of modern equipment.

(11) strong influence. Production capacity (T31, T32, T33, T34) affect the possibilities of reproduction, as well as on the formation of the energy potential of NWFD.

(12) rather strong influence. PER production (T21, T22, T23) has a direct impact on the environment (accident spills due to deterioration of equipment).

(13) rather strong influence. The satisfaction of employees affects the production efficiency as the better the working conditions (C21, C22, C23) the higher is PER production efficiency.

(14) rather strong influence. Due to the development of capacities (T31, T32, T33, T34) it becomes possible to satisfy the energy demand by developing new deposits.

(15) strong influence. The state of workforce (C11, C12, C13, C14) has a direct impact on productivity.

(16) rather strong influence. The higher the quality of workforce (C11, C12, C13, C14) the greater is the cost of its content (E11, E12, E13, E14).

(17) rather strong influence. The greater the negative impact on the environment (Ec11, Ec12, Ec13), the higher is the scale of consequences for elimination (Ec21, Ec22).

(18) rather strong influence. In order to eliminate the consequences of environmental impacts (oil spills, sludge pits, etc.) (Ec21, Ec22) it is necessary to invest (E11, E12, E13, E14).

2.4. *The establishment of target values of indicators of assessment of primary energy resources in the Arkhangelsk Oblast.*

Target values are set for all regions in NWFD for periods of implementation of strategic documents (ES-2030) broken down into three periods based on the experience of leading companies of ES-2030, research of designated organizations. More about the rationale of indicators and their target values see in [14]. Further we perform the documentation of target values of indicators of PER assessment and establishment of their actual values (*Tab. 2*).

2.5. *Threshold indicator values.*

Threshold indicator values are defined according to the method proposed in [7]. *Table 3* demonstrates the results of threshold indicator values iterations for assessing PER in the Arkhangelsk Oblast.

2.6. *The evaluation and determination of the degree of sustainability.*

The results of determining the degree of sustainability of FEC in the Arkhangelsk Oblast as a whole and by individual parameters are given in *Table 4*.

Conclusion

Based on the assessment we can draw the following conclusion: sustainable development is achieved only by the energy parameter. This is due to the fact that this constituent entity of the Northwestern FD possesses PER

Table 2. Documentation of actual values of indicators of an estimation of primary energy*

PER assessment indicator	Target value	Actual value (2014)
Economic parameter		
PER cost increase rate, %	No more than 110	92
Change in production costs per 1 ruble of gross output, RUR/RUR	No more than 0	-0.08
PER production profitability, %	No less than 15	-14.9
Financial sustainability, relative units	No less than 1,9	0.58
Capital investment growth rate, %	No less than 120	91
Capital investment ratio per TFOE, RUR./ TFOE	No less than 3200	1919
R&D costs ratio per PER, RUR./TFOE	No less than 50	Not published
Labor productivity increase rate, %	No less than 110	98
Share of gross output increase by means of LP, %	No less than 5	-0.02
Technological parameter		
Degree of fix assets depreciation, %	No more than 48	44.9
Innovation activity, relative units	No less than 0.7	0.339
Natural resource management efficiency, %	No less than 127	113
Risk of accidents, units/TFOE.	No more than 100	144
Energy consumption, TFOE./thou TFOE	No more than 12	52.25
Compliance of capacities to region's needs, %	No less than 150	160
Share of new capacities in the total PER production output, %	No less than 27	7.6
Share of Russian equipment, %	No more than 20	74
Energy parameter		
Access of the district to its own PER, %	No less than 102	150
Rate of increase in FER supply, %	No less than 103	120
Reproduction of FER, %	No less than 130	135
Compliance of energy consumption to region's needs, %	No less than 110	200
PER production increase rate, %	No less than 103	106
Share of FER supplies in new deposits, %	No less than 12	13
Share of FER production in complex deposits, %	No less than 10	100
Social parameter		
Share of the employed, under 40, %	No less than 30	29
Share of the employed with higher (professional) education, %	No less than 60	26.5
Average number of training hours per 1 employee,	No less than 78	45
Loss of working hours rate, %	No more than 4	3.2
Personnel turnover rate, %	No more than12	48
Salary rate, %	No less than 150	253
Danger coefficient	No more than 7.6	9.7
Environmental parameter		
Environmental friendliness, kg/TFOE	No more than 70	90
Share of generated waste, kg/TFOE	No more than 5	6.3
Share of water consumption, m^3/TFOE	No more than 3.5	2.5
Level of land re-cultivation from yearly disturbance, %	No less than 65	70
Rate of expansion of disturbed lands, %	No more than 100	112
Rate of increase of mud pits, %	No more than 100	115

* Compiled from statistical data on the Arkhangelsk Oblast, including the Nenets Autonomous Okrug: Arkhangel'skaya oblast' v tsifrakh. 2015: kr. stat. sb. [Arkhangelsk Oblast in numbers: brief statistical book]. Federal State Statistics Service, (Arkhangelskstat). Arkhangelsk, 2016. 235 p.; *O sostoyanii i ispol'zovanii mineral'no-syr'evykh resursov Rossiiskoi Federatsii v 2014 godu: Gosudarstvennyi doklad* [On the state and use of mineral resources of the Russian Federation in 2014: State report]. Moscow, 2015. Available at: http://www.mnr.gov.ru/upload/iblock/331/dokl_14.pdf (accessed: October, 2016.); *O sostoyanii okruzhayushchei sredy v Nenetskom avtonomnom okruge v 2014 godu: doklad* [On the state of environment in the Nenets Autonomous Okrug in 2014; report]. Available at: http://dprea.adm-nao.ru/doklady-i-otchety-o-deyatelnosti/doklady-o-sostoyanii-okruzhayushej-sredy-v-neneckom-avtonomnom-okruge/ (accessed: October, 2016); *Promyshlennost' Rossii. 2014: stat. sb.* [Industry of Russia, 2014; statistical book]. Rosstat. Moscow, 2014. 326 p.; *Regiony Rossii. Sotsial'no-ekonomicheskie pokazateli. 2015: stat. sb.* [Russian regions. Socio-economic indicators, 2015: statistical book]. Rosstat. Moscow, 2015. 1266 p.; *Rossiiskii statisticheskii ezhegodnik. 2015: stat. sb.* [Russian statistics yearbook, 2015: statistical book]. Rosstat. Moscow, 2015. 728 p.; *Statisticheskii ezhegodnik Arkhangel'skoi oblasti. 2014:stat. sb.* [Statistics yearbook of the Arkhangelsk Oblast, 2014: statistical book]. Federa;l State Statistics Service, Arkhangelskstat. Arkhangelsk, 2015. 187 p.

Table 3. Threshold values for determining the degree of FEC sustainability in the Arkhangelsk Oblast including Nenets Autonomous Okrug

PER assessment indicators	Threshold values					
	Borderline state (BS)			Unsustainable development (USD)		
	MLS	ISL	TSD	ISUD	SLDS	CLDS
Economic parameter						
E1	110	121	133.1	146.41	161.051	177.1561
E2	0.1	0.11	0.121	0.1331	0.14641	0.161051
E3	15	13.5	12.15	10.935	9.8415	8.85735
E4	1.9	1.71	1.539	1.3851	1.24659	1.121931
E5	120	108	97.2	87.48	78.732	70.8588
E6	3200	2880	2592	2332.8	2099.52	1889.568
E7	50	45	40.5	36.45	32.805	29.5245
E8	110	99	89.1	80.19	72.171	64.9539
E9	5	4.5	4.05	3.645	3.2805	2.95245
Technological parameter						
T1	48	52.8	58.08	63.888	70.2768	77.30448
T2	0.7	0.63	0.567	0.5103	0.45927	0.413343
T3	127	114.3	102.87	92.583	83.3247	74.99223
T4	100	110	121	133.1	146.41	161.051
T5	12	13.2	14.52	15.972	17.5692	19.32612
T6	150	135	121.5	109.35	98.415	88.5735
T7	27	24.3	21.87	19.683	17.7147	15.94323
T8	20	22	24.2	26.62	29.282	32.2102
Energy parameter						
En1	102	91.8	82.62	74.358	66.9222	60.22998
En2	103	92.7	83.43	75.087	67.5783	60.82047
En3	130	117	105.3	94.77	85.293	76.7637
En4	110	99	89.1	80.19	72.171	64.9539
En5	103	92.7	83.43	75.087	67.5783	60.82047
En6	12	10.8	9.72	8.748	7.8732	7.08588
En7	10	9	8.1	7.29	6.561	5.9049
Social parameter						
S1	30	27	24.3	21.87	19.683	17.7147
S2	60	54	48.6	43.74	39.366	35.4294
S3	78	70.2	63.18	56.862	51.1758	46.05822
S4	4	4.4	4.84	5.324	5.8564	6.44204
S5	12	13.2	14.52	15.972	17.5692	19.32612
S6	150	135	121.5	109.35	98.415	88.5735
S7	7.6	8.36	9.196	10.1156	11.12716	12.239876
Environmental parameter						
Ec1	70	77	84.7	93.17	102.487	112.7357
Ec2	5	5.5	6.05	6.655	7.3205	8.05255
Ec3	3.5	3.85	4.235	4.6585	5.12435	5.636785
Ec4	65	58.5	52.65	47.385	42.6465	38.38185
Ec5	100	110	121	133.1	146.41	161.051
Ec6	100	110	121	133.1	146.41	161.051

Table 4. Determination of the degree of sustainability of FEC development in the Arkhangelsk Oblast including Nenets Autonomous Okrug

Parameter	Normalized valuesof degrees of FEC development sustainability in NWFD						Parameter assessment	State of FEC in NWFD
	BS			USD				
	MLS	ISL	TSD	ISUD	SLDS	CLDS		
Economic	0.00	0.35	0.69	1.00	1.30	1.59	1.79	Complete loss of development sustainability
Technological	0.00	0.35	0.00	0.34	0.67	1.00	1.94	Complete loss of development sustainability
Energy	0.00	0.37	0.70	1.00	1.27	1.51	0.00	Sustainable development
Social	0.00	0.34	0.67	1.00	1.33	1.65	1.5	Significant loss of development sustainability
Environmental	0.00	0.31	0.65	1.00	1.38	1.79	0.59	Increasing loss of development sustainability
FEC	0.00	0.34	0.67	1.00	1.32	1.64	**1.16**	**Initial state of unsustainable development**

reserves such as oil and gas. As for the remaining parameters, with the exception of the environmental parameter, unsustainable development is observed. In general, FEC of the Arkhangelsk Oblast including Nenets Autonomous Okrug, is experiencing unsustainable development at the initial stage. This situation may be due to the fact that PER deposits of FEC belong to the Northern Arctic areas (Northern part of the Timan-Pechora Basin). This factor directly affects the economic efficiency of deposit development at this territory as there is, on the one hand, a decline in world energy prices, on the other hand, an increase in the cost of resource development. The increase in the costs is related to the need to form the required infrastructure, to use equipment suitable for working under these conditions, to the social benefits, etc.

Thus, the implementation of the territorial BSC decomposition for assessing PER to ensure sustainable development of FEC in NWFD can help:

– improve coordination of actions of governing bodies of FEC and constituent entities of NWFD to ensure sustainable development of FEC in NWFD through reflection of the contribution of each entity of the Northwestern Federal District in the implementation of objectives of sustainable development of FEC in NWFD as a whole;

– define the correlation between indicators of PER assessment of various parameters affecting sustainable development of FEC in NWFD;

– provide the management system of sustainable development of FEC in NWFD with full accurate information on constituent entities of the Northwestern Federal district for making economically substantiated management decisions taking into account their specific features.

The theoretical significance consists in the fact that the study expands scientific knowledge in the field of management decision-making in FEC sustainable development in the region and its constituent entities through territorial decomposition of BSC assessment of PER.

The practical value of the research is to develop the territorial decomposition of BSC assessment of PER which help objectively and correctly assess the stability FEC development of a constituent entity of the Northwestern Federal district, which contributes to the transformation of FEC in NWFD into a flexible, adaptable system with high resistance to the disturbing environmental influences.

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Information about the Authors

Tat'yana Konstantinovna Salina – Ph.D. in Economics, Associate Professor at the Department for Applied Mathematics, Economic and Mathematical methods, Saint Petersburg State University of Economics. (21, Sadovaya Street, Saint Petersburg, 191023, Russian Federation; e-mail: salinatanya@mail.ru)

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Development of Entrepreneurship in the Region: Drivers and Problems

Irina Viktorovna
IGNATOVA
Tyumen State University
Tyumen, Russian Federation, 6, Volodarsky Street, 625000
E-mail: Ignatova-iv@yandex.ru

Evgenii Sergeevich
IGNATOV
Tyumen State University
Tyumen, Russian Federation, 6, Volodarsky Street, 625000
E-mail: ewgen_1978@mail.ru

Abstract. The paper examines drivers of entrepreneurship development in the region on the example of Ural Federal District regions. The goal of the research is to identify drivers of and problems in the development of entrepreneurship in the region. We use theoretical, logical, statistical, analytical, and index methods. Scientific novelty of the study lies in the fact that it considers global experience of research entrepreneurship as applied to the level of region, identifies sets of factors that promote the development of entrepreneurship in the Tyumen Oblast, and assesses their impact on the level of entrepreneurship development. The paper also considers problems in the development of entrepreneurship in the Tyumen Oblast. We propose indicators that assess implementation efficiency of regional (state) programs for entrepreneurship support. We carry out a comparative analysis of some aspects of governmental support provided to small business in some countries. By 2016, Russia has made a breakthrough and improved economic environment for doing business, but there has been a decline in institutional environment indicators. The Tyumen Oblast has been and remains among the leaders in small business development for several years. We make the following rating of the types of economic activities by number of small

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enterprises in the Tyumen Oblast (in descending order): trade, real estate transactions, construction, manufacturing, transport and communications, and scientific research and development. We note negative dynamics in the turnover of small businesses in administrative units of the Tyumen Oblast. In the south of the oblast, the maximum volumes of turnover are observed in the following sectors (in descending order): manufacturing, construction, real estate transactions, leasing and provision of services. State (regional) support is one of the factors promoting the development of entrepreneurship. The Sverdlovsk and Tyumen oblasts are main recipients of state subsidies for development of small and medium business in the Ural Federal District. Southern areas and Khanty-Mansi Autonomous Okrug are leaders by this indicator in the Tyumen Oblast. We note a direct dependence between the positive dynamics of small business and the volume of state subsidies. Correlation coefficient is 78.5%. We introduce a number of indicators that reflect the effectiveness of implementation of regional programs aimed to support entrepreneurs. The next driver is the quality of the market. The Tyumen Oblast is one of the leaders by level of effective demand and it ranks 11th in the rating of Russian regions by quality of life. The paper also points out problems in the development of entrepreneurship in the Tyumen Oblast, such as dependence of small businesses on state subsidies, high transaction costs, shortage of employees with necessary skills, and reduction of financial solvency of citizens.

Key words: entrepreneurship, state support, state subsidies, quality of the market, problems of entrepreneurship development.

Introduction. Regulation of entrepreneurship is a complex task due to specific nature of entrepreneurial activity. On the one hand, dealing with this task is associated with the entrepreneurial entity, and not only with the level of qualification, but with the availability of an entrepreneurial idea and a desire to implement it. All this is difficult to regulate; moreover, we can say that it does not depend on outside interference and certain directions of the country's development. On the other hand, it is difficult to implement an entrepreneurial project even if there is an idea and desire, because there exist high administrative barriers impeding the entry to the market, there is a low demand and a lack of support from the state.

In this regard, the government should "cherish" entrepreneurs who pay taxes to the budget and provide jobs for people. However, this may not become a priority to the detriment of other sectors like education, health, environment, social programs, etc. We should indicate the development of infrastructure as a synergetic effect of their activities. It should be noted that in this article we consider not only commercial entrepreneurship, but non-profit (social, etc.) entrepreneurship, as well.

If we assume that development is a goal of society, then without continuously emerging ideas and their implementation it slows down. Expansion of opportunities for society is based on a continuous process of reproduction of ideas and reduction of the time for their implementation (utilization) [8, p. 100]. Entrepreneurial activity *a priori* assumes innovation, proactive attitude, a certain kind of thinking aimed to comprehend and formulate business ideas and their subsequent implementation. In our view, entrepreneurial activity is subject to certain laws upon which the state can provide optimal conditions for the development of entrepreneurship.

It is obvious that every entrepreneur is a person of their time and social relations. If society is based on individualism, selfishness and competition, then the goal of entrepreneurial activity is to gain maximum profit on the basis of competition and with the use of different fighting methods [11, p. 27].

If society is based on intangible values, cooperation and mutual assistance, then the goal of entrepreneurial activity is to identify and address social needs; in this case profit is a consequence, rather than the goal [8, p. 102]. Under this paradigm, the entrepreneur serves society. Modern social system partially allows for implementing such a concept of entrepreneurship only in the context of social entrepreneurship. But so far there is no possibility to analyze this kind of entrepreneurial activity due to the absence of related official statistics.

In any case, entrepreneurial sphere requires government intervention, which consists in leveling administrative barriers and promoting the development and implementation of state support measures, ensuring a high level of effective demand and formation of skilled workforce. Regardless of the country's development level, the regulation of entrepreneurship is given considerable attention *(Tab. 1)* despite the prevalence of Adam Smith's theory of "invisible hand" [24].

The goal of the present study is to identify problems of entrepreneurship development in the region on the basis of factors that we have identified.

Major findings that constitute the novelty of the research are as follows:

1) we interpreted world experience of research on entrepreneurship as applied to the level of region;

2) we identified groups of drivers of entrepreneurship development in the Tyumen Oblast, and they are as follows: efficiency of government support provided to entrepreneurship; high transaction costs associated with the development of new markets and infrastructure; recruiting and training workers with suitable qualification;

3) we evaluated the impact of the drivers on the level of entrepreneurship development;

4) we highlighted problems in the development of entrepreneurship in the Tyumen Oblast;

5) we proposed indicators for assessing the efficiency of implementation of regional programs to support entrepreneurship.

Research methodology and methods. The methodological basis of the research includes scientific works of foreign and domestic authors. Foreign authors base the modern concept of state regulation of entrepreneurship on the influence of the political factor in economic decision-making and, conversely, the political consequences of economic decision-making in relation to entrepreneurship. G.J. Stigler argues that economists idealize state regulation mechanisms without considering political influence in making decisions on provision of subsidies to economic sectors [24]. He empirically confirms the importance of this factor in making economic decisions. F. Den Butter and J. Hudson explore government regulation of business as "legally binding standards", the compliance with which leads to higher transaction costs of companies [19]. The standards they propose "will ensure a level playing field" for entrepreneurs. We agree that high transaction costs hinder the development of entrepreneurship. S. Haggard, S. Maxfield and B.R. Schneider consider the concepts of

Table 1. Government regulation of small business in some countries

Criteria	Countries					
	European Union	Japan	China	Singapore	USA	Russia
Goal of providing government support to small business	Balance of interests of government and business Ensuring optimal conditions for entrepreneurial activities Increasing the competitiveness of small business	The development of engineering and knowledge-intensive production in small business.	Raising investment Expansion of loan programs for business development	Raising foreign capital and investment Improving the competitiveness of small businesses in the global market	Promotion of sustainable and harmonious development	Increasing the number of subjects of small and medium business Providing employment Increasing taxes
Receivers of government support	All enterprises of small business	Small businesses that take an active part in the development of high-tech industry	All enterprises of small business	All enterprises of small business	Small business among the indigenous population Enterprises, where women hold at least 51% of managing positions Businesses managed by disabled people, etc.	All enterprises of small and medium business
Tools	Organizational and legal support of business (including the elimination of administrative barriers) Tax benefits Concessional lending Social guarantees	Subsidies at all stages of development of small businesses Training of specialists in special centers Providing qualified advisory support to entrepreneurs	Tax benefits Additional funding	Preferential taxation for beginners Reduction of interest rates on loans	Preferential taxation Grants, state order	Normative and legal regulation in the sphere of privatization of real estate Special tax regimes Improving access to public procurement
Legal basis	European Charter for Small Enterprises	Defining the status of small enterprise Setting the amount of benefits in accordance with the activity Anti-monopoly activities Regulating the market value of products	Law "On promoting the development of small and medium entrepreneurship" Programs aimed to improve the Chinese economy for the period from 2020 to 2050	Preferential tax legislation Absence of profit tax Guaranteeing the investment of funds in the economy	Law "On small business" The number of laws regulating small business is over 15 Programs for support of small enterprises, which are related to the category of problem-based Government program "Mentor – Protégé"	Federal law "On the development of small and medium entrepreneurship in Russia" Subsidies from the state budget to RF subjects on support of small and medium enterprises

The end of Table 1

Areas of government support	Institutional transformation Development and implementation of targeted programs of financial, technological, informational and personnel support of small and medium business	Improvement and modernization of high-tech industry Introduction of innovative technology Promotion of development of light and food industry Development and introduction of new products Creation of new small businesses in regions with a low level of industrial development	Increase in the number of small enterprises Creating conditions for cooperation of Chinese and foreign organizations that support small business Provision of information support to small business	Creation of favorable conditions for starting a business and for its implementation Development of entrepreneurial abilities of small businesses Consulting services Control of the quality of provided services and manufactured goods Improving the structure of small business Training of personnel for small business management	Providing financial support to small and medium enterprises if it is not available to them from other sources Assistance in obtaining government contracts Provision of technical and advisory services with regard to management	Improvement of taxation and the procedure of payment for privatized property Specifics of participation in public contracts Ensuring the rights and legitimate interests of subjects of small and medium enterprises in the implementation of state control (supervision) Financial support Development of infrastructure for provision of support to the subjects of entrepreneurship
Organizational support	European joint-stock company European pool of economic interests	Administration of small enterprises, which reports to the Ministry of Foreign Trade and Industry of Japan Corporation for insurance of small and medium business Association for the guaranteeing of loans	State fund for development of small and medium entrepreneurship Chinese center for coordination and cooperation of business CSMEO service	Spring Agency	Administration for small business development	Ministry of Economic Development of the Russian Federation Competent authorities that support the development of small and medium business in subjects of the Russian Federation Federal corporation for development of small and medium enterprises
Funding of government support measures	Structural funds of the European Union (Regional Development Fund, Social Fund)	Government	Government	Government	Government	Government

Compiled with the use of the sources: [5; 16; 21; 22; 23].

interaction of entrepreneurship and government proceeding from the understanding "of the private sector as capital, sector, firm, association or network" [20]. They underline the fact that investment and growth are largely affected by the relationship between government and the private sector. They determine the "political consequences of the fact that most investment decisions in a capitalist economy are made by private individuals who respond to market signals and expectations of the future course of actions of the government" [25].

Close cooperation between business and government can have a positive effect on national economy (Japan, South Korea) and a negative effect on it (India, Brazil). According to P.F. Drucker, the example of Japan and South Korea indicates the possibility of increasing the effectiveness of the policy of government regulation through close interaction between entrepreneurs and officials on the basis of high professionalism and a sense of responsibility of both parties, as well as historically close ties between them [6, p. 215]. The case of India and Brazil shows the opposite: the effectiveness of government economic policy is decreasing because of the intertwining of lobbying on the part of entrepreneurs and corruption of officials; as a result, business profit depends largely on its proximity to the state apparatus, rather than on the presence of entrepreneurial talent.

The works of domestic scientists are dominated by general theoretical and sectoral research on the specifics of state regulation of entrepreneurship, but the territorial aspect is represented marginally (D.E. Tolmachev, E.A. Ulyanova, L.M. Pliner [15]). Attention was focused not on freedom of entrepreneurship, as in the UK or the United States, but on government regulation, which predetermined a relatively rigid subordination of entrepreneurial activities to national objectives and a rather indifferent attitude toward a low economic efficiency.

In Russia, the state historically plays a key role in the development of entrepreneurship, as evidenced by the research carried out by Russian scientists. When studying the stages of formation and development of entrepreneurship in Russia, A.N. Asaul connects the development of legitimate entrepreneurship with the level of government intervention in the market economy [1]. In his works he focuses on the theoretical aspects of development of modern entrepreneurship, and its industry specifics (construction). A.V. Busygin in his works analyzes entrepreneurship as "a special form of economic activity" [4] and highlights economic drivers of entrepreneurship development. V.G. Basareva [2] points out the inconsistency of the modern system of distribution of state subsidies, when a successful region receives larger amounts of state aid than outsider regions in need of funding. There arises a necessity to improve indicators of efficiency of implementation of state (regional) programs to support entrepreneurship. A. Porokhovskii argues that government intervention in the activities of entrepreneurship is required only in "critical cases"; and in most situations, the mechanisms of market economy are able to resolve the situation effectively [13]. Judging by the experience of the Russian state, market-based tools do not always cope with the role of regulators, and it is necessary that government intervene in the expansion of the business sector. O.A. Solov'eva considers theoretical

aspects of state regulation of the economy and highlights the specifics "in terms of economic transformation", identifying "the current trajectories of state regulation of national entrepreneurship" [14]. She argues that "it is the state that has become the guarantor of stability, optimality and civilized nature of market economy" [14, p. 31]. The authors support this point of view. N.N. Shchebarova in her works analyzes the ratio of "freedom of trade" and protectionism in government regulation of foreign economic activity and its impact on entrepreneurship [17], and not only quantitative but also qualitative characteristics of business sphere.

In general, modern researchers agree that government support of entrepreneurship and the level of transaction costs are among major factors in the development of entrepreneurship in the country.

A methodological basis of the research includes theoretical, logical, statistical, analytical, and index methods. An empirical basis comprises statistics data of Rosstat, the results of a focus group research with participation of entrepreneurs of the Tyumen Oblast; the research was conducted in 2012–2013 [10].

We regard the region as an administrative and territorial unit. We choose the Tyumen Oblast as the object of the study because it is one of Russia's business-friendly regions. For a number of years, the oblast is a leader in the development of small business at the federal level and in the Ural Federal Fistrict (UFD), as evidenced by the data of various ratings *(Tab. 2)*.

Thus, different research fields, including those in the sphere of government regulation of entrepreneurship, would find the Tyumen Oblast an interesting object to study.

Findings of the research. According to the Doing Business international rating, Russia has moved up from the 120th to the 51st position for the period from 2010 to 2015. The jump is to some extent due to a change in the methods used by Doing Business. Nevertheless, by 2016, Russia has made a breakthrough and improved its economic conditions of doing business: "connecting to power supply" – by 24 points and "obtaining a loan" – by 19 points. There is a drop in the rating by the indicators that show administrative barriers (five indicators): "registration of enterprises" and "settlement of insolvency" show maximum reduction (by 7 points) [26].

Table 2. Position of the Tyumen Oblast in the ratings

Indicator	National rating of investment climate in subjects of the Russian Federation in 2015	Index of the quality of environment for development of small and medium business in 2013–2014: regional disparities	Entrepreneurship climate in Russia: OPORA RUSSIA Index 2012	Dynamics of development of small entrepreneurship in Russia's regions in 2013
Position in the rating	10 place in group II (out of 24)	Included in the group of "catching-up regions"	7 place out of 39	Included in the group of leaders from 14 regions

Sources: *Investment rating of Russia's regions – 2015*. Available at: http://wciom.ru/index.php?id=236&uid=115304; *Index of the quality of environment for development of small and medium business in 2013–2014: regional disparities*. The Analytical Center of SME Bank. Moscow, 2014. 20 p.; *Entrepreneurship climate in Russia: OPORA RUSSIA Index 2012*. OPORA RUSSIA, 2012. Pp. 112-114. Available at: http://www.mediakrug.ru/upload/image/opora_ros/pdf/DG01-13.pdf.; Saidullaev F.S. *Dinamika razvitiya malogo predprinimatel'stva v regionakh Rossii v 2013 godu (malye predpriyatiya, vklyuchaya mikropredpriyatiya)* [Dynamics of development of small entrepreneurship in regions of Russia in 2013 (small enterprises, including microenterprises)]. Moscow: Natsional'nyi institut sistemnykh issledovanii problem predprinimatel'stva, 2014. 32 p.

Table 3. Dynamics of the number of registered small enterprises of the Ural Federal District per 100 thousand inhabitants for the period from 2011 to 2014*

Constituent entity of the Ural Federal District	Number of registered small enterprises, units		Increase/ decrease, %	Number of registered small enterprises, units		Increase/ decrease, %
	As of January 1, 2012	As of January 1, 2013		As of January 1, 2014	As of January 1, 2015	
UFD: total, including:	1435.1	1511.0	5.3	1571.3	1634.5	4.0
Kurgan Oblast	666.0	805.9	21.0	833.9	834.0	0.01
Sverdlovsk Oblast	1694.7	1776.2	4.8	1895.1	1894.2	-0.05
Tyumen Oblast (excluding autonomous okrugs)	1755.6	1864.8	6.2	1819.4	1944.6	6.9
Khanty-Mansi Autonomous Okrug	1485.3	1646.8	10.9	1463.8	1677.6	14.6
Chelyabinsk Oblast	1001.3	1012.7	1.1	1107.9	1199.2	8.2
Yamalo-Nenets Autonomous Okrug	1292.6	1269.6	-1.8	1218.4	1316.7	8.1

* The data take into account information about the number of micro-enterprises and small enterprises.
Sources: compiled and calculated with the use of the sources: Saidullaev F.S. *Dinamika razvitiya malogo predprinimatel'stva v regionakh Rossii v 2015 godu (malye predpriyatiya, krome mikropredpriyatii)* [Dynamics of development of small entrepreneurship in regions of Russia in 2015 (small enterprises, excluding microenterprises)]. Moscow: Natsional'nyi institut sistemnykh issledovanii problem predprinimatel'stva, 2016. 32 p.; Saidullaev F.S. *Dinamika razvitiya malogo predprinimatel'stva v regionakh Rossii v 2014 godu (malye predpriyatiya, krome mikropredpriyatii)* [Dynamics of development of small entrepreneurship in regions of Russia in 2014 (small enterprises, excluding microenterprises)]. Moscow: Natsional'nyi institut sistemnykh issledovanii problem predprinimatel'stva, 2015. 34 p.; Saidullaev F.S. *Dinamika razvitiya malogo predprinimatel'stva v regionakh Rossii v 2013 godu (malye predpriyatiya, vklyuchaya mikropredpriyatiya)* [Dynamics of development of small entrepreneurship in regions of Russia in 2013 (small enterprises, including microenterprises)]. Moscow: Natsional'nyi institut sistemnykh issledovanii problem predprinimatel'stva, 2014. 32 p.

This allows us to conclude that an efficient management program for regulating business environment is implemented. The factor analysis of entrepreneurship development helps identify universal mechanisms that influence its level.

In the framework of our study it is expedient to analyze the dynamics of indicators of small business development in the region *(Tab. 3)*.

According to the data from Tab. 3, the Tyumen Oblast (excluding autonomous okrugs) is among leaders (2nd place in 2012, 3rd – in 2014) in the federal district to increase the number of small enterprises per 100 thousand population: 6.2 and 6.9%, respectively. In 2014, in Yamalo-Nenets Autonomous Okrug and in the Chelyabinsk Oblast, in contrast to the Sverdlovsk and Kurgan oblasts, where there no increase in the number of small businesses was marked, there was an increase of 8% compared with the 2013 level. In 2014, the Tyumen Oblast (excluding autonomous okrugs) ranked first among the regions of the Ural Federal District by the number of registered small enterprises per 100 thousand inhabitants (1944.6 units), the Kurgan Oblast was an outsider (834.0 units).

In 2014–2015[1] the Ural Federal District witnessed a growth in the number of small businesses per 100 thousand inhabitants (an increase of 9.3%). A significant increase in the number of small businesses per 100 thousand inhabitants in the region in 2015 compared with 2014 is observed in the Chelyabinsk (10%) and Kurgan (5.9%) oblasts.

[1] The data include information on the number of small enterprises (excluding micro-enterprises and individual entrepreneurs). In accordance with the federal plan for statistics work (approved by the Decree of the Government of the Russian Federation dated May 6, 2008 No. 671-r).

Table 4. Dynamics of the number of small enterprises (including micro enterprises) in the regions of the Ural Federal District from 2010 to 2014, units

Territory	2010	2011	Growth, %	2012	Growth, %	2013	Growth, %	2014	Growth, %
UFD, total	148402	173452	116.9	183493	105.8	191647	104.4	199970	104.3
Kurgan Oblast	6734	6053	89.9	7223	119.3	7429	102.9	7315	98.5
Sverdlovsk Oblast	63028	72817	115.5	76513	105.1	81740	106.8	81843	100.1
Tyumen Oblast, total	39507	59782	151.3	64512	107.9	63853	99.0	68961	108.0
including: KhMAO	12886	22831	177.2	25710	112.6	23206	90.3	26796	115.5
YaNAO	4104	6785	165.3	6812	100.4	6621	97.2	7106	107.3
south of the Tyumen Oblast	22517	30166	134.0	31990	106.1	34026	106.4	35059	103.0
Chelyabinsk Oblast	39133	34800	88.9	35245	101.3	38625	109.6	41851	108.4

Compiled and calculated with the use of the sources: *Maloe i srednee predprinimatel'stvo v Rossii. 2010: stat. sb* [Small and medium entrepreneurship in Russia. 2010: statistics collection]. Moscow: Rosstat, 2010. P. 12; *Maloe i srednee predprinimatel'stvo v Rossii. 2011: stat. sb* [Small and medium entrepreneurship in Russia. 2011: statistics collection]. Moscow: Rosstat, 2011. P. 12; *Maloe i srednee predprinimatel'stvo v Rossii. 2012: stat. sb* [Small and medium entrepreneurship in Russia. 2012: statistics collection]. Moscow: Rosstat, 2012. P. 12; *Maloe i srednee predprinimatel'stvo v Rossii. 2013: stat. sb* [Small and medium entrepreneurship in Russia. 2013: statistics collection]. Moscow: Rosstat, 2013. P. 12; *Maloe i srednee predprinimatel'stvo v Rossii. 2014: stat. sb* [Small and medium entrepreneurship in Russia. 2014: statistics collection]. Moscow: Rosstat, 2014. P. 11.

However, in two thirds of regions in the Ural Federal District the number of small businesses per 100 thousand inhabitants of the region is reducing: in the Sverdlovsk Oblast – by 23.5%, in Khanty-Mansi Autonomous Okrug (KhMAO) – by 8.9%, in Yamalo-Nenets Autonomous Okrug (YaNAO) – by 5.0%, in the Tyumen Oblast – by 2.8%[2] . So, the Tyumen Oblast (south) is a region with a dynamically developing sector of small business, and it occupies a leading position in the Ural Federal District.

In order to achieve the objectives of the study it is useful to consider the dynamics of the number of small enterprises in the regions of the Ural Federal District *(Tab. 4)*.

Thus, according to the table, we see positive dynamics of growth of the number of small enterprises in the regions of the Urals Federal District for the period under consideration. However, the growth rate is slowing down by an average of 11%.

The rating of the types of economic activities by the number of small enterprises in the Tyumen Oblast (in descending order) is as follows: sales, real estate transactions, construction, manufacturing, transport and communications, and scientific research and development.

The results of the study reveal the decreasing dynamics of the turnover of small businesses. Maximum growth was recorded in 2012 at the south of the Tyumen Oblast (121.5%) and in Khanty-Mansi Autonomous Okrug (115.5%). since 2013 there has been a slowdown in the growth by an average of 10% per year in the south of the Tyumen Oblast, and by 5% in Khanty-Mansi Autonomous Okrug.

[2] Saidullaev F.S. *Dinamika razvitiya malogo predprinimatel'stva v regionakh Rossii v 2015 godu (malye predpriyatiya, krome mikropredpriyatii)* [Dynamics of development of small entrepreneurship in regions of Russia in 2015 (small enterprises, excluding microenterprises)]. Moscow: Natsional'nyi institut sistemnykh issledovanii problem predprinimatel'stva, 2016. 32 p.

Table 5. Dynamics of the volume of subsidies allocated from the federal budget of the Russian Federation for state support of small and medium enterprises (including peasant/farming enterprises) to constituent entities of the Ural Federal District, mln rub.

Region	2012	Share, %	2013	Share, %	2014	Share, %
UFD, total	1324.5	100	1548.5	100	1573.4	100
Kurgan Oblast	111.1	8.3	81.1	5.2	139.9	8.9
Sverdlovsk Oblast	558.1	42.1	566.1	36.6	631.2	40.1
Chelyabinsk Oblast	138.4	10.4	411.0	26.5	153.0	9.7
Tyumen Oblast	516.8	38.8	490.4	31.7	649.3	41.3
		100		100		100
including: south of the oblast	195.7	37.9	201.2	41.0	313.1	48.2
KhMAO	213.0	41.2	215.2	43.9	254.5	39.2
YaNAO	108.1	20.9	73.9	15.1	81.6	12.6

Compiled and calculated with the use of the sources: *Small and medium entrepreneurship in Russia. 2015: statistics collection Appendix to the collection (the information broken down by constituent entities of the Russian Federation), 2015.* Available at: http://www.gks.ru/wps/wcm/connect/rosstat_main/rosstat/ru/statistics/publications/catalog/doc_1139841601359.

On the south of the Tyumen Oblast the maximum volumes of turnover (in descending order) are observed in manufacturing, construction, real estate transactions, rent and provision of services[3].

Based on scientific research in the field of entrepreneurship, we believe it is necessary to apply this experience and results of the studies to analyze the development of entrepreneurship in the Tyumen Oblast, and also to show the place of the Tyumen Oblast in the structure of the Ural Federal District in this regard.

It is advisable to consider the drivers of the dynamics of small business development prevailing in the regions of the Ural Federal District. **One of such drivers** is state (regional) support for this economic sector. According to S.F. Karabag, state support is one of the key factors in sustainability of business in developing countries [22].

In order to solve this problem we analyze the dynamics of the volume of state subsidies for small business and their structure in the Ural Federal District and in the Tyumen Oblast *(Tab. 5)*.

According to the data in Tab. 5, the Sverdlovsk and Tyumen oblasts are the main recipients of state subsidies for development of small and medium business in the Urals Federal District: their share comprises 40% in the structure of subsidies allocated to the Ural Federal District. This funding affects the growth of the number of small firms in the regions (see Tab. 3), and the Tyumen Oblast is among the leaders by the number of registered enterprises of small and medium business per 100 thousand inhabitants.

[3] Calculation source: *Small and medium entrepreneurship in Russia. 2015: statistics collection Appendix to the collection (the information broken down by constituent entities of the Russian Federation), 2015.* Available at: http://www.gks.ru/wps/wcm/connect/rosstat_main/rosstat/ru/statistics/publications/catalog/doc_1139841601359.

In the context of the Tyumen Oblast the first place among the recipients of subsidies for development of entrepreneurial sphere belongs to the south of the Tyumen Oblast and to Khanty-Mansi Autonomous Okrug: in 2014, their share was 48 and 39%, respectively.

Thus, there is a direct correlation between the positive dynamics of small business and the volume of state subsidies. The correlation coefficient is 78.5%. On the one hand, this demonstrates the interest of the state in the development of the sector. In recent years economists increasingly criticize the theory of "invisible hand". For instance, Piketty [12] uses mathematical methods of research and proves the inevitability of state intervention in the creation and development of the middle class that is formed by the entrepreneurs and businesspeople.

On the other hand, this policy determines consumer attitudes of entrepreneurs towards the state, creating a "subsidy entrepreneurship" characterized by low competitiveness and "dependency". According to a focus group research conducted in 2012–2013 among the businesspeople of the Tyumen Oblast [10, pp. 57-65], the main problems of a business of one's own include high administrative barriers to market entry, difficulties with paperwork and with obtaining subsidies, and high costs for the retraining of employees.

We propose the indicators that show the efficiency of implementation of regional programs for support and development of entrepreneurship when state subsidies are granted *(Tab. 6)*.

According to Table 6, the Kurgan Oblast (19,125 rub.) and Yamalo-Nenets Autonomous Okrug (11,483 rub.) occupy leading positions among the regions of the Ural Federal District by the number of subsidies per small enterprise. The maximum amount of subsidies per person is observed in the south of the Tyumen Oblast (221 rub.), in the Kurgan Oblast (160 rub.) and in Khanty-Mansi Autonomous Okrug (159 rub.), the minimum amount (44 rub.) is observed in the Chelyabinsk Oblast. The greatest income per ruble of subsidies is observed in the Chelyabinsk Oblast (3,246 rub.). The Tyumen Oblast ranks fourth by this

Table 6. Indicators showing the efficiency of implementation of regional programs for entrepreneurship support in 2014, rub.

Region	Volume of subsidies/number of small enterprises	Volume of subsidies/region's population	Turnover of small enterprises/ volume of subsidies
Kurgan Oblast	19125	160	468
Sverdlovsk Oblast	7712	146	1542
Tyumen Oblast (south)	8931	221	1113
KhMAO	9498	159	1229
Chelyabinsk Oblast	3656	44	3246
YaNAO	11483	151	893

Calculation sources: *Small and medium entrepreneurship in Russia. 2015: statistics collection Appendix to the collection (the information broken down by constituent entities of the Russian Federation), 2015.* Available at: http://www.gks.ru/wps/wcm/connect/rosstat_main/rosstat/ru/statistics/publications/catalog/doc_1139841601359.

indicator (1,113 rub.). The lowest income per ruble of subsidies is observed in the Kurgan Oblast (468 rub.).

According to the focus group research, 60–70% of public support to the business sphere is based on the interest of the Governor and on the financial solvency of the region. Most often, the authorities seek to develop local business, but if the oblast is not rich, then there is no possibility to implement large-scale programs for provision of support to the business sector. In this sense, the Tyumen Oblast is in a better position. The data presented in Tables 3, 4 and 5 prove that three of the five regions under consideration have high rates of small business development (Tyumen Oblast, Sverdlovsk Oblast, Khanty-Mansi Autonomous Okrug) and they systematically receive state subsidies. The Kurgan Oblast and Yamalo-Nenets Autonomous Okrug are significantly inferior to them in terms of entrepreneurship development and receive the largest amounts of state subsidies in the Ural Federal District. This indicates a low level of entrepreneurial activity of the population in these regions.

In the Tyumen Oblast there are various forms of support of small and medium entrepreneurship: the oblast adopted the state program of the Tyumen Oblast "Main directions of development of small and medium entrepreneurship" till 2020. It implies financial, property, informational and advisory support of subjects of small and medium entrepreneurship.

We should also highlight such economic measures as special conditions created for entrepreneurs who work under the simplified scheme and pay a 5% tax instead of a 15% tax. Large enterprises that start operating on the territory of the Tyumen Oblast and play a significant role in cultivating small business [5, p. 76] are granted benefits on profit tax, the rate of which is reduced from 18 to 14%, on property tax: its rate is reduced from 2.2 to 0%, on transport tax: its rate is reduced to 0% depending on the vehicle. The Governor of the Tyumen Oblast imposed a moratorium on the deterioration of tax environment for business for the whole period of his term in office. The planning system has been improved; in particular, not only medium-term plans (for a five year period), but also strategic plans (for a ten year period) are being developed.

We think that the change in the way entrepreneurship is perceived by state authorities is of considerable importance. For decades, the business sector was seen as a source of revenues to the budgets of different levels. In recent years, entrepreneurship is perceived in the first place as a sphere that provided employment, and tax revenues from it are secondary.

Another factor in the development of small and medium entrepreneurship is transaction costs; they include a search for markets, the quality of which is determined by the level of effective demand of the population and the development of infrastructure. The Tyumen Oblast is one of the leaders by the level of effective demand. According to the rating of constituent entities of the Russian Federation in terms of quality of life, the south of the Tyumen Oblast ranked eleventh in 2015[4].

In conditions of the Western sanctions, the proximity of the Asian region and the presence of the Trans-Siberian Railway is a competitive

[4] *The rating of Russian regions by quality of life – 2015.* Available at: http://riarating.ru/regions_rankings/20160225/630011011.html

advantage of the Tyumen Oblast on its way toward the development of new markets. In the Ural Federal District the following regions are leaders in the export of goods (in descending order): Khanty-Mansi Autonomous Okrug, Sverdlovsk Oblast, Chelyabinsk Oblast, Tyumen Oblast. As for imports, the rating is as follows (in descending order): Sverdlovsk Oblast, Chelyabinsk Oblast, Khanty-Mansi Autonomous Okrug, Tyumen Oblast[5].

In 2014, trade turnover in the Tyumen Oblast decreased in comparison with 2013 by 26.0%[6], and it decreased by 7.8% in 2015 in comparison with 2014.

The number of exporting countries increased by 28.3%, and that of importing countries by 1.7%[7]. This indicates that entrepreneurs in the Tyumen Oblast actively develop their business for the purpose of finding new foreign partners. Main foreign trade partners of the Tyumen Oblast are the Netherlands, Turkey, Finland, China, USA, Spain, Hungary, Egypt, Ukraine, and Germany.

Conclusion. Thus, we have carried out a comparative analysis of state support of small business in some countries and it shows that by 2016 Russia has made a breakthrough to improve its economic conditions of doing business. We have identified the drivers of entrepreneurship development, they include government support and transaction costs, including the quality of the market. We have highlighted problems in the development of entrepreneurship in the Tyumen Oblast, they are as follows: dependence of small business on government subsidies, high transaction costs, shortage of manpower with the right skills, decrease in the solvency of the population. Developing the ways to handle these problems can be the subject of further research.

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Information about the Authors

Irina Viktorovna Ignatova – Ph.D. in Sociology, Associate Professor, Lecturer, Tyumen State University (6, Volodarsky Street, Tyumen, 625000, Russian Federation; e-mail: Ignatova-iv@yandex.ru)

Evgenii Sergeevich Ignatov – Ph.D. in Economics, Associate Professor, Lecturer, Tyumen State University (6, Volodarsky Street, Tyumen, 625000, Russian Federation; e-mail: ewgen_1978@mail.ru)

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The Role of Institute of Higher Education in Solving the Issues of Socio-Cultural Modernization of Regions*

Aleksandr Vasil'evich
TIKHONOV
Institute of Sociology of the Russian Academy of Sciences
Moscow, Russian Federation, 24/35, Krzhizhanovsky Street, 117218

Roman Viktorovich
LEN'KOV
State University of Management
Moscow, Russian Federation, 99, Ryazansky Avenue, 109542

Abstract. The article deals with the issue of significance of institutional and regulatory components in the socio-cultural modernization of regions. The authors draw attention to the special role of institution of higher education as a factor affecting the level of social support for the actions of government authorities and mechanisms to ensure a high level of solidarity of the Russian society in addressing the issues of socio-cultural modernization. The purpose for the research is to scientifically substantiate and develop the procedures for identifying the degree of social support for the policy of the government and its separate units by social groups with higher education. In the context of implementation of Project on diagnostic study of the status and prospects of modernization in regions, a special research objective is to

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assess the correlation between the concentration of people with higher education in regional structures and types of modernization, the equilibrium in the process of regional modernization. The method of secondary analysis of the research results helps refine empirically meaningful hypotheses developed in the Project taking into account the social role of higher education in the modernization model of the regional management system. The article offers some theoretical and methodological aspects of a possible shift in the research and practice. The authors believe that purposeful regulation of the modernization process is necessary. And it is not just investing in the economy, but also the social aspect – the real increase in the quality of life and standard of living due to an increase in the cultural and educational potential of the population. Within this framework, the authors mainstream the issue of distinction and connection of a spontaneous processes of social change and programmable processes of social development. The authors characterize the theory of sociological management of education, design technology in higher education, innovative vision of the nature of future education and the choice of possible ways of its development in connection with the issues of managing modernization processes in countries and regions. New opportunities of the evolution of sociological views on the development issues of social management in higher education in Russia are interpreted by the authors according to the original concept of the socio-forecast approach as a special sphere of scientific knowledge integrating socio-humanitarian knowledge and scientifically sound development of solutions to future problems through the development of design technology. Theoretical generalizations contained in the article can be used as discussion materials in scientific debates. They can also be of relevance to scientific and educational activities.

Key words: socio-cultural modernization, regions, higher education, subjectivity, human capital, design technology.

There are people, including notable scientists, who strongly doubt that any modernizing changes in Russia are possible at all. They list dozens of socio-historical reasons why things are bad and will get even worse [4; 13; 15; 19]. However, only one circumstance is not considered: this issue has for more than a decade been among beyond idle speculation and apocalyptic constructs, in the category of complex scientific research, which currently include a collective research work "Modernization atlas of Russia and its regions: socio-economic and socio-cultural trends and issues" conducted by Center for Sociocultural Transformation Research at the Institute of Philosophy, Russian Academy of Sciences [1].

The contents of the publication are presented by chapters reflecting the processes, trends and issues of modernization taking place in federal districts and regions of the Russian Federation in 2000–2012. In each chapter, performance indicators of technological, socio-economic, socio-cultural, institutional, and regulatory components serve as reference points for matching the situation in regions' modernization. Their characteristics are based on data from Russian and international statistics (for example, modernization indices in 130 countries including Russia since 2001 annually received by the Center for Modernization Studies at the Chinese Academy of Sciences [12; 20]), as well as on the results of sociological surveys in several regions. The emphasis is put on the socio-economic processes of the primary industrial stage of modernization, as well as the socio-cultural issues of its secondary, information stage including critical analysis of the phenomenon of quasi-modernization.

With all the importance of this fundamental work, describing, explaining and predicting social processes in the country is impossible with underdeveloped aspects of the institutional and regulatory modernization components. In particular, theres is no provision for the fact that the modernization process depends on both spontaneous and organized, controlling factors of vertical (centre-periphery) and horizontal modernization (self-organization of actors of the socio-economic actions and interactions in and between regions). We should add that in the socio-cultural modernization, higher education is not only an indicator of regions' modernization (their specific index), but also an important social institution which, along with the system of power and control, is an independent factor of territory's civilization development.

The outlined approach is being developed by the Center for Sociology of Management and Social Technology at the RAS Institute of Sociology in 2015–2017 in a special *Project on the diagnostic study of the state and prospects of modernization in regions* given a combination of factors in management and education. The study "Civil examination of reforming the vertical power structure amid processes of socio-cultural modernization of regions: from monitoring of state to forecast modeling" is supported by the Russian Science Foundation grant. The research *subject* is the degree of social support for the power structure and its separate units from various population groups and categories in regions with different types (levels) of modernization, where we assume exist different models of social development. The degree of subjectivity of different population groups in the solution of regional problems, their role in feedback with authorities and management, the degree of solidarity with small (including protest) groups, with regional communities, and with big communities such as the Russian Federation as a whole is taken into account. *The specific objectives* include testing the degree of functionality of the power structure in specific historical conditions and based on this, predicting the controllability of processes of territorial development through the explication of the structure and content of evaluations of activities of governing bodies by various population groups. The testing refers to the procedure for identifying the degree of public support for the ability of the authorities to successfully implement their current and potential functions. This procedure acts as "civil" as the respondents represent both participants of modernization and citizens who assess the modernization process in terms of changes in the country [14].

Stating the research problem and searching for objective of the study

We pay attention to the special role of the *factor in higher education* in the socio- cultural modernization of regions can affect both the level of social support from power structures and mechanisms and mechanisms ensuring a high level of solidarity of the Russian society in addressing modernization objectives. Russia is currently among the countries with the highest number of people with higher education. This, in the age cohort of people aged 25–64, 54% of the population have a high school diploma, among people aged 25–34 – 58%, 55–64 – 50%. *The total enrolment rate of the youth in higher education is 33%, although the situation in the regions varies greatly* [8]. It is important for us that the model of implementation

of the quota sampling (N=500 for each region involved in the empirical study) is formed at the intersection of c*haracteristics "gender*generation*education"* by the share of respective groups in the 2010 census in the Russian Federation (model) and in regions (implementation) per 100 people. Each quota corresponds to the share of the group in the general population per 1000 people with electoral qualifications. The results of assessing data validity show that the general population (N=2002) in four pilot regions (the Moscow Oblast, the Republic of Bashkortostan, the Belgorod Oblast and the Republic of Kalmykia) is characterized by *a shift towards more educated population and reducing number of people with incomplete secondary and lower education,* as well as with *general secondary and vocational education*. A specific search objective during the pilot stage of the study is *to assess the correlation between the number of people with higher education in regional structures and the types of modernization, balance in the process of regions' modernization*. The results of analysis of socio-economic indicators of regions' development taking into account the indicator of the working population with higher education demonstrate a significant share of the working population in the regional structures: from 26.8% in the Republic of Bashkortostan to 43.6 % in the Moscow Oblast (with 33.0% in Russia as a whole). In absolute terms, it is 471.6 and 1339.0 thousand people respectively. We believe that in some regions of the country the potential of population groups with higher education in addressing development (modernization) issues is clearly not disclosed.

Analysis of the social role of the institution of higher education in the modernization of the system model of management in regions fits into an empirical testing of *three heuristically important hypotheses* put forward in the Project.

The first hypothesis. The system of management in regions depends on the social organization and self-organization, on the hierarchy of social groups formed around the bodies of power and control, on the ties of local elites with "the center" and on their objective interest in modernization. The hypothesis explains the dependence of the style and nature of management, its deformation on "elite groups" (groups of social dominance) formed in the region which in some extent replace the functions of management with power and property relations. We assume that the mechanism of formation and functioning of these groups depends on the state and trends of the socio-cultural modernization process, which differ from one another in certain regions. Testing the hypotheses about the correlation between the modernization process of regions and the degree of development of their management systems taking into account higher education helps consider its influence in the development of relevant legal acts during the implementation of the institutional reform in Russia.

The second hypothesis. The composition and activity of social groups that are dominant in the regions depend on objective trends in regions' socio-cultural modernization; on relations between the center and the local elites, which can be of different nature. The fact is that the science is currently going back to ideas about forming *a new cultural and historical type of personality* in Russia [2; 6; 7; 16; 17; 18]. The Center for Management Sociology and Social Technology at the RAS Institute of Sociology

has experience in empirical measurement of the phenomenon of "average culture". There is an assumption that the electorate with average assessments of social and political activity now plays an important role in social management, and the issue of double standards can move from the virtual sphere into the socio-structural realm. Analysis of the phenomenon of dual sovereignty enhances the forecast role of data on the development of problem situations in regions with different levels of socio-cultural modernization and different levels of education in the so-called "average groups".

The third hypothesis. The lag of Russia's management system in addressing the modernization objectives is explained by historical and socio-cultural characteristics of regions, which influence the formation in each of them of a unique and undeclared model of organizational development and social management with interests of elite groups. It is only not clear what role is and can be played by people with higher education. Specifically, this can most likely be explained by reluctance to use the potential of Russians with higher education in solving problems of modernization, as well as by their deliberate ousting from the narrow circle of people making strategic decisions.

We assume that a radical solution to the problem of establishing *a Russian model of organizational development* and management in modern conditions might be optimization of performance of administrative bodies, law enforcement agencies, business groups, and interested communities based on joint efforts of educational institutions of higher education at the federal and regional level. It is not impossible that there would be hybridization of Western and domestic experience of high school performance, intensification of development processes at local levels of their own standards of educational and professional competences aimed at forming and coordinating public interests in the implementation of regions' modernization potential. This framing of the problem requires both recognition of the spontaneity and historical necessity of a new stage of modernization in Russia, and a burning sense of conscious participation in this process of both power structures and all social groups under the leading role of a social group mostly trained in terms of education and science.

Some theoretical and methodological aspects of a possible shift in research and practice

In 2000–2008, rapid growth of indices of regions' primary modernization took place when the country faced an economic crisis. In 2010–2012, a secondary modernization model (in its preparatory phase) developed. Ironically, this "breakthrough" level corresponded to level of modernization in world's developed countries at the beginning of the 1960-s. Uneven domestic interregional development was 2.5 times sharper than the corresponding inequality between world's countries [1]. It is clear that the process of modernization in Russia is rather spontaneous than controlled, and thus occurs against the wishes of their corrupt leaders. The fragmented role of management after the adoption of strategies and federal programs, in fact, does not provide balance of interaction between key social modernization variables. They include: *technical and technological* (transition to new technological mode), *socio-economic* (changes in the shares of main economic sectors), *socio-cultural* (a set of social and cultural changes), *institutional and*

regulatory (changes in regulatory institutions) [10]. Modernization slowdown is explained by the structural, social, material, moral, and cultural factors. We assume that *targeted regulation of modernization process is necessary:* not only in terms of investment in the economy, but also in the social aspect – the real increase in the standard of living and the quality of life through the growth of population's cultural and educational potential.

In this situation, there is a need for revising the main guideline of historical materialism about the socio-historical laws of the society and replacing it with an idea about the socio-historical laws with human activity being the leading force. Sociology is focused on categories such as *the nature of social,* laws of genesis and transformation of the *social order, the mechanisms of its establishment and change*. Attention to the social mechanisms means the aspiration of sociology, just like in the classical period of its development, to discover the laws of social transformation, but this time natural-artificial, given the goals and ways to achieve them deliberately set by human activity. In science this is a well known *problem of distinction and connection of spontaneous processes of social change and programmable processes of social development*.

Today it is impossible to say that social institutions develop only in a natural way. They reflect the growing management issues, and help develop and approve necessary and sufficient mechanisms. But institutions do not descend "from above", they are constructed by creative people and supported from "the bottom" provided that they appear adequate to appose to the real challenges and threats. And if it does not happen in time, the society is faced with disasters as occurred twice in our country: at the beginning and at the end of the twentieth century.

The institution of higher education engaged in production, preservation and enhancement of scientific knowledge, spiritual values, and cultural standards ultimately determines the level of scientific, technical, economic, and cultural progress in the society. It must not only meet its needs, but also be able to prepare public systems to rapid development, proactive adverse circumstances including through training highly qualified specialists for the economy and workers for science. Here it is especially important to understand the following aspects.

The first aspect is national interests which, amid the changed development conditions of the Russian society, are associated with the search for solutions to "big challenges". Among them are: exhaustion (amid the development of digital economy) of opportunities for extensive economic growth through exploitation of natural resources, human-induced load on the environment, social and health issues associated with population ageing, etc. High school is one of the institutions which ensure that our country participates in global processes where the quality of human capital comes to the fore, in particular in the Strategy for scientific and technological development of the Russian Federation up to 2030, in programs of the Ministry of education and science, other ministries and organizations of executive authorities including institutions of the Russian Academy of Sciences (RAS).

The second aspect. Turning to social forecasting meets the fundamental prospects of the socio-managerial knowledge. The fact is that a significant trend in the development of

modern sociological theory and practice is a shift a re-focus from analytical, theoretical and epistemological functions to the diagnostic and prognostic ones, to social transformation (or even social engineering or socio-engineering). The society is already mature enough to shift from influencing the environment (and nature as part of it) to influencing itself, to self-improvement and self-retention of their evolutionary mechanisms within the range of controllability.

The development of a special sociological theory of managing the sphere of education where social needs are increasing rapidly, is based on the recent trend of people's abandoning the sphere of manufacturing economy and their transition to the rapidly expanding segments of service economy associated with meeting spiritual and cultural needs of different population groups (children, the youth, middle aged people, the elderly). This also implies successful solution to a series of social objectives to modernize higher education. These include: a shift to universal free education at the undergraduate level; a decline in traditional educational load on teachers and its replacement with scientific work together with the students; the transformation of the class-lesson system into a particular research organization of teaching; transition to universal life-long education and teachers' distance employment without strict time limits for working and resting; inclusion of research work and thesis presentation in the list of duties of post-graduate students. From the standpoint of successful solution by the country and its regions of the issue of socio-cultural modernization and reaching the current stage of global civilization development, it is particularly important, in our view, to ensure the consolidation of federal state educational standards and professional standards, which would make *the need to shift from research coordination to the coordination management paradigm in higher education relevant.*

We assume that in the Russian sociology, the classic triad of *scientific knowledge "analysis – diagnosis – forecast"* is no longer limping in the last of its components. Sociologists in general learned to *analyze* describing the existing social processes and phenomena. They can make a *diagnosis* explaining the cause of their emergence. Not so long ago, they were rarely taken for *forecasting* the development of socio-cultural processes. This is the reason for concern, for example, for organizers of the VII Sociological Grushin conference "Facing the future. Forecasting in sociological research" (Moscow, Ranepa, 2017) who formulate basic requirements to the professional sociological community: *"How much do modern Russian sociologists know about the technological innovation which should appear in the next two decades, have they tried to at least assess the social consequences of the emerging opportunities, forecast the changes in the social environment, social relations, and the very essence of a human?"*

The thing is that in a relatively short historical period the world shifted to qualitatively new living conditions formed due to *accelerating and increasingly complex dynamics of human communities and natural phenomena* which require individual interpretation. In this regard, innovative views on the nature of the future, including the future of higher education, and the choice of possible ways to achieve it are in demand. These include: *the unity of complex*

socio-natural phenomena, pluralism of time and network space, "the butterfly effect", "reflexive reality", modeling of the future by using virtual reality, determinism of the future by social and natural phenomena, a new social type of a happy person [9; 21]. This is well known from the literature which is characterized by opening of new "possible" and "impossible" worlds. However, to answer the question "What do we need to do?" it is necessary to firmly adhere to certain academic criteria in all spheres of scientific knowledge, including sociological, as do modern natural scientists. For science, the "possible worlds" are important if the new processes and phenomena meet the requirements of observability, knowability, consistency, predictability, and determinism as manifestations of the properties of objective reality [3]. Nowadays, the sociological idea of a community as a relatively simple, naturally occurring and self-developing system is replaced with the idea of a community as a complex, natural-artificial social and *natural phenomena* of global-local nature. Created by man, they increasingly exert their "will" which becomes an important indicator of *non-linear development* involving the *normalization* of reflective determinism, bifurcations, unintentional consequences. It has already been accepted that complex systems have self-reflexivity and include diverse virtual world and trans-social networks.

The significant role of material and spiritual culture in the mechanisms of regulation of the social life in such a world is reflected by designed control mechanisms which can have a significant impact on the transformation of complex socio-cultural processes. We proclaim the possibility of their artificial construction. This is an important clarification as the shift away from the traditional idea of the society as the process of only natural transformation and recognition of opportunities of its development through the non-traditional reactions of the humanity to the implementation institutional transformations in the public system. For this reason, we consider social management as an *intentionally constructed personalized socio-cultural mechanism of achieving goals embedded in social process and able to combine management and self- management, formal rules and informal standards of behavior of poly-subject participants of joint life and activity.*

New opportunities for sociological interpretation of social management of higher education in Russia are developed according to the original concept of the *socio-forecast approach* as a special area of scientific knowledge integrating socio-humanitarian knowledge and scientifically sound development of solutions to future problems through design technology. The approach gives special attention to both organizations and entities whose activities create and change them. Along with the representatives of business and power structures, the dominant actor is *Russians with higher education*. They are included in a coordinated system of actions and interactions that structurally change the social order in communities in the context of national culture, without violence or manipulation from other participants of joint activity, support social standards capable of socio-cultural modernization in the country and regions.

Thus, we expect the emergence of actors whose actions are comparable to the activity of social institutions. They not only internalize standards and values of the society, but also

affect their components in accordance with the new needs and interests with increasing (due to scientific and technological progress) resource endowments of both group and personalized activities. The empirical interpretation of this phenomenon introduces the term of *subjectivity* as an evidence of existence of a new quality in the relations between the subjects of social action and interaction in the development of innovative solutions in given circumstances. Such a view helps better understand sociologically and empirically explore the real trends of the transformation of relations between the power vertical and Russians with higher education amid the increasing role of spontaneous non-linear relations in the processes of formulation and solution of modernization problems.

For successful work in this area it is required to restructure the theory and methodology of research of management problems in high school in Russia on the basis of *forecast paradigm* with the use of specially designed means of social diagnostics and predictive design. The socio-forecast approach integrates a number of research concepts. Among them are: *the eco-anthropocentric paradigm of social cognition and management by T.M. Dridze, the socio-anthropocentric concept of sociology by N.I. Lapin, the algorithmic concept of management stages and phases Zh.T. Toshchenko, the concept of socio-cultural management models by A.V. Tikhonov*. The chosen approach involves the use of design technology of social forecasting and social design. It is extremely necessary to study the future needs of the Russian society, identify the determinants of social change and creative transformation of social reality [11].

The specific features of the Russian network of social and labor relations is a relatively high cohesion of subjects horizontally and in informal, often latent, opposition to vertical relations. This contradiction is sometimes considered as a specific feature of the Russian culture, but this is true in the part where management relations are replaced by relations of power and property. This leads to the necessity of the *program for management modernization in higher education in order to release management functions from the extrinsic relations of power and property.*

Modernization in Russia and its regions is the intensification of all aspects of social life. The power management vertical is not productive without population's social participation and active support of the policies and practices of federal, regional, and municipal authorities. The current and future situation implies further development of Russia's educational institutions of higher education, especially universities which are actively involved in modernization processes and take on the role of both modernization objects and subjects, as centers for innovative development of the country and its regions. It is not only personnel training, but also the emergence of *a new educational ecosystem,* encouraging the creation of high-tech innovative companies at universities, which was widely discussed at the 4th Moscow international education fair (MIEF 2017). All this will require restructuring, involvement of a wide range of subjects in the system of university management and in the educational process – students and adults undergoing retraining, business representatives and public organizations [5].

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Information about the Authors

Aleksandr Vasil'evich Tikhonov – Doctor of Sociology, Professor, Head of Centre for Management Sociology and Social technology, Institute of Sociology of the Russian Academy of Sciences (24/35, Krzhizhanovsky Street, Moscow, 117218, Russian Federation)

Roman Viktorovich Len'kov – Ph.D. in Economics, Associate Professor, Department for Management Sociology and Psychology, State University of Management (99, Ryazansky Avenue, Moscow, 109542, Russian Federation)

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Value Orientations of Modern Entrepreneurship in Russia

Ol'ga Valentinovna
KORNEIKO
Vladivostok State University of Economics and Service
Vladivistok, Russian Federation, 41, Gogol Street, 690104
E-mail: olga30300@mail.ru

Abstract. In the theory of entrepreneurship there is a distinct conviction that the value system of entrepreneurs and their behavior have an impact on economic efficiency and, ultimately, on the welfare of the whole society. The issues related to the description of professional and personal qualities of Russian entrepreneurs, their values and motivations, are currently becoming more and more relevant. The development and enrichment of national scientific knowledge in Russian entrepreneurship will largely determine our understanding of its effectiveness for the Russian economy. In domestic literature, there is clear shortage of works devoted to this problem, which is caused by limited capabilities of existing databases. This article attempts to identify the hierarchy of values and their structure in the form of broader orientations in economic behavior of Russian entrepreneurs in the case of fishery business enterprises in Primorsky Krai. Based on an interdisciplinary synthesis, the research proves that the modern theory of entrepreneurship does not only accept the concepts of scientific masterminds, but also enriches their meaningful interpretation. The author reviews the existing approaches to measuring values. The analysis presented in the article is conducted on the basis of observations during visits to fishery enterprises of the region, questionnaires and in-depth interviews of coastal entrepreneurs specializing in fishery. It has been established that the "external" values are currently more important in the hierarchy of values for coastal entrepreneurs than the "internal" ones despite their considerable affinity. With the individualistic value dominant element available, we can talk about strong social focus and the focus on "basic" values. This study makes it possible to characterize a modern Russian entrepreneur as a civilized, socially responsible personality motivated by an internal system of values. We propose to introduce into scientific circulation the category of "ethical entrepreneurship", i.e. the implementation of activities based not only on

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economic benefits, but also under the influence of "basic" values (integrity, honesty, and responsibility) and social focus. The study is presented as a pilot one and suggests further in-depth development of the methodology taking into account the obtained results.

Key words: Primorsky Krai, entrepreneurship, values, fishery entrepreneurs, system of values, entrepreneurial motives.

Introduction. In recent years political and strategic demand for research in the Russian entrepreneurship has increased significantly. This is caused by the weakening public sector amid declining resource revenues and turbulent economic situation in the country. Russia still suffers from the distorted economic structure which is dominated by the resources sector. According to the Global Entrepreneurship Monitoring, resource economies are characterized by a higher level of entrepreneurial activity as the establishment of own business is a necessity due to lack of alternative employment options [26]. The growing demand for entrepreneurship is evidenced by the experience of the Russian history: in the 1990-s severe economic conditions, on the one hand, caused a slow yet consistent decline in performance; on the other hand, they created the fundamentals for self-employment. The new category of entrepreneurs played an important role in the survival of the nation through creation of enterprises and generation of a certain share of GDP. But the process of formation of this category in the emerging market economy was not smooth: it became a serious challenge for the country. Events which changed all spheres of public life pulled the rug from under their feet, dashed the accumulated social experience and forced to try a new, yet not formed social and economic reality, turned Russia into a country of "gangster", or "oligarch", "feudal", "barbaric", "speculative" capitalism without a state" [19].

According to Polish political scientist A. Przeworski, reformation of the economy "is like jumping into a deep pool: it is stimulated by desparation and hope, rather than actual calculation...The reform strategy often... does not fully take into account the social cost that must be paid for it... And even if such reforms are initially universally supported, as they are put forward and the quality of life is declining, their support is markedly decreased..." [12].

An entrepreneur of the 90-s was an uncivilized person. They often chose destructive strategies of economic behavior demonstrating different motives: from greed and mere lack of moral values to principal rigid attitudes such as "kill the Chechens", "steal what is stolen".

The unregulated market entry of independent entrepreneurs in fishery in Primorsky Krai often bordered on creation of criminal groups and hard struggle for redistribution of property and spheres of influence. This resulted in the emergence of shadow economy, criminalization, poaching, currency leak abroad, tax evasion and customs control, which greatly hindered the economic growth. According to various estimates, the level of illegal exports reached excessive limits.

For example, according to the Japanese statistics, during 1994–2002 Japan imported 643.7 thousand tons of crustaceans worth 52.5 billion dollars from Russia, only 44 thousand tons (worth 387.2 million dollars) of them went through Russian customs [7]. Russia's losses from the exports of disguised goods amounted to more than 1 billion dollars a year. Entrepreneurship was manifested in the increase in the number of enterprises which do not perform critical business functions: meeting the population's needs effectively and fully for all quality parameters; optimal combination and integration of production factors and thereby the most efficient use of economic resources; development of innovative reproduction.

The reluctance to appeal to morality in business is often explained by the fact that in the 1990-s we were dealing with a special kind of entrepreneurship driven by the necessity, rather than the opportunity, paired with fear of social exclusion, legitimization of new degraded values and standards [16; 19]. This position is consistent with the principles of historical materialism: "It is not the human consciousness that determines their being, but, on the contrary, their social being determines consciousness" [8].

In the framework of P. Sztompka's theory of cultural trauma during the transition period, transformation processes, as well as in Marx's and Engels's works, are considered from the point of view of social actors. P. Sztompka introduces the concept of cultural trauma, i.e. hostile destructive interference of familiar social reality in the sphere of perception [17; 31]. Thinking in line with this theory, we understand that the disintegration of social and cultural foundations of an entrepreneur as a personality is caused by the cultural trauma as a result of changes in the country.

Based on the foregoing, the following questions arise:

– how has the personality of a modern entrepreneur changed;

– who is today's Russian entrepreneur: a civilized, socially responsible person focused on long-term strategy of building their image, motivated by the internal system of life values, responsible for their actions; or a victim of circumstances and momentary temptations, barely regulated from the outside by various regulations (ethics, law), a person the regulator and the society is responsible for, but not the entrepreneur themselves;

– what values will the entrepreneur appeal to when solving the problems of different nature and scale in a changing economy.

The answers to these questions will affect the efficiency of entrepreneurship in the economic system of our country. The values are central, in other words, they are the op echelon in the chain of our culture, the result of performance of socio-cultural practices, and hence the criterion for determining human's individual existence [11]. The values of entrepreneur's economic behavior (or labor values) are commons judgments of a human reflecting the relative importance of various aspects of their work/activity including its purpose, content, and results. For example, in the framework of this research we try to determine the values of entrepreneurs based

on their judgments about external and internal factors determining the success and efficiency of business activities. Individual labor values are one of the key concepts in the present paper as they underlie the role identification and motivate the entrepreneur's actions. Values are ordered by their relative importance, organizing the individual's value system. Group elements of this system are called value orientations. In empirical studies, a set of 10–15 labor values is generally reviewed; they are combined in groups of 2 to 7 orientations. Value classification is rather diverse in scientific literature. The most common is the conceptual distinction between internal and external (instrumental) values [14]. Internal values are related to self-realization directly in the labor process (for example, interest in the work, full use of abilities, ability to take the initiative), while external values are focused on the result of the working life; they become the means to achieve other life goals (e.g., high income, autonomy, independence). Other value classifications distinguish between individualistic and social orientations, entrepreneurial (risk tolerance, pursuit of high income) and bureaucratic (risk minimization, employment stability, career growth). For the purposes of the study, we highlight the term "core values", i.e. those related to universal human virtues, as well as endorsement of rather tough unwritten laws, principles, regulations, prohibitions and standards (integrity, responsibility, honesty, trust, good will, love for one's neighbor, wisdom, modesty, justice). "Core" values are an important factor in social and moral regulation of people's behavior and relations.

According to Schwartz, values are correlated with goals motivating to perform activities [32]. People who consider social order, justice, and mutual aid important are motivated to achieve them. Therefore, analysis of "business class" values will help clarify strategic factors of the economic activities of modern Russian entrepreneurship, and forecast the effectiveness of expanding its scope in the Russian economy. The system of values and behavior of a separate "class" ultimately affect the possibility of progress and humanization of the society. Thus, the timeliness and urgency of the issue about by whom and where Russia is to be led is beyond doubt.

The purpose for the study is to identify the hierarchy of values and their structure in the form of broader orientations in the economic behavior of Russian entrepreneurs in the case of fishery enterprises in Primorsky Krai.

Literature review

Labor values depend on the historical era, culture, national identity, and other various factors. Aristotle considered activity focused on profit and wealth unnatural and attributed it to chrematistics. Aristotle's views on these issues hot hold of the public consciousness and gave direction to economic thought, at least for two millennia to come. Entrepreneurial spirit was not encouraged or supported until ideas about earthly life as a painful stage of life eternal were dominating. Through the years, the moral pressure on enrichment began to weaken. In the Middle Ages, the spiritual and economic life are not opposed to each other but are harmoniously united. Many attribute this to the reformation of Christianity. The

intellectual roots of such a position take us to the famous "Protestant ethic" by M. Weber stating that it is the Protestant ethic produces the spirit of capitalism which leads to economic development and formation of a completely new social order [2]. According to R. Heilbroner, in Protestants sermons, the use of God-given talent for business and enterprise is called virtue [15]. The idea that Protestant ethic is the basis of the rise of capitalism and enterprise is not supported in the economic theory [5]. For example, an alternative explanation of the fact that after the Protestant reformation the centers of economic activity were moved from Catholic France, Italy, Spain to the Protestant Netherlands, England and Germany is suggested by researchers who claim that the main role was played not only by the Protestant ethic as such, but also by level of education among Protestants where literacy was mandatory [21].

Since Adam Smith, entrepreneurs have been spoken of in terms of personal interest. The author of the concept of rational egoism gives the following interpretation of the objective function of an entrepreneur: "... Managing production in such a way that it would produce the greatest value, they (entrepreneurs) are guided by their own benefit; in this case, as in many others, they are guided by an invisible hand to produce the result which was in no way part of their intention... Pursuing their own interests, they often serve public interests than in the case of doing it on purpose" [13]. Thus, A. Smith emphasizes economic factors motivating entrepreneurs. Their main value is prudence.

However, J. Schumpeter presents a clear statement that the earning power is only a means of evaluation of result, rather than the main goal. He describes a fairly wide range of entrepreneur values, emphasizing their indifference to the financial result and highlighting the non-economic value (freedom, conditions for personal development, desire to compete, desire for success, joy, creativity) [18].

Modern scholars just like J. Schumpeter recognize that profit is the result of entrepreneurial activity, but not its purpose. The key property of any enterprise is creation of value, not profit [10]. Entrepreneurs are driven by the desire for self-realization through problem solving and meeting the needs of the society [1]. Their activities are aimed at ensuring the highest level of satisfaction for all participants in the system [7]. It is believed that individual choice is influenced not only by rational personal interest, but by moral restraints, social obligations and expectations which limit the range of choice of both goals and means to achieve them [25].

Thus, in science, an economic action is viewed as a social action. The social orientation in the system of values may be of interest to the entrepreneur as a means of improving competitiveness, increasing the number of modifications of product (service) modification, increasing consumer trust [22; 23]. Following "core" values may itself be rational and beneficial to all stakeholders. As noted by Hirsch and others, economic efficiency depends on moral values. Without honesty, trust and goodwill economic life would end in deadlock [20; 28; 29]. Thus, the value of

moral attitudes, their breadth is considered as a tool in relation to the specified goals.

Moreover, entrepreneur values are presented in the literature as an antecedent as they initially have an impact firstly on the propensity to entrepreneurship, and further control the behavior and determine the performance of entrepreneur's activities ("existence determines consciousness") [27].

Thus, values affect entrepreneurship, the whole stream of studies on this subject including those presented above; helps form the image of such influence. Modern economics recognizes the social nature of an economic action: along with egoistic material interests moral and cultural, socio-cultural and other aspects of entrepreneurial decisions are also taken into account.

Research methodology and results

The main approach to measuring values is the tools proposed by Schwartz implemented in the European Social Survey (ESS) with the "Portrait value questionnaire" for comparative analysis of people's core values in 32 countries in Europe, including Russia. To explore cross-country differences in values Russian researchers V. Magun, M. Rudnev and P. Schmidt on the basis of the typological approach found out homogeneous classes of Europeans with similar systems of values [30].

The values of entrepreneurs remain underdeveloped.

In 2015, Skolkovo Innovation Center conducted "The Study of capital owners in Russia" which discussed the charity issues of businessmen, business succession, assets management, which helped create an image of a capital owner. However, the authors' sampling did not include entrepreneurs, but 39 owners of large businesses in Russia, 13% of whom (five people) are included in the Forbes list [3].

The main feature of this study is in its specific target group. These are entrepreneurs operating in Primorsky Krai with relatively high capital investments. At least 5 million rubles is needed to open a micro-enterprise (smokery). In the sociological classification, this category refers to hard-to-reach categories of informants. These circumstances largely determined the methodology and procedure for data collection.

In general, the study of business enterprises is subjected to numerous methodological and statistical problems which can lead to misleading results due to the following reasons [6].

First, data quality (no data or data are inaccurate). Small businesses have simplified requirements to financial reporting which is not public; they are often associated with unopen accounting for tax evasion. Half of newly established small companies stop operating within the first three years, which makes them generally invisible in conventional data sets. The analysis presented in the article is conducted based on observations during visits at fishery enterprises of the region, questionnaires and in-depth interviews with entrepreneurs specializing in fishery in Primorsky Krai. Besides, data collection took place in strict confidentiality and anonymous data processing, which to some extent minimizes the issue of their quality.

Second, scientific literature gives no common definition of "entrepreneurship". For

example, van Praag and Versloot classify entrepreneurial ventures as firms that meet one of the following conditions: (1) they hire less than 100 employees; (2) they are younger than 7 years; (3) they are new market participants [33]. Given these difficulties it is not surprising that there is also "frantic mismatch… between the concepts of "new", "small" and "entrepreneurial business" among the most influential politicians [24, p. 92].

Still it is small business that is often used synonymously with entrepreneurship despite the fact that the definition of a small enterprise is also unclear. In the United States, these include companies with less than 500 employees, while in Europe small and medium enterprises are viewed as firms with up to 250 employees. In this paper, we propose to adopt a single category of "entrepreneurial firms" according to the Russian criteria for classification of business entities into small and medium enterprises (SMEs). In 2015, Russia took steps to expand the boundaries of for micro-enterprises and SMEs based on increasing the amount of annual economic turnover, which unites Russia with the EU countries. Our sampling includes 46 fishery enterprises in Primorsky Krai with up to 250 employees and annual business turnover of up to 2000 million rubles.

To complete the analysis we define socio-demographic characteristics of fishery entrepreneurs included in the sampling, its cohort structure using the components in *Table 1*.

Based on the obtained data, we conclude that a fishery entrepreneur in Primorsky Krai is a well-educated middle-aged man. They do not consider their business as an alternative to employment and their income – as a substitute for salary; their business is a well-established, voluntary, conscious activity which cannot employ a random person who lost their job because, as a startup itself requires significant investments. The economic turbulence of the past two years has not create any new businesses, 6.5% of newly established enterprises aged less than 42 months emerged as a result of reorganization. The difficult period in the country has not had a significant impact on the assessment of the current situation in business and plans for its development. In most cases, the entrepreneur assesses the current situation in business as consistently positive (95.6%) and has plans to increase its share at least on the country's domestic market. In 74% of cases, they establish a fish processing plant as the entry to the fishery market is blocked in our country by the existing system of quota distribution for fishing of water bio-resources according to the historical principle, and requires more substantial investments. As a result, these companies are rather micro and small enterprises of up to 100 employees (65.2 %), the main type of business is an OOO (a limited liability company under the laws of Russian Federation) (91.2 %) as it deals with VAT but uses special taxation schemes. For the part of 69.6% an entrepreneur prefers to receive income at the level of minimum industry requirements in Primorsky Krai (28 thousand rubles a month) which most probably indicates the desire to ensure financial security and potential growth of their business.

Table 1. Socio-demographic characteristics and cohort structure of fishery entrepreneurs in Primorsky Krai

No.	Concept	Interpretation	Operationalization	Results	
1.	Socio-demographic characteristics of fishery entrepreneurs	1.1. Sex	The respondents indicate their sex.	Male	100 %
				Female	0%
		1.2. Age	The respondents indicate their age.	Under 30	4.3%
				31–60	79.5%
				Over 60	16.2%
		1.3. Level of education	The respondents indicate their level of education.	Higher	87%
				Vocational	10.9%
				Secondary	2.1%
		1.4. Income level	The respondents indicate their income level.	Up to 336 thousand rubles a year	69.6%
				336–500 thousand rubles a year	19.6%
				More than 501 thousand rubles a year	10.8%
2.	Cohort structure of fishery entrepreneurs	2.1. Share of new fishery entrepreneurs (owners of a newly established business)	The respondents give information about whether they manage their business and get profit from their newly established business for less than 42 months.	Less than 42 months	6.5%
		2.2. Share of established fishery entrepreneurs	The respondents give information about whether they manage their business and get profit from their newly established business for more than 42 months.	More than 42 months	93.5%
3.	Entrepreneur's motivation	3.1. Voluntary	The respondents indicate their motives which help establish an enterprise: - search for financial independence; - opportunities for personal development; - search for new opportunities.	Voluntary entrepreneurship	100%
		3.2. Forced	The respondents indicate their motives which help establish an enterprise: - lack of other employment opportunities; - financial issues.	Forced entrepreneurship	0%
4.	Enterprise characteristics	4.1. Size	The respondents indicate the number of employees at the enterprise (employed on a permanent and temporary basis).	Micro-enterprise	8.8%
				Small enterprise	65.2%
				Medium enterprise	26%
		4.2. Type of business structure	The respondents indicate their enterprise's type of business structure.	Unincorporated individual business	8.8%
				OOO	91.2%
		4.3. Profile	The respondents indicate their enterprise's profile: - fishery; - fish processing.	Fishery	26%
				Fish processing	74%
		4.4. Analysis of business situation	The respondents characterize their enterprise's business situation.	Positive	21.7%
				Stable	73.9%
				Negative	4.4%
		4.5. Assessment of plans and scale of business expansion	The respondents indicate their plans and scale of business expansion for the nearest year or two.	Plans to expand at the local level	19.6%
				Plans to expand at the level of the region or several regions	60.9%
				Plans to expand at the international level	15.2%
				No plans	4.3%

Entrepreneurship is a kind of a testing area to test people's value orientations. It is an opportunity to establish a business based on one's perceptions about the goal one wants to achieve; according to one's own values and life principles, which acts as a very powerful driver of entrepreneurial activity. As noted above, the category of "values" is correlated to motivational behavior of an entrepreneur and their attitudes. In general, motives and values are two quite similar concepts; they are equated by some authors [9]. In this study, motives are synonymous to labor values. After identifying and ranking the motives of entrepreneurial activity we build the hierarchy of values and judge the value orientations of fishery entrepreneurs in Primorsky Krai. During the survey, the respondents were suggested eight motives for entrepreneurship, each of which were to be assessed on an 8-point scale: from 8 – "a very valuable motive" to 1 – "not an important motive"; a higher score indicates greater importance of a specific motive to the respondent. This made it possible to rank the motives according to their significance for economic entities (*Tab. 2*).

Economic motives (prudence, as such still dominates in the hierarchy of values) were ranked highest (1). Least important is the need for independence (rank 2). The 3rd and 4th important motives are those associated with the social status. The desire to create value which would best meet the ever changing and increasing customer needs and thus occupy a respected position in the society by gaining the status of an entrepreneur indicates the destruction of traditional Russian prejudice about entrepreneurs as dishonest, shifty, greedy speculators running monkey business, taking care of personal interests thus harming people. Fishery entrepreneurs in Primorsky Krai believe that becoming an entrepreneur helps them earn good name and public respect and recognition, and by establishing communication with consumers, gain the strategic framework for the development of their business. It is noteworthy that motives associated with succession of generations, with the establishment of a business dynasty are only ranked 6th. This is due to the belief that engaging in an entrepreneurial activity cannot be inherited and largely depends on special personal

Table 2. Assessment of motives influencing the decision to start a fishery business

Rank	Motive	Arithmetic mean, points
1	Desire to gain income	7.96
2	Gaining independence	6.34
3	Creating value satisfying human needs	5.92
4	Acquiring a social status of an entrepreneur	4.56
5	Finding personal fulfilment	3.75
6	Bequeathing the operating business to future generation	1.92
7	Becoming the team leader	1.74
8	Patriotism, desire to make a contribution to country's\region's development	1.64

characteristics possessed only by a small share of the population. Motives associated with the desire to help the country or region with the help of the team are ranked last: 7th and 8th. It is obvious that 8 characteristics presented in Table 2 considered as entrepreneur motives/values are not independent. On the contrary, one may assume that these indicators are rooted in the underlying preferences determining a person's attitude to entrepreneurial activity. In order to identify these latent factors, which we call value orientations, we divide all motives into two groups – individualistic and social. We see that "external" (high income, independence) values of entrepreneurship are currently of greater importance in the value hierarchy of fishery entrepreneurs in Primorsky Krai than "internal" (self-realization, value creation) ones despite their considerable synonimity. Moreover, the results indicate that despite dominant individualistic values (being rich and independent), one may refer to strong social orientations of entrepreneurs in Primorsky Krai (desire to create value to meet human needs and acquire the social status of an entrepreneur), i.e., their actions are dictated not only by personal, but also by public interests. This ranking makes it possible to interpret the goals of modern entrepreneurship from the standpoint of a combination of personal benefit and the benefit of the society, rather than from the perspective of profit maximization, as do the existing definitions.

In the next stage, the respondents were asked to select the factors determining the success of fishery entrepreneurs (*Tab. 3*). They assessed them on a 13-point scale with 13 being "a very important success factor" and 1 – "not an important success factor"; higher score indicates greater importance of a specific

Table 3. Assessment of success factors in fishery business

Rank	Success factor	Arithmetic mean, points
1	Human factor	12.54
2	High-quality products	12.34
3	Innovation/Innovativeness	12.22
4	Professional reliable partners	11.12
5	Favorable market conditions	9.56
6	Good business reputation, good name, positive image	9.02
7	Conflict-free relations with government authorities	8.00
8	Access to cheap financial resources	7.38
9	Absence of competitors	7.12
10	Favorable business environment	7.00
11	Competitors	3.74
12	Involvement of friends, family members in the business	1.24
13	Other	1.00

factor to the respondents. The 13-point width is explained by the possibility of ranking of critical success factors by the informants themselves, i.e. each new factor could be given a minus one point and placed on the lower line. However, some respondents assessed certain factors as equal and gave them the same number of points.

As can be seen, fishery entrepreneurs in Primorsky Krai determine success primarily by endogenous factors, which indicates that they recognize their personal responsibility for business results. This is the so-called "adult society" of entrepreneurs relying primarily on their team ("cadres are a key to everything") and their product which enters the market. Besides, they are well aware of the importance of new knowledge or technology as a key element of the innovation process. All exogenous factors (competition, business environment, relations with the governing bodies) play the supporting role.

In the next stage, the respondents assessed the qualities of a successful entrepreneur by assigning points to each of the proposed characteristics of a successful entrepreneur: 13 – "very important" and 1 – "not important"; higher scores indicates greater importance of a specific quality to the respondents (*Tab. 4*).

Analysis of data gave some unexpected results. For example, a vast majority of entrepreneurs is mostly focused on "core" values. It turns out that a strong strict system of values does not prevent someone from becoming a successful entrepreneur, does not affect their flexibility and versatility. A dishonest corrupt entrepreneur ready to break ethical standards, able to communicate with the right people and negotiate, is disappearing in the past. It is also interesting that fishery

Table 4. Assessment of qualities of a successful entrepreneur

Rank	Quality	Arithmetic mean, points
1	"Core" values (decency, responsibility, honesty, trust, good will etc.)	12.95
2	Ability to manage a team, to be a leader	11.45
3	Developed cognitive abilities	10.24
4	Ability to generate and accept people's ideas	10.12
5	Strategic thinking	10.00
6	Performance, diligence	9.84
7	Persistence, determination	6.98
8	Business instinct	6.64
9	Social skills, ability to build business connections	6.24
10	Flexibility, versatility	6.00
11	Risk tolerance	5.50
12	Luck	5.24
13	Other	1

entrepreneurs in Primorsky Krai consider risk tolerance as a rather insignificant factor in success, although risk is traditionally referred to as an entrepreneur's title. Most likely, this is due to the low level of risk in their activities.

Conclusion

To sum up, the study makes it possible to conclude that "external" values are currently of greater importance in the value hierarchy for fishery entrepreneurs in Primorsky Krai than "internal" ones despite their considerable synonimity. Amid the individualistic dominant of values one can talk about strong social orientations and focus on the "core" values among fishery entrepreneurs in Primorsky Krai, which makes it possible to characterize a contemporary Russian entrepreneur as a civilized, socially responsible personality motivated by internal values, and interpret the purpose of a modern enterprise from the standpoint of a combination of personal benefit and the benefit of the society, rather than from the perspective of profit maximization, as do the existing definitions.

The essence of the research results lies in the proposal to introduce the category of "ethical entrepreneurship" into scientific circulation, which is associated with the implementation of activities based on both economic benefits and on the influence of "core" values (decency, honesty, responsibility, etc.) and social orientation taking into account conditions and consequences of this activity. Ethical entrepreneurship is the reaction of a business structure to the threatening environment, to monkey business; it is resistance to those who, taking care of one's personal interests, cause damage to people (their life, health, material well-being or other elements of a decent life), animals, nature or/and increase the risk of such damage. Ethical entrepreneurship eliminates environmental damage, violation of labor regulations, discrimination against women, the use of low-quality ingredients, infringements of production technology and standards, illegal activity, double entry bookkeeping, the use of gray business schemes.

The research results indicate the formation and dissemination of ethical entrepreneurship in our country. Thus, Russia, despite its cultural, institutional, and economic peculiarities, is part of a global political space. Its economic and value systems, despite their own logic and certain autonomy, are not looped. Primorsky Krai fish processing businesses operating in coastal areas are forced to "drive" their preferences and attitudes to global social positions in order to fit into a single space of the global fish market. For example, fishery entrepreneurs in Primorsky Krai work closely with the Japanese entrepreneurs. They, in turn, are widely known as energetic, hard-working business executives and innovators. These morally authoritative valiant "samurai" could but affect the system of values of Russian producers.

Moreover, moral and cultural standards and values are influenced by economic factors, namely population's welfare observed since the 2000–s despite cyclical fluctuations in 2008 and 2014–2015. It is obvious that the richer the country is, the less social and individualistic values are contrasted. In this case we can

observe the logic of A. Maslow, according to which the values and needs of a higher level become powerful enough provided that the needs of the lower levels are satisfied to some extent. Having satisfied one's personal needs, entrepreneurs are more willing to share and help other people.

These findings are relevant when assessing the effectiveness of entrepreneurship in the economic system of our country.

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Information about the Author

Ol'ga Valentinovna Korneiko – Ph.D. in Economics, Associate Professor at the Department for International Business and Finance, Vladivostok State University of Economics and Service. (41, Gogol Street, Vladivistok, 690104, Russian Federation; e-mail: olga30300@mail.ru)

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Comparative Analysis of Domestic Approaches to Compensation for Damage Caused to Water Bioresources*

Aleksei Mikhailovich
TORTSEV
RAS Academician N.P. Laverov Federal Research Center for Integrated Arctic Research
Arkhangelsk, Russian Federation, 23, Severnoi Dviny Embankment, 163000
E-mail: torzevalex@fciarctic.ru

Igor' Ivanovich
STUDENOV
Norther Branch of Knipovich Polar Research Institute of Marine Fisheries and Oceanography;
RAS Academician N.P. Laverov Federal Research Center for Integrated Arctic Research
Arkhangelsk, Russian Federation, 17, Uritsky Street, 163000
E-mail: studenov@pinro.ru

Aleksandr Nikolaevich
BELOUSOV
Moscow, Russian Federation
E-mail: belofish@rambler.ru

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Abstract. Issues related to renewable natural resources and compensation for damage to resources as a result of economic activities are in the focus of Russian and foreign scientists. The article presents domestic approaches to compensation for harm caused to water bioresources and their habitats. The purpose for the research is to conduct comparative analysis of two existing Russian approaches to compensation for harm caused to water bioresources: as a result of economic activities (construction of facilities, pipeline stringing., etc.) and illegal fishery of water biological resources (poaching). The authors conduct analysis of open data on water biological resources linkage, fishery yield and value characteristics of compensation through artificial reproduction of water bioresources as the main direction of natural resource recovery. The authors use data on the Arkhangelsk and Murmansk oblasts, Republic of Karelia, Komi Republic. They cover the issues of damage compensation from illegal extraction of water bioresources with use of the fixed charge approach. It has been established that business entities which compensate for the damage caused to natural resources resulting from the economic activities bear greater costs than those engaged in poaching in these regions. In this case, the same natural resource is affected. The authors have developed measures to improve state control in the sphere of compensation in the Russian Federation. It is appropriate to have a unified approach to ecosystem recovery regardless of the type of activities undertaken.

Key words: water bioresources, compensation, value, fixed charges, state control.

Introduction. Socio-economic development of the state and preservation of the environment must be integrated because environment, economy, human health, and social and environmental well-being are inseparably united. Our environment is constantly subject to negative anthropogenic impacts leading to changes in the components of natural environment, transformation of ecosystems, deterioration and depletion of natural resources, including water bioresources[1]. In this regard, we currently observe increased damage to the natural components, which is becoming a very important area of national security in the sphere of environmental studies. The purpose for the study is to conduct comparative analysis of two existing domestic approaches to compensation for damage caused to water bioresources: as a result of economic activities and illegal fishery of WBR. For this purposes, it is necessary to consider the legal grounds for damage compensation in Russia, review some tools of damage compensation applied in other countries; dismantle the schemes of damage compensation and conduct cost analysis of expenditures for this purpose; offer the ways of improving state management in this sphere.

Economic activity degrades or even destroys naturals wildlife habitats, violates the course of natural processes in animal population including breeding, migration etc.; anthropogenic factors related to economic activities have a great indirect impact on fauna as a disturbance factor [20, p. 97]. It should also be noted that the issue of compensation for the past (accumulated) damage remains rather relevant. The issue is related to degradation of natural

[1] Water biological resources (hereinafter – water bioresources (WBR)) – fish, aquatic invertebrates, aquatic mammals, algae, other water animals and plants in the state of natural freedom.

environment, entire regions and investment attractiveness of the country, separate areas and industrial enterprises [7, p. 90]. According to expert estimates, losses in Russia's GDP due to deterioration of environment and related economic factors range from 4% to 6% each year. It should also be noted that in Russia, despite a significant number of documents regulating the assessment of damages, lack common methodological principles and standards for the assessment of environmental damage, recognized by the state. This leads to the fact that old and new documents contain incompatible methodological approaches [11, p. 141].

Compensation for damage to water biological resources. Economic entities when implementing their activities pollute and deplete natural resources, thus causing irreparable damage to the environment, as well as violating the citizens' constitutional rights [13, p. 298]. In Russia, the extent of unpreventable damage agreed upon by the Federal Agency for Fishery (hereinafter – the Agency) is an average of 9000 tons a year. For 2015, the Agency adopted 6128 decisions on coordination of economic activity after implementation of which the damage caused to water resources must be compensated for by breeding 2 564 million species of new water bio-resources. In this regard, the restoration of the natural environment and its components becomes an urgent objective and an important principle of public administration in Russia. In 2004, Federal law "On fishery and conservation of water biological resources" (hereinafter – Law on fishery)[2]. According to legal institutions, the development of this standard is expected to include, prior to economic activities, certain measures such as assessment of the impact of planned economic activities on biological resources and their habitats, development and implementation of measures on elimination of consequences of such negative impacts aimed at restoring their condition. Elimination of the consequences of negative impacts on bioresources and their habitats is implemented through artificial reproduction, acclimatization of bioresources or fishery reclamation of water bodies including creation of new, expansion or modernization of the existing production capacities, ensuring the fulfillment of such measures [28, p. 119].

It should be noted that the consequences of negative impacts on water resources (damage) are identifies before their actual occurrence at the stage of planning and then are compensated for according to the established procedure based on the expected rather than actual consequences [15, p. 16]. The concept of "damage" is often viewed in the broadest sense. Damage in the narrow sense is damage caused to the environment and its components; in the broad sense – damage caused to human health as a result of exposure to adverse environmental factors (ecogenous damage) and damage to property (economic damage) [2, 14]. It must be said that Federal law "On fishery" simultaneously uses the terms "damage"

[2] Federal law no. 166-FZ "On fishery and conservation of water biological resources", dated 20.12.2004. Available at: http://garant.ru (accessed: 27.01.2017 г.).

and "harm". The terminological uncertainty persists in the bylaws. In the present study, the authors use the term "harm" and view it as a negative change in the state of natural populations of WBR and their habitats as a result of human impact. The types and factors of such impacts on WBR are determined by the prevailing regulatory legal framework.

The main focus of measures to compensate for damage caused to WBR in Russia is their artificial reproduction. Such measures are in almost all cases limited to reproducing new species by the existing enterprises of the Agency or commercial fishery enterprises. Even in cases where the cost of damage implies capital measures, economic entities prefer to limit them to reproduction of new species [6, p. 176]. It has to be mentioned that damage compensation focused entirely on the "compensation" of its quantitative parameters whereas qualitative characteristics differ substantially, which is reflected in the ratio of economic indicators of the value of lost and renewed resources, and has a negative impact on the state of water ecosystems. Current regulatory documents do not identify the indicators for assessing the efficiency of compensatory measures and monitoring mechanisms for their achievement.

Along with this, it has been established that people who have committed offences in the sphere of illegal fishery of WBR are liable under the laws of the Russian Federation. According to the State report "On the state and protection of environment of the Russian Federation in 2015", in most water bodies the number of most valuable species still remains very low – especially sturgeons and freshwater salmons. One of the main factors affecting fish population is their illegal fishing [4, p. 162]. In the coastal regions, where fishing is the main cause for a high level of illegal activity in fishing is a complex socio-economic situation in regions [1, p. 109].

The cost of damage from illegal fishing is determined by fixed charges. They represent conventional units of damage assessment established for each destroyed species or illegally extracted component of the natural environment; the amount of the fine is determined by the number of destroyed or damaged components of the environment according to the established charge [18, p. 127]. The charge approach to damage compensation is also used for calculating the amount of fine for damage caused to other natural resources [5, p. 250]. For the purposes of the study, the term "fixed charge" is defined as a conventional unit of assessing the damage caused to a single species of illegally harvested WBR.

Foreign instruments of redress. In the Republic of Belarus, the amount of compensation for damage caused to the environment (including illegal harvesting or extermination of wild animals including fish or other water animals) is determined according to the fixed charges, in their absence – by the actual cost of restoration of the environment taking into account the losses including loss of profits [3, p. 59].

In Western Europe and the United States, there is a developed institutional environment in the sphere of environmental protection and

compensation for damage to natural components. Directive 2004/35/CE of the European Parliament and of the Council on environmental liability with regard to the prevention and remedying of environmental damage establishes administrative liability for damage caused to protected species or natural habitats, for contamination of land and damage to surface, ground and coastal waters. According to the Directive, competent state agencies are obliged to take measures to prevent or eliminate damage without prior court decision [26, p. 24]. Compensation for environmental damage in most European countries is reviewed as a measure to restore or compensate for the damage caused to the environment, rather than a pecuniary fine from the responsible party. The purpose for this policy is not to punish the business entity which caused the damage, but to restore the environment [9, p. 75]. Thus, the EU Directive recommends using the rule when implementing business activities: the damaged areas of the environment must be restored to their original state. In addition, European countries have national regulatory documents on preservation of the environment. For example, in France there are a Convention on Biological Diversity and a Strategy for Biological Diversity adopted to monitor the situation and compensate for damage caused to natural resources [24, p. 40]. In the UK, there also exists the principle which states that "the polluter pays". The polluter has to take measures to compensate or mitigate adverse impacts on natural components. The purpose for damage compensation is the recovery of species composition, habitat structure, ecosystem functioning [22, p. 10]. In Germany, if damage is caused to the environment, the responsible person must take measures to limit the damage and restore the damaged environment according to the recovery plan approved by a competent authority [8, p. 24].

In the United States, principal legislation on environmental liability is the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1986, also known as the "Superfund Act", and the Oil Pollution Act (1990). A business entity is responsible for cleanup activities for contaminated resources and compensation for losses caused by pollution of these resources, including environmental damage which is calculated on the basis of the cost of restoration works. Since the costs in these two categories may overlap legislative measures are taken to eliminate situations of double-counting [23, p. 126]. There are two ways of damage compensation: for unauthorized actions/accidents – "Evaluation of damage, rehabilitation and restoration" and for authorized actions, the "Agreement on the environmental impact". The former implies measures on damage compensation, the latter requires to avoid, mitigate, and compensate for damage [25, p. 1202]. It is noteworthy that foreign scholars emphasize increased transparency and environmental responsibility of global companies, including Russian, in using natural resources. These companies carry disclose and give access to information about the impact of their activities on the environment [21, p. 96].

It is worth noting that in the United States there are also legislative acts on fisheries and conservation of water biological resources. The Magnuson-Stevens Fishery Conservation and Management Act establishes fines for illegal fishing in marine waters. The Act specifies the gradation of fines (charges) depending on the offense and the extent of illegal fishing, as well as damage compensation equal to the market value of the harvest of water bioresources for sale. For example, one economic entity was fined 37 580 dollars for illegal fishing and sale of 430 pounds of scallops [26].

As we can see, the United States and the European Union adopt and implement uniform methodological approaches in the sphere of damage compensation. Russia, however, is the country with prevailing disjointed sets of separate guidelines segmented by specific industries or types of damage [10, p. 5]. However, we note a more fair approach of the U.S. government to the compensation for damage caused to WBR as a result of illegal fishing, which takes into account the market value of WBR harvest.

Moreover, foreign countries currently widely apply the concept of ecosystem services, i.e. benefits which people obtain from ecosystems [19]. For example, since 2008 Finland has widely practiced government compensation for private owners for abandoning their economic activity. In Portugal, the Coca-Cola company on the basis of an agreement pays forest owners fees for forest maintenance (abandonment of economic activity) to ensure the quality of water in the Tagua Tagua reservoir [17, p. 139].

Comparative analysis of approaches to damage compensation. In Russia, there are 2 approaches to compensation for damage caused to water bioresources and their habitats:

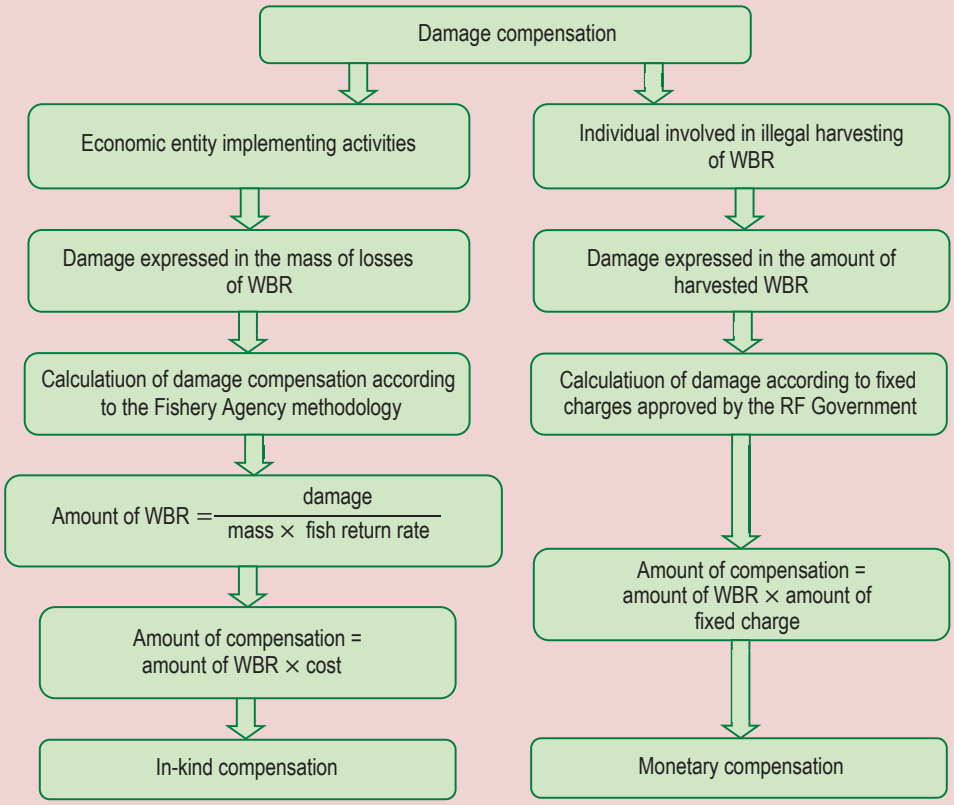
– as a result of economic activity;

– as a result of illegal harvesting of water bioresources.

The *Figure* presents the scheme of damage compensation for economic entities which implement activities on water areas and shores, and for individuals involved in illegal harvesting of water bioresources.

In the Arkhangelsk, Murmansk oblasts, republics of Karelia and Komi, measures on damage compensation are, in the vast majority of cases, taken through artificial reproduction of Atlantic salmon, brown trout, and whitefish (Lavaret). Given that, despite the measures taken, the regions still experience the cases of illegal harvesting of Atlantic salmon, brown trout, and whitefish, the authors conducted comparative analysis of the cost characteristics of damage compensation for economic entities and damage as a result of eradication or illegal harvesting of water biological resources (poaching) with regard to the conditions in these regions. Considering the fact that up to now cost characteristics applied in two approaches to damage compensation have not been compared, the authors conducted comparative analysis. For these purposes, damage equal to 100 kg was used as the basis in both cases. It should be noted that, according to the current legislation, damage caused to water bioresources by any economic entity in the amount less than 10 kg is not compensated.

Scheme of compensation for damage caused to water bioresources and their habitats



According to the Methodology for calculating the amount of damage caused to water bioresources, the calculation of the number of larva (new species) of water bioresources necessary for damage compensation through artificial reproduction is carried out using data on the extent of damage, the average weight of one reproduced species and fish return rate. The cost of reproduction of water bioresources was determined based on information from the trading platform and publications. The data are presented in *Table 1*.

It should be noted that large variations in the cost of damage is caused by the differences in the weight of reproduced water bioresources and the cost of their cultivation.

The calculation of the cost of compensation for damage caused by eradication or illegal harvesting of water bioresources (poaching) is conducted with the use of data on the amount of damage, the average weight of one species of reproduced water bioresources, and the amount of fixed charges. Data are presented in *Table 2*.

Thus, the cost of damage compensation for economic entities which received the approval of the Agency (or its territorial administrations) and which are legally engaged in the activity, is several times higher than that the cost

Table 1. Data on the cost of damage compensation for economic entities

Indicator	Cost, rubles					
	Arkhangelsk Oblast			Murmansk Oblast	Republic of Karelia	Komi Republic
	Atlantic salmon	Brown trout	Whitefish	Atlantic salmon	Atlantic salmon	Whitefish
Damage, kg	100	100	100	100	100	100
Weight, kg	4.125	1.1	0.18	3.05	4.5	0.45
Number of species	485	1 818	15 432	656	444	79 365
Cost of artificial reproduction of 1 species, rubles	181.64	181.64	46.16	129.8	367	9.12
Amount of compensation for 100 kg, rubles	88 095	330 222	712 341	85 149	162 948	723 809

Sources: compiled from: On the approval of the Methodology for calculating the amount of harvest of water bioresources necessary for preserving water bioresources and ensuring the activities of fishery enterprises fishing for aquaculture purposes (fishery): Order of Ministry of Agriculture of the Russian federation no. 25, dated 30.01.2015. Available at: http://garant.ru (accessed: 27.01.2017); On the approval of the Methodology for calculating the amount of damage caused to water bioresources: Order of the Federal Agency For Fishery no. 1166, dated 25.11.2011. Available at: http://garant.ru (accessed: 01.02.2017); SBERBANK-AST. Available at: http://utp.sberbank-ast.ru (accessed: 27.01.2017).

Table 2. Data on the amount of damage caused by eradication or illegal harvesting of water bioresources (poaching)

Indicator	Cost, rubles					
	Arkhangelsk Oblast			Murmansk Oblast	Republic of Karelia	Komi Republic
	Atlantic salmon	Brown trout	Whitefish	Atlantic salmon	Atlantic salmon	Whitefish
Damage, kg	100	100	100	100	100	100
Weight, kg	4.125	1.1	0.18	3.05	4.5	0.45
Number of species	25	91	556	33	22	222
Charge for 1 species regardless of size and weight, rubles	1250	580	250	1250	1250	250
Amount of compensation for 100 kg, rubles	31 250	52 780	139 000	41 250	27 500	55 500

Sources: compiled from: On the approval of the Methodology for calculating the amount of harvest of water bioresources necessary for preserving water bioresources and ensuring the activities of fishery enterprises fishing for aquaculture purposes (fishery): Order of Ministry of Agriculture of the Russian federation no. 25, dated 30.01.2015. Available at: http://garant.ru (accessed: 27.01.2017); On the approval of fixed charges for calculating the amount of compensation for damage caused by eradication or illegal harvesting water bioresources. Decision of the Government of the Russian federation no. 515, dated 25.05.1994. Available at: http://garant.ru (accessed: 27.01.2017).

for individuals involved in the eradication or illegal harvesting of water bioresources (poaching):

– in the Arkhangelsk Oblast: 2.8 times higher for Atlantic salmon, 6.3 times – for brown trout, 5.1 times – for whitefish;

– in the Murmansk Oblast: 2 times higher for Atlantic salmon;

– in the Republic of Karelia: 5.9 times higher for Atlantic salmon;

– in the Republic of Komi: 13 times higher for whitefish.

Conclusion. This situation places as a disadvantage economic entities compensating for damage and individuals engaged in illegal harvesting of water bioresources. Of course, individuals engaged in illegal harvesting of water bioresources are liable to be fined. The amount of the fine, according to the article of the RF Code of Administrative Offences, may reach 200 thousand rubles. But in this case the authors consider the issue of compensation for damage caused to water bioresources.

However, the method of fixed charges of damage compensation based on using specific charges is considered as "a damage standard" – the model extent of damage compensation – questions the fact of full damage compensation. It should also be noted that the cost of one species of Atlantic salmon caught in the rivers of the Arkhangelsk Oblast is much higher in retail chains than the amount of a fixed charge. The average cost of an average weight salmon may be up to 5 thousand rubles. Thus, there is the actual mismatch of the amount of current market prices for water bioresources.

Compensation payments for illegal fishing are collected and usually distributed without direct correlation between the costs of environmental rehabilitation. The actual damage for illegal harvesting of water bioresources in allocated to the budget comes without any guarantees that the collected funds will be directed to environmental rehabilitation. Under existing conditions, when the restoration of illegal harvesting of fauna objects is almost impossible and is not carried out in practice, damage compensation becomes in fact an administrative penalty. In practice, civil liability, without fully fulfilling its function of damage compensation, turns into administrative which performs the punitive function – the claims are paid as penalties [12, p. 22]. The economic tools existing in the country are aimed at damage prevention and compensation is primarily fiscal in nature and does not encourage environment conservation and restoration activities.

In connection with the above, in order to use the uniform approach to damage compensation, the authors consider it appropriate to work in the following areas:

1. The Ministry of Agriculture of the Russian Federation the Federal Agency for Fishery in cooperation with scientific organizations should develop a unified standard for valuation of the size of fixed charges for eradication or illegal harvesting of water bioresources, which has not changed since 2000, and the cost of damage by economic entities. Practical implementation and application is to follow.

2. Objective determination of the amount of charges and cost of damage by economic entities on the basis of the economic situation and a reasonable combination of economic indicators of lost and renewed resources. It should be noted that the values of these indicators should be measurable. The guidelines for determining the amount of taxes can be the values of damage compensation by economic entities established on the market in recent years in order to compensate for the unpreventable damage. Of course, it is important that the amount of the charge results from other factors such as population's incomes.

3. The Ministry of Agriculture of the Russian federation should establish an institution for ecosystem services in the sphere of compensation for damage caused to water bioresources. One of such areas may be temporary abandonment of fishing enterprises of fishing on water facilities in exchange for compensation payments. This will help recover part of population of water bioresources, which will compensate for the damage caused by the economic entity. However, the valuation of the compensation will be a very complicated task.

4. Measures for compensation for actual damage caused to water bioresources as a result of illegal fishing.

The authors also believe that public administration should have a uniform approach to compensation for damage caused by any activity – without separating legal business (e.g., bridge construction) and illegal economic activity (e.g., poaching). Since in both cases the target of damage is a human being engaged in activities related to the use of natural components. This will be a fair approach to human activities and more full compensation for damage caused to water bioresources and their habitats. According to the authors, these data can be used in the development of measures of state control in the sphere of preservation of water bioresources.

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Information about the Authors

Aleksei Mikhailovich Tortsev – Research Associate at Laboratory for Water Ecosystems Management of the Arctic Zone of the Russian Federation, RAS Academician N.P. Laverov Federal Research Center for Integrated Arctic Research (23, Severnoi Dviny Embankment, Arkhangelsk, 163000, Russian Federation; e-mail: torzevalex@fciarctic.ru)

Igor' Ivanovich Studenov – Ph.D. in Biology, Head of Laboratory Boiresources of Inland Waters, Head of Laboratory for Water Ecosystems Management of the Arctic Zone of the Russian Federation, norther Branch of Knipovich Polar Research Institute of Marine Fisheries and Oceanography, RAS Academician N.P. Laverov Federal Research Center for Integrated Arctic Research (17, Uritsky Street, Arkhangelsk, 163000, Russian Federation; e-mail: studenov@pinro.ru)

Aleksandr Nikolaevich Belousov – Honored Fishery Worker of Russia, Corresponding Member of the Russian Academy of Natural Sciences, Supervisor of the UNDP/GEF-Ministry of Natural Resources and Environment of Russia project "Mainstreaming Biodiversity Conservation into Russia's Energy Sector Policies and Operations" (9, Leont'evskii Lane, Moscow, 124009, Russian Federation; e-mail: belofish@rambler.ru)

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Revisiting the Development of Cooperation Between the State, Business, and Society in Addressing Territorial Development Issues

Ekaterina Dmitrievna KOPYTOVA
Vologda Research Center of the Russian Academy of Sciences
Vologda, Russian Federation, 56A, Gorky Street, 160014
E-mail: ekaterina-razgylina@yandex.ru

Abstract. At present, socio-economic development in leading countries is characterized by intensive development of cooperation between government, business and society. In conditions when territories gain more autonomy in solving socio-economic development problems, business entities act as funding sources for addressing the most urgent issues, the priority of which is impossible to determine without participation of the public. Having studied the evolution of cooperation between government and business in Russia we point out that the extent of government participation in the economy depends on its national development specifics at different stages, which determines the diversity of their interaction models. Having reviewed domestic and foreign research works we systematize the existing models of trilateral interaction. The paper analyzes the implementation of joint projects and programs by the authorities and business in the Russian Federation and reveals forms of participation of society in addressing regional problems on the example of the Vologda Oblast. Streamlining the interaction between the authorities, business and society will help unite their efforts to solve priority development tasks in the territory. In this regard, we propose a set of recommendations for the authorities that will help develop this trilateral cooperation. The study uses system approach, structural-functional analysis, method of expert estimations, groupings, comparison and generalization; tabular and graphical techniques for data visualization are applied, as well. Legislative acts and other regulatory documents of state authorities and administration, official data of the Ministry of Economic Development, and the Russian Union of Industrialists and Entrepreneurs serve as information base of the study. We also use the results of a survey of heads of Vologda City enterprises

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conducted by VolRC RAS with our direct participation. The findings of the paper can be used in scientific and educational activities. They are of practical interest to the authorities, because they can help improve economic policy aimed to promote participation of business and society in dealing with problems of the territory.

Key words: cooperation, authorities, business, society, development of territories, project management, monitoring.

Introduction. Almost all constituent entities of the Russian Federation are facing the aggravation of social problems in conditions of a lingering economic recession. Moreover, financial and economic capabilities of regional and municipal authorities in solving social issues with the help of budget resources are very limited. In the circumstances, regions need to seek additional resource opportunities that can be used for development of territories. However, it is possible to raise additional resources only if all subjects of economic relations participate in social processes and unite their efforts and resources.

The necessity of searching for optimal socio-economic relations is due to the nature of modern processes taking place in society and manifested in the rapid development of service industry and information technology, acknowledgement of the value of human capital and importance of regulating social stability in the country, and enhancement of the role of business in territorial development [10].

Methodology and research methods. The methods of the research are as follows: economic and statistical analysis, methods of generalization and expert interviews. Methodological basis includes the works of domestic and foreign economists in the field of regional economics. In particular, the works of leading Russian scientists (V.G. Varnavskii [4], G.B. Kleiner [9], V.N. Leksin [11], M.I. Liborakina [6], A.I. Tatarkin [20], V.F. Ukolov [22], T.V. Uskova [24], V.N. Yakimets [26], etc.) and foreign researchers (A. Carroll [27], R. Freeman [28], etc.) prove that a unifying element of these concepts should be the recognition of the importance of partnership between government, business and society to ensure socio-economic development at the national, regional, and municipal level.

Any society (including the business community) or state has vital interests, without which they cannot exist and develop: for society it is a set of needs the fulfilment of which ensures its existence and harmonious development; for the state it is socio-economic development of territories; for business it is the maximization of profit. Only continuous and mutually beneficial interaction between these actors will help ensure high and sustainable levels of regional development and achieve strategic goals of state authorities.

In this connection, the study of trends and the search for management tools to develop tripartite cooperation between government, business and society determine the relevance, scientific and practical significance and purpose of the present work.

Results of the research. It should be noted that the views on the role of partnership cooperation between government, business and society in the management of territories changed more than once. For instance, in the

19th century, the state enhanced the efficiency of the means of production for private owners (G. Hegel and K. Marx are founders of this approach). In the first half of the 20th century, the state represented the interests of a particular social group, and in that case the association of people was coercive (A. Gramsci, G. Hins). From the mid 1960s–1970s, the relationship between the governments, business and society changed from authoritarian to partnership (G. Lembruch, Ph. Schmitter) [25].

While studying the evolution of interaction between business and authorities in Russia we find a marked change in the role each of them plays in the economic system, an expansion of the range of social policy actors and a significant expansion of the role of business structures in addressing social and economic problems. Such changes were most prominent in the second half of the 20th century *(Tab. 1)*.

Recently, Russian regions have developed a tendency toward the formation of a fundamentally new system of interaction between government, business and people. It not only represents a set of tools to coordinate the interests of interacting parties in addressing priority socio-economic issues, but it is also a crucial part of socialization process taking place in the modern Russian economy. Moreover, effective cooperation between the state and business promotes growth rate in the economy and social sphere, increases regional budget revenues, enhances the development of science and education, increases the accessibility of socio-economic infrastructure, technology and quality of life, and helps raise investment [24].

In addition, cooperation between business and government reflects the current state of society as a whole, because such cooperation affects the models, forms and technology of

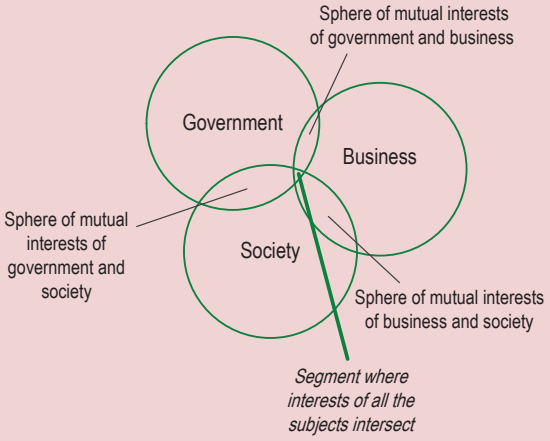
Table 1. Evolution of interaction between business and government in the Russian economy (second half of the 20th century)

Stage	Period	Content
1	1960–1979	Economic entities with economic resources become the driving force of territorial development. Additionally, the region serves the interests of a backbone enterprise, and it, in turn, creates and maintains social infrastructure.
2	1980–1989	The authorities in most cases disengaged themselves from intervention in the activities of economic entities. Some researchers [1, 15] characterize this period as a time of "privatization of power" by business.
3	1990–1994	State resources were actively transferred to private property, which contributed to reduced quality of life, increased inflation and social tension. As a result, the authorities implemented rigorous financial, credit and tax policy, imposed limits, quotas, and licenses in relation to business structures.
4	1994–1999	The period of convergence of government and business, during which the state appoints major private sector representatives to high state positions. Moreover, a huge amount of financial resources becomes concentrated in the hands of a group of the largest businessmen who actively withdraw their capitals abroad.
5	1999– present	Cooperation between government and business is beginning to form due to the fact that the state needs to control the financial and economic activity of enterprises, and the latter need "rules of the game" in order to function successfully in a market economy.
Compiled with the use of the sources [18, 22].		

Figure 1. Practical implementation of trilateral cooperation between government, business and society

Classification of the models:
1. Perfect, national, regulatory, real.
2. Partner, state patronage, symbiotic, conflict, liberal (author: R. Turovskii).
3. Voluntary-compulsory charity, bargaining, party charity, city-enterprise, social partnership (authors: S.V. Ivchenko, M.I. Liborakina, T.S. Sivaeva).

Classification of the models:
1. Quasi-Soviet, innovative, mutant (author: V.N. Yakimets).
2. Regulatory, legitimation, instrumental (author: E.V. Belokurova).
3. Partnership domination, ignoring, confrontation (author: A.Yu. Sungurov).



Classification of the models:
1. Work with staff, assistance to the surrounding society (author: D. Lyubinin).
2. Cash grants, charity, socially significant marketing equivalent financing social investments (S.V. Bratyushchenko).
3. Image support, social projects and investments (author: N.V. Zubarevich).

management. It is important to note that in a real situation there is always a combination of several types of such models *(Fig. 1)*. In particular, territories can have one of the basic models of government-business interaction (perfect, national, regulatory, real) and the model depending on the level of conflict (functional, partnership, symbiotic, conflictual, liberal, and the model of state patronage [17, 21]) depending on the extent to which economic entities participate in addressing regional development issues (voluntary-compulsory charity, trade-off, party charity, enterprise city, social partnership [6]).

Civil society is an active participant in the socio-economic system of the region. Interaction with the authorities can take the form of partnerships, ignoring, confrontation, and domination [19]. There exist other classifications of government-society interaction. In particular, V.N. Yakimets [26] highlights quasi-Soviet models (ways of government-society relations widespread in the Soviet era and transferred to the present time), innovation models (cooperation models that were new or rarely used in the pre-perestroika period, it was possible to design those models due to the change in the system of state and the dominant type of economic relations), and mutant models (interaction that combines features of the first two types, while it is based on some kind of quasi-Soviet cooperation with external properties characteristic of innovative methods).

The author of another study [2] proposes to use the following classification of government-society interaction models:

– regulatory model, based on liberal tradition within which non-governmental organizations are important institutions that connect public and private spheres;

– legitimation model, based on a system approach, in which non-governmental organizations perform important functions in the political system (functions such as articulation and aggregation of interests);

– instrumental model, based on communication as a social mechanism for management and transmission of information, the mechanism necessary for effective solution of social problems.

Studying the models of business-society interaction deserves special attention within the study of the trilateral interaction. It is traditional to classify the interaction of business entities with the staff and with the surrounding community [12]. S.V. Bratyushchenko [3] identifies the following models: money grants; charitable donations and sponsorship; socially significant marketing that allocates part of its profit to socially significant projects; equivalent funding that allocates percentage of its sales of a particular product for the implementation of social programs; social investment; social budget.

N.V. Zubarevich presents a classification of interaction between business entities and society depending on the type of social program implemented by business [7]:

– charity akin to that which existed in the Roman Empire, i.e. one-time charity projects in the lead-up to the election, regional (city) festivities;

– regular image-based assistance to socially vulnerable groups;

– internal and external social projects and programs;

– social investments in society, in the development of human capital (investments in education projects, public health, sports events, etc.);

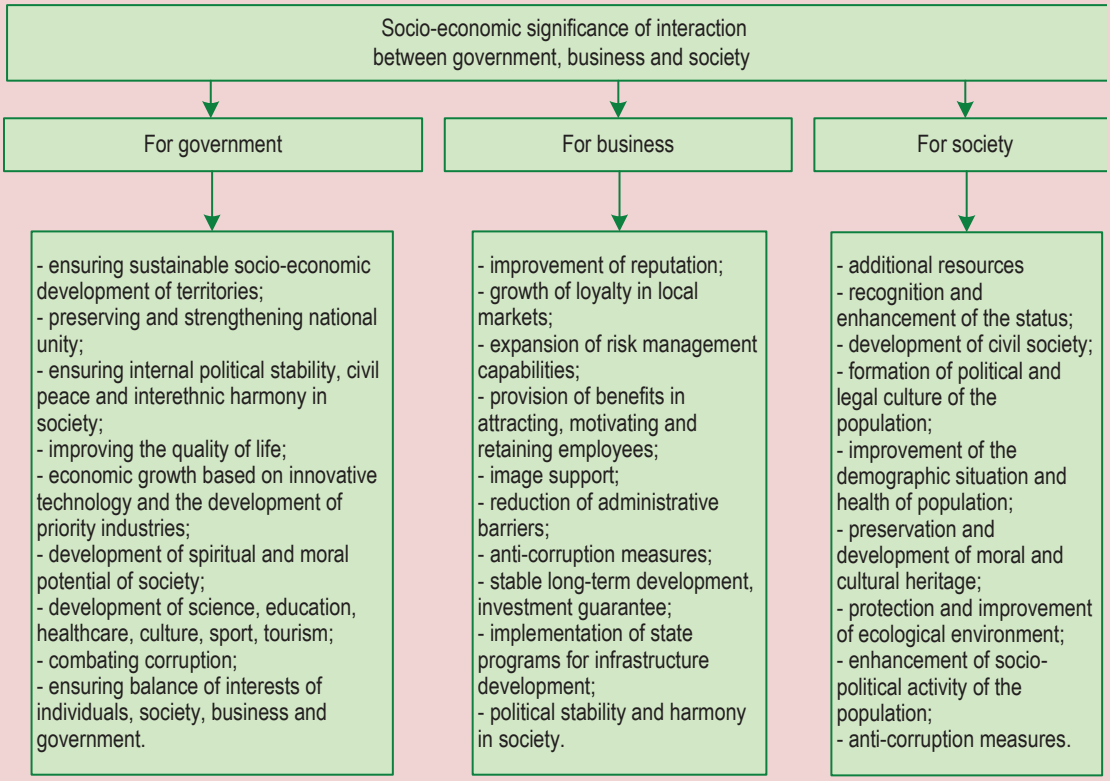
– participation of business in administration (improvement of administration of territories in their own interests and in the interests of sustainable social development of local communities).

Having studied theoretical aspects of government-business-society interaction we conclude that the number of classifications of models of this cooperation is large and diverse. However, such interaction is currently being used as a win-win model hat has high potential, and in which the partnership between equal stakeholders enhance the opportunities of solving urgent socio-economic problems and make a significant contribution to the development of civil society *(Fig. 2)* [8, 29, 30].

Acting on its own, each of the parties, while having certain specific resources, is not able to meet all social needs. However, when their resources are pooled together, it is possible to achieve synergistic effect, the essence of which lies in the fact that the outcome of partnership is not simply a sum of the combined resources, but the result that is superior to this sum.

This is why joint projects become a fundamental tool in economic development of territories, in raising investments, and in enhancing the quality of services provided to people. As of the beginning of 2016, the Russian Federation is implementing 873 projects, under

Figure 2. Socio-economic importance of trilateral interaction between government, business and society



which the total sum of agreements comprises 640.3 billion rubles of private funds (at the federal level: 12 projects amounting to 133.7 billion rubles; at the regional level: 104 projects worth 408.1 billion rubles; at the municipal level: 757 projects amounting to 98.5 billion rubles) [16].

However, the potential of such interaction is not being implemented to the full. It is revealed that the ratio of private funds in joint projects with the authorities to the nominal gross domestic product of Russia makes less than 1%. This ratio, according to expert estimates, should be about 4–5%. Only in this case will it be possible to confirm that funds are being allocated to the Russian economy on a system-wide basis and on the principles of government-business-society partnership [16].

Having studied the experience of implementation of partnership projects of the government and business, broken down by economic sectors, we identify the following features for each sector *(Tab. 2)*:

– the most in-demand projects for the transport infrastructure include construction of highways and their infrastructure (in this case the federal and regional levels have an equal number of projects – ten at each level);

– the majority of projects in the social sphere are implemented in health care at the regional level (45 projects) and in education at the municipal level (43 projects). It is noted that the sphere of health care is traditionally attractive due to the fact that it receives a sufficient amount of financial resources via paid services [16];

Table 2. Implementation of joint projects of government and business, broken down by infrastructure sectors on the territory of the Russian Federation as of 2015

Sector in which the project is implemented	Level of project localization			Total number of projects
	Federal	Regional	Municipal	
Transport	12	25	10	47
Social	1	76	95	172
Utilities	0	11	615	626
Energy	0	0	28	28
Source: Ministry of Economic Development of Russia, calculations by the Center for PPP Development.				

– the housing an utilities infrastructure has projects at the municipal level in the field of water supply and sewerage (310 projects), as well as in the field of production and transfer of heat energy (280 projects); 11 projects in the sphere of solid municipal waste management are carried out at the regional level;

– projects in the energy infrastructure are implemented only at the municipal level.

We should mention the amount of funds from the private sector allocated to the implementation of projects. According to the results of 2014, a total amount of 200.9 billion rubles of private funds was raised. The Central Federal District managed to raise the greatest sum among all federal districts (102.3 billion rubles; *Fig. 3*). The situation with raising the funds of business is most critical in the North Caucasian (655.5 million rubles) and Northwestern (4.1 billion rubles) federal districts, where budget funds constitute a large share of funding in such projects.

The geographical distribution of charitable support is similar *(Fig. 4)*. According to the contest "Leaders of corporate philanthropy"[1], which is carried out by the organization "Forum of Donors" [2], beneficiaries from Central Russia, the Urals and the Volga region were in the focus of attention of the project participants most often.

As for participation of business entities in the development of territories through the implementation of social programs, we can say that despite the fact that the number of these programs increased almost 1.5-fold in 2013–2015 in comparison with the number of programs whose targets are employees of the company, it is still significantly less *(Tab. 3)*. This suggests that they pay major attention to developing their employees rather than to participation in development of territories in which they operate.

However, the extent of participation of business entities in addressing socio-economic development issues in the territories can be much greater. It is confirmed by the results of an annual survey of managers of organizations carried out by the Russian Managers Association for the purpose of evaluating the role of Russian enterprises in addressing socio-economic problems. The majority of respondents (52.9%) have a negative attitude toward a situation when fundamental functions

[1] The study of 2016 covered 60 Russian and international companies with a total turnover of over 100 million rubles in 2015, performing their philanthropic activities on the territory of the Russian Federation. Expenditures on social and charitable projects by the end of 2015 were revealed by 56 participants. Based on the data provided, they spent nearly 20 billion rubles on charity and social assistance.

[2] Donors Forum is a partnership of major Russian and foreign charity (donor) organizations working in Russia. Official website: http://www.donorsforum.ru/

Figure 3. The amount of funds involved in partnership projects of government and business, broken down by federal districts of the Russian Federation as of 2014 [16]

CFD – Central FD; NWFD – Northwestern WFD; UFD – Ural FD; FEFD – Far Eastern FD
SFD – Southern FD; NCFD – North Caucasian FD; Sib FD – Siberian FD; PFD – Volga FD

Figure 4. Geographical distribution of philanthropic activities of business entities, broken down by federal districts of the Russian Federation in 2014–2015 [5]

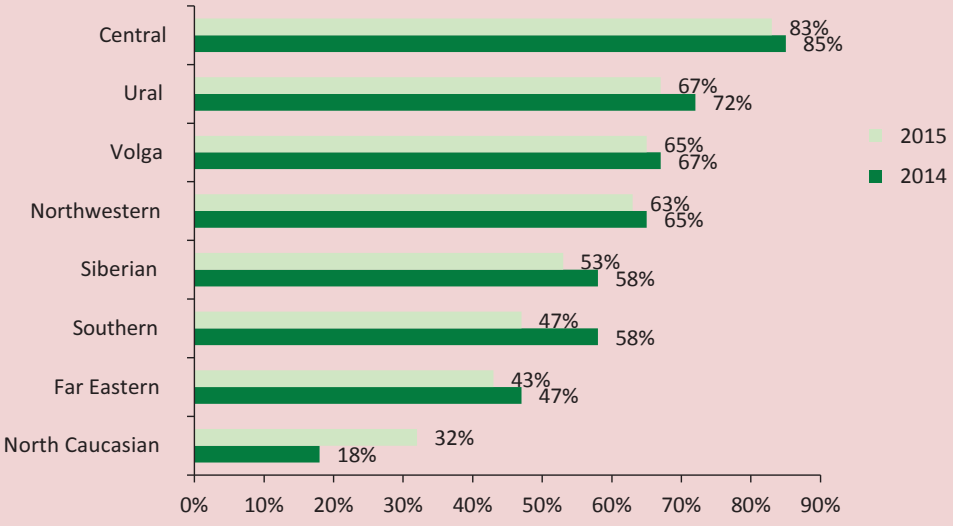


Table 3. Practice of Russian business structures in the implementation of social programs

Sector to which an economic entity belongs	Number of economic entities		Programs							
			Total		Focused on employees		Focused on society		Codes, policies, standards	
	2013	2015	2013	2015	2013	2015	2013	2015	2013	2015
Oil and gas	17	21	51	70	22	25	17	24	12	21
Power	19	25	30	54	14	15	10	13	6	26
Metallurgy and mining	18	21	44	74	28	30	13	23	3	21
Production of machines and equipment	18	21	26	34	20	23	3	3	3	8
Chemical production	9	10	18	23	8	8	4	9	6	6
Woodworking industry	1	2	1	2	1	1	–	–	–	1
Food production	4	5	14	16	6	6	4	5	4	5
Telecommunications industry	5	6	7	8	3	3	4	4	–	1
Finance and insurance	8	11	17	26	6	6	6	9	5	11
Housing and utilities sector	2	3	4	5	1	1	1	2	2	2
Retail trade	2	3	3	4	2	2	1	1	–	1
Transport and road industry	10	10	22	24	13	13	3	5	6	6
Public catering	1	1	1	1	1	1	–	–	–	–
Construction	3	3	6	8	3	4	3	4	–	–
Agriculture and forestry	3	3	5	5	2	2	3	3	–	–
Education, science, culture	2	2	2	2	1	1	1	1	–	–
Other	4	1	5	1	4	–	1	1	–	–
Total	126	155	256	365	135	145	74	111	47	109
Compiled with the use of: [14].										

in providing social services to people are passed on to economic entities. Respondents think that it is not in the scope of enterprises' activities to perform these tasks; they pay taxes to the budget, so the government has the necessary resources to implement these activities.

Heads of business entities of the city of Vologda have the same opinion. More than 70% of heads of enterprises in Vologda believe that business must comply with basic social legislation, i.e. pay decent official salary (76%) and provide its employees with safe working conditions and social protection (70%). About half of managers believe that they must comply with their obligations to business partners (42%) and consumers and maintain high quality of products they produce (54%). A quarter of respondents believe that their participation in the development of the territory of their presence can be reduced to their payment of taxes only[3].

However, enterprises and organizations alone cannot meet the needs of residents. It is the authorities, employers and trade unions (i.e. the main participants of production and social relations) that should be interested in improving the situation in the first place.

[3] In August–September 2015, Vologda Research Center of the Russian Academy of Sciences, with the direct participation of the author, carried out a survey of heads of organizations to determine their attitude toward the essence of economic category of "corporate social responsibility" and identify ways to increase social responsibility of business.

In the Vologda Oblast, committees and agencies together with local authorities, business representatives and their associations, non-governmental associations of employers and trade unions are continuously working on the development of social partnership, primarily with the aim of improving the practices of collective agreements. Legislative framework for the activities of social partnership institutions in the region is represented by the oblast law of the Vologda Oblast dated November 29, 1996 No. 120-OZ "On social partnership in the Vologda Oblast (with further amendments), the law of the Vologda Oblast dated July 2, 2008 No. 1811-OZ "On the Civic Chamber of the Vologda Oblast" (as amended on June 29, 2016).

In addition, regional agreements between the Vologda Oblast Government, trade unions and employers are concluded regularly with the goal of facilitating the establishment of conditions that will help citizens implement their rights to decent work and its payment, and that will help alleviate poverty, reduce the gap between the richest and the poorest, and promote free development of man.

The most common forms of interaction between regional authorities and people include working with citizens' letters and appeals, personal reception of citizens on various issues, organizing public expert reviews and oblast information days, and the work of the oblast civic chamber. Towns and districts of the Vologda Oblast have reception rooms of the Vologda Oblast Governor, information about the regional budget and important legislative acts is provided at special public hearings.

Non-economic forms of interaction between authorities, business and people in the Vologda Oblast include, first of all, joint social events, open councils, lobbying and public hearings.

An essential component of every method of public relations is communication, which implies mutual exchange of information about the goals, activities, interests and demands, ways and methods of solving problems proposed by the parties, consideration of opinions and viewpoints. An important role in this respect belongs to the Vologda Oblast Civic Chamber, which handles these issues for many years. The Chamber includes representatives of various non-profit organizations and political parties representing the interests of certain social strata and categories.

To date, the work of the Vologda Oblast Civic Chamber is very useful. First, it provides an opportunity for direct dialogue with state administration and helps social groups express their interests publicly. Second, non-governmental associations are granted the right to conduct public expertise of draft decisions of public authorities freely and thereby contribute to the implementation of their program goals and objectives. Third, while possessing sufficient intellectual, professional and political potential, and acting voluntarily and in an organized way, non-profit organizations have proven themselves as reliable social partners of the authorities in the implementation of socially significant programs. Fourth, the Civic Chamber of the Vologda Oblast plays an important role in the socio-economic and political life of the region, consolidates non-governmental associations, major political forces, executive and legislative authorities, helps maintain a stable socio-political situation and implement social projects [8].

A special role in implementing socially significant projects belongs to socially oriented non-profit organizations (SO NPOs), whose activities are supported by the Government of the Vologda Oblast on the basis of the law of the Vologda Oblast of October 18, 2013 No. 3184-OZ. As of December 31, 2016, in the Vologda Oblast there are 1894 registered NPOs, among them 899 are non-governmental organizations. Each year the number of citizens involved in them increases; so does the number of socially significant projects implemented in the region.

Thus, at present, the interaction between government, business and residents on the territory of Russia is quite active. However, it is not always system-wide and comprehensive; it often lacks adequate resource support and, as a result, does not influence regional socio-economic policy to the extent necessary in modern conditions.

In this regard, one of the most important tasks for the regional authorities is ***to use and expand the tools to encourage businesses and society to participate in addressing problems of the territory.*** This, in our opinion, can be achieved if the following aspects are implemented:

– an information system is developed and measures are worked out that aim to popularize and promote the experience of business and society participation in regional development;

– citizens' personal responsibility for the tasks of territorial development is established.

The first aspect can be implemented with the help of providing information support to economic entities, organizing exhibitions and fairs of social projects, awareness-raising events and a competition for the best socially responsible partner enterprise; it can also be helpful to create a special page on the websites of constituent entities Russian Federation, which would contain information on the involvement of business in the development of the territory. In the context of this aspect the task of the authorities is to cooperate with scientific and educational institutions and provide methodological support in terms of organizing and implementing training programs and scientific and methodological support for the formation of a social report. In addition, it is proposed to organize charity concerts, the proceeds from which will be allocated to the implementation of socially significant projects in the territory.

The implementation of the second aspect involves measures that would enhance the role of social institutions in the development of a sense of responsibility in citizens and their involvement in addressing regional problems.

In connection with the increasing role of civil society institutions in the administration of the territory (trade unions, territorial self-government, non-profit organizations, volunteer associations, community councils, the civic chamber, the youth parliament, etc.) the authorities must take into consideration their opinions and should pay attention to their interests.

It should be noted that the "foundation" of a future personality that later can become a businessman, public servant, etc., is laid in childhood; this is why raising and education should include various tools that help develop responsibility. To achieve this goal it is advisable to develop guidelines for parents, caregivers and teachers, which would contain universal knowledge, abilities, skills and based on the experience gained in this sphere.

Regional governing bodies together with social institutions carry out activities aimed to form a positive image of a socially responsible businessman, and instill in the younger generation the values of kindness, sacrifice, the sense of personal responsibility for socio-economic development of the region and the sense of involvement in this process. Educational outreach activities for children, adolescents and young adults is held in the form of lectures and seminars, training videos, games, excursions to enterprises, etc.

Residents can be involved in solving problems of the territory with the help of the following techniques:

1. Organization of advisory councils to discuss ways to address socio-economic development issues.

2. Development of crowdfunding (national funding) of social initiatives. This activity implies the development of an application on official websites of Russia's constituent entities, it helps pool the bank of objects in need of assistance and instantly transfer the funds for the implementation of a specific project.

3. Development and implementation of a mobile application "Active citizen". It provides an opportunity to vote online at referendums organized by the authorities (to vote for the restoration of parks, choose the place for establishing a monument or an art object, vote for the opening of a bike hire, etc.).

4. Organization of a social advertising contest "My city – my castle" that will draw attention to the solution of socio-economic development issues on the premise that "the city is me" and encourage residents' participation in the management of the territory.

5. Maintaining a database of public associations and organizations for the purpose of involving them in projects and activities based on matching the interests of the population and proposed solutions to socio-economic problems.

One of the tools for enhancing the participation of businesses and companies in solving social and economic problems of the area is the ***project approach in managing the economy of the region,*** since it helps solve several tasks: to attract the resources of business structures, to ensure the involvement of citizens in addressing regional challenges, to enhance their trust in the authorities, to harmonize the interests of the parties, to develop a sense of responsibility for the development of the territory, to organize cooperation and constructive dialogue between the project participants.

In this case, expanding the use of a project approach requires the formation of institutional conditions of administration. For this purpose it is necessary to establish an *office for social planning* under the regional authority exercising powers in the sphere of strategic planning of territorial socio-economic development. The main purpose of the office is to promote this development. Employees of the office promote interaction between government, business and society; develop tools to involve business and population; assist in the dissemination and promotion of experience in their participation in regional development, as well as in the preparation of legislative initiatives and regional development strategies; monitor the development of interaction between government and business structures; create a

database of projects; organize and host round tables; select and implement relevant projects.

Our research shows that the positive experience of using this approach is available in the Belgorod, Vologda and Irkutsk oblasts, in the Krasnodar Krai, in the republics of Bashkortostan (city of Ufa), Udmurtiya (city of Izhevsk), etc. Having analyzed the implementation of projects in the city of Vologda, we conclude that there is an annual increase in the number of projects and companies participating in them *(Tab. 4)*.

At that, we determine that the implementation of such projects helps provide support to socially vulnerable population groups, reduce social tension, and enhance financial and economic performance of participating organizations. Thus, in 2009–2015, when the Zabota project was implemented in Vologda, the owners of Zabota discount cards saved about 150 million rubles, the volume of goods sold and services provided within the framework of this project amounted to 2.4 billion rubles. Enterprises benefit from participating in this project by getting additional advertising, enhancing their image and improving relations with the authorities and local community, increasing their appeal to the consumer and to the business community, increasing their turnover, which increases profitability of the business [23].

Obviously, in order to develop the interaction between government and business it is necessary to adjust regional economic policy. In our opinion, ***organizing a system for monitoring*** this cooperation is a most important tool that can provide feedback and objective information for making effective management decisions.

The main components of the proposed methodological tools that we consider efficient for monitoring government-business interaction in the management of the region's economy are presented in *Figure 5*.

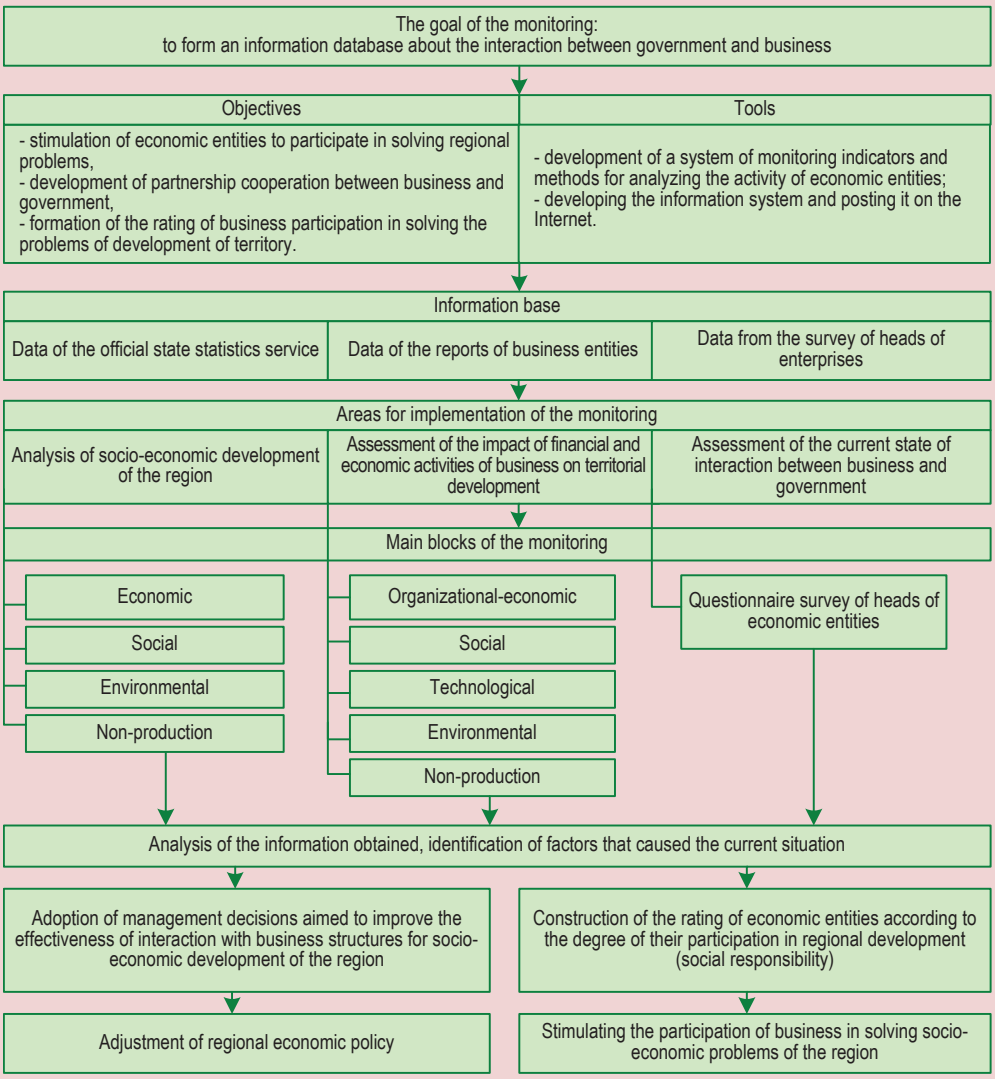
At the initial phase of the monitoring it is necessary to establish an information base of the research. Relevant data can be drawn from the following sources: Federal State Statistics Service, federal and regional executive authorities, ministries and departments, reporting of business entities in the context of allocated blocks, and surveys of enterprises' heads.

The second stage consists in analyzing the current situation. In this case, in order to establish a system for monitoring the interaction between government and business, it is also important to define the ways in which the

Table 4. Data on socially significant projects implemented in Vologda

Indicator	2009	2010	2011	2012	2013	2014	2015	2015 to 2010, fold
Total number of projects, units	5	5	10	25	40	50	70	14.0
Total number of participating organizations, units	15	15	25	65	150	400	450	30.0
Total number of enterprises that participate in the Zabota Project, units	22	192	174	208	241	251	263	11.9
Number of entities that implement the Zabota Project, units	86	452	438	506	522	590	613	7.1
Compiled with the use of: [25].								

Figure 5. Scheme of implementation of the monitoring of interaction between regional authorities and business



Source: compiled by the author.

monitoring can be implemented. Having reviewed relevant scientific publications we find out that methodological tools for monitoring the interaction of government and business are not worked out thoroughly. In particular, the tools are considered only in the aspect of implementation of government-business partnership projects. In addition, there is not enough research on the methodology for monitoring the results of participation of business entities in the socio-economic development of territories. At the same time, it is important for management process to assess the achievement of objectives, i.e. their compliance with the objectives of socio-economic development in the region.

A special feature in managing regional economy on the basis of government-business interaction consists in the necessity to match the decisions with the opinion of economic entities. In this regard, we suggest a third way to implement the monitoring: to evaluate the current state of interaction between business and government by conducting a questionnaire survey of heads of business entities, which would assess their interaction with the authorities and participation in the socio-economic development of the territory of their presence. The survey will help identify the following aspects:

– attitude of business representatives toward various forms of partnership;

– regional problems that are possible to solve with the involvement of the business;

– assessment of the current level of interaction between these economic agents

– reasons that hinder its development.

In view of the above, we highlight the following ways to monitor the interaction between government, business and citizens.

The first way is to analyze socio-economic development in the region. It will help evaluate the results of interaction between government, business and society and the impact of this cooperation on the current socio-economic situation. Consequently, it is proposed to monitor this aspect by tracking the dynamics of the following indicators:

– economic (tax payments to the regional and local budgets; the volume of products sold, works performed and services rendered; the amount of works performed under partnership agreements between government and business; the volume of investments in fixed capital, etc.);

– social (average annual number of people employed in the region; average monthly wage of employees, etc.);

– environmental (specific emissions of pollutants into the atmosphere; the share of secondary raw materials used; the volume of investment in environmental protection, etc.);

– indicators of the non-manufacturing sector (the number of companies involved in partnerships with public authorities and (or) participating in territorial development projects; the number of implemented projects on territorial development; the amount of funds allocated by business entities on the financing of social projects, etc.).

The analysis is based on the data provided by Rosstat (Federal State Statistics Service of Russia), federal and regional authorities.

The second area of monitoring is to evaluate the impact of business structures on territorial development. It is done with the use of indicators grouped into five blocks characterizing economic, social, technological, environmental and non-manufacturing sectors. Reporting statements of economic entities is its information base. The results of the assessment help create a ranking of economic entities according to the extent of their participation in regional development.

The third area of the monitoring consists in evaluating the current state of interaction between authorities, business and citizens. It includes a questionnaire survey of managers of economic entities that assesses the extent of their interaction and identifies reasons that hinder the participation of business and citizens in territorial development.

We carried out a survey of heads of business entities of the city of Vologda and it shows that 21% of them consider that business ought to address social issues in one way or another. And the leading role in solving social problems of the territories, according to businessmen, should belong to local authorities (80%), and federal and regional authorities (73%; *Tab. 5*). Only 12% believe that it is small and medium business that should deal with social problems.

It is revealed that social programs are implemented by economic entities occasionally (41.1% of respondents) and only by large business (32.2%). However, business entities are ready to initiate new projects in sports (33%), education (32%), beautification of territory (27%), culture (18%), and health care (11%).

When participating in territorial development projects, heads of economic entities pursue the goal of obtaining additional advantages, first of all, positive public reputation (64%), more trust from the authorities, partners and citizens in their work, and attraction of new clients (48%), building human potential (48%), and establishing partnerships with the authorities (46%).

Speaking about major problems in the development of cooperation with the authorities, the heads of enterprises note that one of them is the fact that the mass media do not pay sufficient attention to their participation in addressing the problems of the territory *(Tab. 6)*.

At the final stage of the monitoring, recommendations are worked out and measures are developed that expand the interaction between government and business for the purposes of regional socio-economic development. Recommendations based on the established information database should be addressed to the appropriate management levels, depending on which we define the following types of information:

Table 5. Distribution of answers to the question: "Who should be involved in addressing social problems of territories?", percentage of surveyed heads of Vologda enterprises

Subject	Percentage
Local self-government	80
Federal and regional authorities	73
Residents	30
Big business	29
Small and medium business	12

Table 6. Sufficiency of information that the media provide about the participation of businesses in addressing the problems of the city of Vologda, percentage of respondents

Answer	Percentage			
	Newspapers	Magazines	TV	Radio
Sufficient	13.1	7.1	19.0	9.5
Sooner insufficient	36.9	32.1	26.2	29.8
Virtually insufficient	33.3	36.9	39.3	38.1
I find it difficult to answer	16.7	23.8	15.5	22.6

– strategic, designed for the highest level of management of regional economy, includes indicators of government performance efficiency;

– tactical, aimed at middle management, which includes heads of structural units;

– operational, intended for specialists in individual units (lower level of management), it is used for addressing current issues [13].

Thus, the regular monitoring of interaction between regional authorities and business structures will make the adjustments introduced in regional economic policy more valid.

Conclusions. It is necessary to note that the development of interaction between authorities, business and society is considered promising in conditions when economic and financial capabilities of authorities are insufficient for the full implementation of powers vested in them and when the external economic environment is unstable and its effects on the socio-economic situation in the regions of Russia are adverse.

This situation is characterized by the fact that their participation in dealing with socio-economic problems of the territory is not used to the full. It is possible to boost this process only by promoting the role of the state in establishing partnership cooperation between government, business and society and by harmonizing their interests. This very partnership has significant potential, the use of which will provide a synergistic effect for socio-economic development of Russian territories.

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Information about the Author

Ekaterina Dmitrievna Kopytova – Ph.D. in Economics, Research Associate, Vologda Research Center of the Russian Academy of Sciences (56A, Gorky Street, Vologda, 160014, Russian Federation; e-mail: ekaterina-razgylina@yandex.ru)

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Trends of the Fourth Industrial Revolution

A review of the monograph: Schwab K. The Fourth Industrial Revolution. Translated from English. Moscow: Izd-vo "E", 2017. 208 p., ill. (Top Business Awards)

Konstantin Anatol'evich
GULIN
Vologda Research Center of the Russian Academy of Sciences
Vologda, Russian Federation, 56A, Gorky Street, 160014
E-mail: gil@vscc.ac.ru

Vladimir Sergeevich
USKOV
Vologda Research Center of the Russian Academy of Sciences
Vologda, Russian Federation, 56A, Gorky Street, 160014
E-mail: v-uskov@mail.ru

The change of the global economic development paradigm, the transition to the next technological order, a radical change of industrial production organization – all these factors have lead to the formation of an economy that opens up new areas of economic growth, enhances economic efficiency and expands the possibilities of consumption, creating new spheres of economic activity.

At present we are witnessing the penetration and development of technology in different spheres of life. Information and communication

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technology has become not only an integral part of everyday modern life, but also a necessary technological platform for modern business processes.

Information technologies and digital transformation are major drivers of technological change and prerequisites for ensuring competitiveness at the level of individual enterprises and at the level of countries and supranational unions; these drivers facilitate a restructuring of all economic and production processes, radical increase in productivity, improvement of the quality and reduction in the cost of goods and services.

Russia intends to transfer its industry to a digital technology platform with the help of the program "Digital economy of the Russian Federation" (Decree of the RF Government of July 28, 2017 No. 1632-r), whose aim is a system-wide development and implementation of digital technology in all spheres of life: economy, entrepreneurship, social activities and public administration. New technologies take the collection, aggregation and sharing of accumulated information to a fundamentally different level of quality with a minimal role and degree of human input. These technologies are becoming the drivers of the fourth industrial revolution.

Therefore, in our opinion, it is advisable to consider basic provisions and conclusions of the monograph by Klaus Schwab that reveals the features and major trends of the fourth industrial revolution.

The monograph is relevant from the point of view of an integrated notion of how technologies change our lives and the lives of future generations, how they transform economic, social, cultural and humanitarian environment in which we live.

The book focuses on the way in which technology and society coexist. The author emphasizes that "the fundamental and global nature of this revolution means it will affect and be influenced by all countries, economies, sectors and people. It is, therefore, critical that we invest attention and energy in multistakeholder cooperation across academic, social, political, national and industry boundaries". Such collaboration and cooperation is necessary in order to create a positive, unified and promising concept, which will help individuals and societies in all countries participate in current transformations and use their advantages.

The monograph consists of three parts. The first part provides an overview of the fourth industrial revolution. The second part describes major transformation technologies. The third part describes in detail the consequences of the revolution and some of the political challenges that it poses. In conclusion, the author offers some practical ideas and solutions for effective implementation, formation and use of the potential of this major transformation.

The main ideological premise of the monograph consists in its thesis that with each phase of technological development humankind has continuously moved from one economic practice to another that is newer and more efficient; from more expensive energy sources to more economical; from more heavy and

brittle materials to more lightweight, durable, flexible and resistant; besides, people have always complicated and increased the efficiency of the means of production, and expanded and developed their habitat. All this was accompanied by technological progress, which was a driver of these changes and a tool for development of an individual and the entire humankind.

The author emphasizes that at each stage of technological and social cycles there is a gap between the old generations and methods they used and the new generations and new tools and methods of their work.

The monograph focuses its attention on the premise that the world is on the threshold of a new industrial revolution – the fourth revolution, and its impact on the world and people exceeds the impact of all other revolutions taken together. The first revolution was marked by mechanization, the second – by electricity, the third – by the automation of production, and the fourth is characterized by the culmination of development of information technology, penetration of the Internet in all spheres of the economy, development of an ecosystem of the Internet of things and related technology of artificial intelligence and neural networks.

The fourth industrial revolution is unfolding before our eyes. Some believe it is a continuation of a digital revolution, its new stage where machines start to replace people. According to Klaus Schwab, a qualitative difference of the fourth revolution from the third lies in a synergistic effect which arises from the merging of different technologies: computer, information, nanotechnology, biotechnology, etc. Another aspect of the fourth revolution, according to Schwab and other sociologists and futurologists, may be the blurring of boundaries between physical, digital (informational) and biological (including human) worlds.

Schwab proves the distinctness of the fourth industrial revolution with the help of three factors: velocity, breadth and depth, and systems impact.

He focuses on the fact that contrary to the previous industrial revolutions, this one is evolving at an exponential rather than linear pace. It builds on the digital revolution and combines multiple technologies that are leading to unprecedented paradigm shifts in the economy, business, society, and individually. It involves the external and internal transformation of entire systems, countries, companies, industries and society.

As the author notes, his book serves as a primer and guide to the fourth industrial revolution that determines the essence of this phenomenon, its consequences, the impact on humankind and the possibilities of its use for the common good. The book is intended for those interested in our common future and those determined to use the opportunity of the revolutionary changes to make the world better.

According to the text of the monograph, the author does not define the fourth industrial revolution, but points to the particular fields of its analysis – the coexistence of technology

and society. However, the emphasis is placed on technological innovation: "Take dramatic technological change as an invitation to reflect about who we are and how we see the world".

We agree with Klaus Schwab as he points out that "the required levels of leadership and understanding of the changes underway, across all sectors, are low when contrasted with the need to rethink our economic, social and political systems".

When analyzing the changes produced by the fourth industrial revolution, Schwab divides them into five critical points and subsequent states: tipping point; positive effect; negative effect; uncertain effect, and deep shift in action.

He notes that currently "the world lacks a consistent, positive and common narrative that outlines the opportunities and challenges of the fourth industrial revolution, a narrative that is essential if we are to empower a diverse set of individuals and communities and avoid a popular backlash against the fundamental changes underway".

Considering the contemporary paradigm of scientific thought concerning the fourth industrial revolution and its attendant technologies, we note that it is based on the premise that modern organizations face the opportunities as well as threats, some of which are not yet very well understood by business and society on the whole.

Analysis of current research works and review of economic literature on these issues helps systematize the main aspects of the impact of the new technological revolution.

First, the fourth industrial revolution will not only upgrade individual tools and methods of management, but it will also contribute to a radical transformation of management functions and ways of organizing work in modern companies. Implementation of new technological solutions will require fundamental changes in the organization of interaction between man and machines, new skills of employees and new methods of production management.

Second, the transition to the fourth industrial revolution will lead to transformations in the labor market, since it is related to the need for workers of a new type who have other professional, procedural, organizational and even social skills. The introduction of new advanced technologies will be accompanied by dequalification of current employees and the need either for their retraining or for an increase in the costs of recruitment of new employees with relevant knowledge and skills. There is an ongoing hot debate on the impact of the fourth industrial revolution on employment between the supporters of technologies, who see in them the limitless possibilities for the formation of new occupational groups, growth of labor productivity of the current staff, reduction of the process of its routinization, and their opponents, who point to a massive substitution of labor, significant reduction and even disappearance of some professional groups and growth of social inequality.

Third, the new industrial revolution will help reduce organizations' expenses on collecting and analyzing information.

Moreover, they can continuously receive various data at a lower cost than previously, analyze them and obtain ready-made solutions.

It will mostly affect the processes of interaction with target segments where technology will simplify the creation of new products and reduce the period of their market launch with the help of new tools of accounting, analyzing and forecasting consumer preferences; besides, technology will also create the basis for accounting and generating consumer experience, and analysis of their individual preferences.

Thus, as the author notes, the fourth industrial revolution "is not only changing what we do but also who we are". "For all the reasons already mentioned, we are at the threshold of a radical systemic change that requires human beings to adapt continuously. As a result, we may witness an increasing degree of polarization in the world, marked by those who embrace change versus those who resist it."

Klaus Schwab concludes his monograph with a brief but very informative description of 23 "deep shifts" triggered by the fourth industrial revolution. They include a variety of aspects of digital technologies, like the devices implanted into the human body, "digital presence vision" as the new interface, the Internet of things, "smart cities", "big data" for decisions, and various applications of 3D printing.

Thus, according to Klaus Schwab, the new industrial revolution has had and will have an impact on all spheres of society.

Currently, industrialized countries are already at the threshold of the fourth industrial revolution, which has not yet received a generally accepted name. For Russia, these issues are critical from the viewpoint of searching for a new model of economic growth. An economy that is based on knowledge and intellectual capabilities of humankind will be supported by new technologies that will shape global economic development in the next two to three decades.

The fourth industrial revolution will lead to a redistribution of positions of countries in global competition, and this will provide a chance for Russia's economy to recover successfully from the crisis and ensure its economic and technological security.

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Information about the Authors

Konstantin Anatol'evich Gulin – Doctor of Economics, Associate Professor, Deputy Director, Head of the Department of Scientific and Technological Development and Knowledge Economics, Vologda Research Center of the Russian Academy of Sciences (56A, Gorky Street, Vologda, 160014, Russian Federation; e-mail: gil@vscc.ac.ru)

Vladimir Sergeevich Uskov – Ph.D. in Economics, Senior Research Associate at the Department of Scientific and Technological Development and Knowledge Economics, Vologda Research Center of the Russian Academy of Sciences (56A, Gorky Street, Vologda, 160014, Russian Federation; e-mail: v-uskov@mail.ru)

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5th Tyumen International Sociological Forum and 13th All-Russian Scientific-Practical Conference on the Program "Socio-cultural evolution in Russia and its regions"*

Elena Vladimirovna ANDRIANOVA
University of Tyumen
Tyumen, Russian Federation, 6, Volodarsky Street, 625003
E-mail: andrelena78@mail.ru

Vladimir Aleksandrovich DAVYDENKO
University of Tyumen
Tyumen, Russian Federation, 6, Volodarsky Street, 625003
E-mail: vlad_davidenko@mail.ru

Gul'nara Fatykhovna ROMASHKINA
University of Tyumen
Tyumen, Russian Federation, 6, Volodarsky Street, 625003
E-mail: gr136@mail.ru

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October 5–6th 2017, Tyumen held the 5th Tyumen International Sociological Forum devoted to the topic "Dynamics of social transformation of the Russian society: regional aspects". The Forum was attended by over 300 representatives of universities, research organizations, and public authorities from 40 Russian regions, as well as from Belarus, Kazakhstan, Latvia, Poland, the Republic of Korea and the United States. The scale and level of the scientific event is characterized by the following figures: the sections and round tables involved three RAS corresponding members, 71 Doctors of Science, 113 Ph.D. candidates, the forum was attended by 248 people. By the beginning of the conference, a collection of all submitted materials was published.

The forum was organized by Tyumen Regional Duma, the Government of the Tyumen Oblast, the Federal Research Center for Sociology, the Russian Academy of Sciences, Tyumen regional branch of the Russian Academy of Social Sciences, Tyumen State University, Tyumen Industrial University, and Surgut State University. The co-chairmen of the Planning Committee were: S.M. Sarychev, Vice-Governor of the Tyumen Oblast Ph.D. in Sociology; Y.M. Konev, Deputy Chairman of the Committee of the Tyumen Regional Duma Professor, Doctor of Sociology; G.F. Kutsev, Academic Director of Tyumen State University, Doctor of Philosophy, Academician.

Welcoming the participants, S.M. Sarychev, Deputy Governor of the Tyumen Oblast, stressed that the forum has become a traditional platform for scientific and practical comprehension of the most urgent issues of socio-economic development of Russian regions. He noted that the increase in the number of participants and expansion to the international level indicates its scientific and practical relevance among the academic community and government authorities. S.E. Korepanov, Chairman of Tyumen Regional Duma, focused on the fact that, being a leader in economic development, the Tyumen Oblast is the first to facenew challenges and risks are associated with the social structure of the society, rather than the economy. According to him, changes in communications and virtualization of life cause the emergence of new social strata and groups, levels and life styles of region's residents. Since these changes will sooner or later have a strong impact on the economy, in is necessary to predict the possible consequences today. It is important that strategic objectives of science and government coincide in terms of this issue. Therefore, according to S.E. Korepanov, public authorities of economically developed and prosperous Russian regions are seeking to intensify cooperation with the scientific community, realizing their intelligence potential. He also made an emphasis on the fact that the organizers of the forum are counting on practical results, expecting to obtain specific recommendations from the forum participants, the implementation of which will raise the standard of living and ensure innovation and technological development of Russian regions.

The topics of the plenary reports reflected the acute issues and highlighted new issues relevant to the development of Russia and its regions, and covered a fairly wide range of both theoretical and practical solutions. The plenary lectures included the following delivered by:

Zh.T. Toshchenko ("Old and new meanings of labor"); G.F. Kutsev ("On the sociological patterns of development of education in the digital age"); V.V. Markin ("Regions in Russia's social space: some lessons from the modern crisis reality"); Joonseo Song ("Branding Local Towns in Post-Soviet Russia: Local Symbols and Identities"); A.A. Shabunova ("Spatial aspects of the socio-cultural transformation of the Russian society"); T.Z. Golenkova ("Social aspects of work behavior of the population in modern Russia"); D.L. Konstantinovskii ("Expansion and differentiation of higher education"); T.A. Gurko ("The development of marriage and family relations and the implementation of family policy concepts in the Russian Federation"); Yu.V. Latov ("Inter-settlement differentiation of the distribution of modernization of social and cultural values in modern Russia"). Having no possibility to cover the entire range of issues presented in the plenary sessions due to the small size of the article, we will briefly review the most relevant. Zh. T. Toshchenko in his report revealed the old and new meanings of labor. Applying statistics and sociological studies, he showed that labor motivation and attitude to work prevalent in the Soviet times do not work now as the nature of work and its value has changed. According to Zh.T. Toshchenko, Russia's most acute semantic problem of labor is employment. Paid work has become a value which 31% of citizens seek and are afraid of losing. Zh.T. Toshchenko turned to the topic of new forms of employment and the formation of "the precariat" class, the key characteristics of which is temporary employment, precarious social situation, insignificant income, social insecurity, uncertainty of life prospects; those who are limited by the circumstances: out-of-line taxes, unemployment, harassment at work, lack of time, overtime work, poverty, insecurity, homelessness. They are unable to create a family because they live in uncertain conditions; it produces unpleasant emotional associations relate to poverty, need, misery, slums, outright poorness (according to the estimates of T. Golikova, Chairman of the Auditing Chamber, and Rosstat, in Russia in 2017 22.1 million people are below the poverty line). In his report on the development of education in the digital era, G.F. Kutsev highlighted the features of the present society – the transition to a new technological order on the basis of a powerful information explosion and the fundamental value of education.

As is obvious from the content of other plenary lectures, the scholars have done enormous work studying the current state of the Russian society, its opportunities, axiological factors, economic and social behavior, and involvement in the processes of the socio-economic modernization. The scholars stated that the Russian society continues to deform as a new social reality; that there have developed socio-economic relations and mechanisms of ownership and income distribution which lead to general population degradation. The foreign policy and economic pressure on Russia became the catalyst for many social transformations within the country, the most obvious being the growing patriotic sentiment. People are worried about the phenomena of social inequality which contradict the basic values and philosophical attitudes of the majority of citizens. Twenty years of reform, change, broken hopes and disappointments is a very long period. In

the 1990–s, the Russians were promised a European standard of living. Instead, Russia and its regions are facing a huge structural, economic, social, cultural, and regional disparities.

At the second plenary session, the forum participants adopted *a resolution* which contains specific recommendations for both public authorities and the Russian sociological community. In particular, public authorities of Russia and its constituent entities are recommended: to continue the implementation of re-industrialization, innovation and technological modernization of the country, import substitution, adaptation of the personnel training system to new objectives; to summarize and consolidate in the system of state and municipal management the practice of monitoring research on the condition and development of key spheres of life in regions and municipal units; to view sociological research as an integral part of the information support for the development of management decisions.

The forum held meetings of *five scientific sections*: "Culture, ideology, religion in contemporary society: trends, determinants, factors"; "Developmental characteristics of education in Russia and abroad, the transformation of the regional educational subsystems"; "Political and managerial context of social transformations in Russian regions"; "Social transformation in the economic activity of Russian regions: trends, determinants, factors". The forum held the 13th All-Russian Scientific-Practical Conference on the Program "Socio-cultural evolution in Russia and its regions" on the topic "Comparative analysis of the processes of socio-cultural and socio-economic modernization in Russian regions: the multi-paradigm approach". The conference presented 38 reports from 14 Russian regions (Moscow, Tyumen, Cheboksary, Tomsk, Novosibirsk, Volgograd, Samara, Ulyanovsk, Kursk, Ufa, Tula, Vladimir, Voronezh, Grozny), with 26 authors with full-time participation.

The scholars discussed the report of the RAS corresponding member N.I. Lapin who, being Chairman of the Scientific Coordination Council on the issues of socio-cultural evolution of Russia and its regions, has contributed to its effective work directing the efforts towards the solution of topical issues of territories' development. Paying particular attention to the section on the program "Socio-cultural evolution of Russia and its regions", it is important to note that the participants discussed the following issues: biggest challenges of the new Russia and the development of regions' innovative systems (N.I. Lapin); the institution of property in the post-Soviet Russia: issues of economic and social efficiency (L.A. Belyaeva); socio-cultural and socio-economic components and factors in modernization (G.F. Romashkina, E.A. Kogay, I.A. Kokh, V.T. Tarasov, E.B. Mostovaya, E.V. Andrianov, I.F. Pecherkina, A.N. Tarasova, A.V. Khoroshilova, Yu.A. Afanasyev, S.I. Shumilova); analysis of strategic development programs in the context of socio-cultural and socio-economic modernization of regions (T.A. Bulatov, T.G. Maklakova); human potential development, demographic issues and issues of social identity (R.M. Valiakhmetov, V.G. Kharitonova, A.A. Shabunova, O.N. Kalachikova); issues related to performance assessment of social well-being of citizens of Russian regions (V.A. Davydenko, I.D.

Petrosyan); methodological potential of "mixed" research methodology (E.B. Plotnikova) and other issues of regional comparative studies. The session ended with the summary of the section and the conference, the development of their resolutions.

The guests got acquainted with the work of important enterprises of the Tyumen petrochemical cluster which can be viewed as innovative businesses such as Antipinsky oil refinery and Factory of polymer tubes. The leading representatives of these factories described in detail the socio-economic context of their business, explained the principles of their interaction with municipal authorities. In fact, it was a "penetration" inside businesses in order to understand how such innovative plants, how they really work, what accompanies the creation of an innovation cluster: "what is going on and what is behind it", using the terms of N. Luhmann. All participants noted that such in-depth tours are very useful.

In terms of the cultural program, the conference organized a study tour around Tyumen and a visit to the first private Museum in Russia – a house-museum of G. Rasputin.

In summing up of the section emphasized that in contemporary Russia, social and economic efficiency of the institution of property is not high enough. The economy remains highly monopolized, enterprises are in close contact with the authorities at all levels, which hinders the development of market institutions and competition. It has been determined that the new stage of economic development will clearly increase the role of the state and state enterprises in the economy. In order to achieve long-term strategic development it is important to create institutional conditions for the emergence of a fully fledged market economy and competition (L.A. Belyaeva). It is also important to take into account the negative impact "excessive inequality" on the development of regions with a large share of population with incomes below the living wage, which negatively affects their modernization (V.T. Tarasov). Regions with a relatively low level of per capita income are "trapped" by extreme inequality with a significant number of the so-called "working poor" earning minimum wage amid higher level of living wage. The possible development scenarios of Russia and its regions were analyzed – stagnation and leadership – the necessity of forming regional and national innovation systems was proved.

The participants of the section concluded that in each region it is necessary to create an innovative system consistent with its cultural and historical conditions, as well as socio-cultural, economic and managerial practices (N.I. Lapin). In order to further improve the methodology for assessing socio-cultural images of regions, the participants consider it expedient to update the system of indicators designed to assess the socio-labor sphere of the region. It is necessary to develop the criteria for its modernization and identify social indicators which adequately reflect the transformation processes in this area (R.M. Valiakhmetov). Suggestions were made about raising the minimum wage and introducing a progressive tax scale (T.V. Tarasov). It turned out necessary to focus the efforts on the development of the civil society. The growing potential of social tension is caused by the contradictory nature of the institutional and regulatory components of modernization: there

is a simultaneous increase in self-esteem of the level of security and life satisfaction in general and an increase assessment of frequency of violations of basic human rights and freedoms (to the greatest extent: the right to emigrate, religious rights and freedoms, right to one's own language and culture) (G.F. Romashkina, V.A. Davydenko). The methodological potential of "mixed" methodology for studying modernization projects, the life worlds of local communities were reviewed. Within each region, those local communities where significant changes take (or took) place may be chosen as objects of empirical studies (E.B. Plotnikova). A promising technique to assess the level of modernization of Russian regions is a classification approach based on the mixed methodology (E.B. Mostovaya).

The conference participants confirmed that the "Socio-cultural image of Russia regions" is among the greatest sociological projects in Russia. The goals set by authors and project participants are ambitious and reflect the undoubted social significance of the project. The project is a professional and civil act, the solution of problems of further improvement of the methodology of the program "Socio-cultural evolution of Russia and its regions" must be the result of collaboration of project participants.

Information about the Authors

Elena Vladimirovna Andrianova – Ph.D. in Sociology, Deputy Head at the Department for General and Economic Sociology, University of Tyumen (6, Volodarsky Street, Tyumen, 625003, Russian Federation; e-mail: andrelena78@mail.ru)

Vladimir Aleksandrovich Davydenko – Doctor of Sociology, Professor, Head of the Research Center at the University of Economics and Finance, University of Tyumen (6, Volodarsky Street, Tyumen, 625003, Russian Federation; e-mail: vlad_davidenko@mail.ru)

Gul'nara Fatykhovna Romashkina – Doctor of Sociology, Professor, Head of the Department for Mathematic Methods, Information Technology and Management Systems in Economics, University of Tyumen (6, Volodarsky Street, Tyumen, 625003, Russian Federation; e-mail: gr136@mail.ru)

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The section "Public Opinion Monitoring of the State of the Russian Society" presents the results of regular opinion polls conducted by VolRC RAS in the Vologda Oblast. The information is published in our journal since March 2009 (Issue 1(5)) as part of the article from the chief editor.

Since October 2017 onward (beginning with Issue 5(53)) "Public Opinion Monitoring" is published as an Annex to the issue presenting reference information about major trends in social well-being of the region's residents.

Public Opinion Monitoring of the State of the Russian Society

As in the previous issues, we publish the results of the monitoring of public opinion concerning the state of the Russian society conducted by VolRC RAS in the Vologda Oblast [1].

The following tables show the dynamics of several parameters indicating the social feeling and socio-political sentiment of the Vologda Oblast population in August – October 2017, and also on average for the latest six polls (December 2016 – October 2017). These data are compared with the data for 2007 (the last year of Vladimir Putin's second presidential term, when the assessment of the President's work was the highest) and for 2011 (the last year of Dmitry Medvedev's presidency). The yearly dynamics of the data are presented beginning from 2013.

In August – October 2017, the level of approval of the work of the President of the Russian Federation did not change significantly (68–70%). It corresponds to an average annual indicator for 2015–2016 and is slightly higher than at the beginning of 2017 (66%). The share of negative evaluations of the President's work for the last two months is 17–19%.

The level of support for the Chairman of the Government of the Russian Federation did not change significantly: the share of positive judgements in August – October is 50–52%. The proportion of negative assessments is 30%, which is higher than in 2015 (22%) and in 2016 (28%).

[1] The polls are held six times a year in Vologda, Cherepovets, and in eight districts of the oblast (Babayevsky District, Velikoustyugsky District, Vozhegodsky District, Gryazovetsky District, Kirillovsky District, Nikolsky District, Tarnogsky District and Sheksninsky District). The method of the survey is a questionnaire poll by place of residence of respondents. The volume of a sample population is 1,500 people 18 years of age and older. The sample is purposeful and quoted. The representativeness of the sample is ensured by the observance of the proportions between the urban and rural population, the proportions between the inhabitants of settlements of various types (rural communities, small and medium-sized cities), age and sex structure of the oblast's adult population. Sampling error does not exceed 3%.

More information on the results of VolRC RAS polls is available at http://www.vscc.ac.ru/.

For reference: the nationwide level of approval of the RF President's performance remains stable. According to VTsIOM, In September and in the first half of October it was 83–85% (the share of negative assessments was 11%). The proportion of positive assessments of the work of the Chairman of the RF Government in September and in the first half of October was 52–54% (the share of negative assessments was 31–32%).

How do you assess the current performance of..? (as a percentage of the number of respondents)

Answer	2007	2011	2013	2014	2015	2016	Dec. 2016	Feb. 2017	Apr. 2017	June 2017	Aug. 2017	Oct. 2017	Average for the latest 6 surveys	Dynamics (+/-), the latest 6 surveys compared to…		
														2016	2011	2007
RF President																
I approve	75.3	58.7	55.3	64.1	69.1	67.8	67.3	65.7	63.6	67.5	69.7	68.3	67.0	-1	+8	-8
I don't approve	11.5	25.6	29.4	22.3	17.5	18.8	19.3	21.1	23.6	19.3	17.3	19.4	20.0	+1	-6	+9
Chairman of the RF Government *																
I approve	-*	59.3	48.9	54.2	58.1	52.3	50.4	50.4	47.5	47.9	49.7	51.5	49.6	-3	-10	-
I don't approve	-	24.7	32.8	27.6	21.7	27.6	30.1	29.8	32.8	32.1	30.9	29.9	30.9	+3	+6	-
Governor																
I approve	55.8	45.7	44.4	40.1	39.3	37.7	40.2	38.9	36.7	40.6	42.3	40.8	39.9	+2	-6	-16
I don't approve	22.2	30.5	33.2	38.9	36.2	39.3	38.5	37.8	41.1	38.9	38.7	39.2	39.0	0	+9	+17

* Included in the survey since 2008.

There were no substantial changes in the assessment of success of the President's actions in addressing the key problems of the country over the past two months:

– the share of those who think that the President successfully copes with the task of strengthening international positions of Russia is 58% (26% of the Vologda Oblast residents think otherwise);

– the share of those who think that the President successfully copes with the task of restoring order in the country is 52-53% (the share of negative judgements is 35-36%);

– the share of those who believe that the President is successful in protecting democracy and strengthening citizens' freedoms is 42% (the share of negative judgements is 38-39%);

– the share of those who believe that the President successfully copes with the task of economic recovery and promotes the increase in the welfare of citizens is 31-32% (55-56% of the Vologda Oblast residents think otherwise).

We should note that in December 2016 – October 2017, there has been a gradual increase in the index of success of the President's work to address the most critical issue of economic growth and welfare in Russia (during this time, the index increased by 11 points, from 66 to 77 points). However, the value of this index is still below 100 points, which means that there is a predominance of negative judgments in people's assessments of the President's work to increase the welfare of the population.

In your opinion, how successful is the RF President in coping with challenging issues?* (as a percentage of the number of respondents)

Answer	2007	2011	2013	2014	2015	2016	Dec. 2016	Feb. 2017	Apr. 2017	June 2017	Aug. 2017	Oct. 2017	Average for the latest 6 surveys	Dynamics (+/-), the latest 6 surveys compared to…		
														2016	2011	2007
Strengthening Russia's international standing																
Successful	58.4	46.2	45.7	50.4	51.7	51.2	51.9	54.5	52.4	55.3	58.1	57.6	55.0	+4	+9	-3
Unsuccessful	24.9	33.7	36.2	32.4	31.3	29.9	31.1	26.5	27.7	25.8	26.1	26.3	27.3	-3	-6	+2
Success index	133.5	112.5	109.5	118.0	120.4	121.3	120.8	128.0	124.7	129.5	132.0	131.3	127.7	+6	+15	-6
Imposing order in the country																
Successful	53.2	36.6	39.4	48.0	50.2	49.2	50.2	49.5	47.3	49.9	52.0	52.7	50.3	+1	+14	-3
Unsuccessful	34.0	50.0	47.5	39.1	37.9	36.7	36.7	36.8	38.8	35.8	35.6	35.1	36.5	0	-14	+2
Success index	119.2	86.6	91.9	108.9	112.3	112.6	113.5	112.7	108.5	114.1	116.4	117.6	113.8	+1	+27	-5
Protecting democracy and strengthening citizens' freedoms																
Successful	44.4	32.4	31.8	37.5	40.4	36.6	36.2	38.6	36.8	39.1	41.7	42.5	39.2	+3	+7	-5
Unsuccessful	37.0	48.3	51.0	45.4	41.5	44.3	44.3	41.3	43.5	39.7	38.8	38.3	41.0	-3	-7	+4
Success index	107.4	84.1	80.8	92.1	99.0	92.3	91.9	97.3	93.3	99.4	102.9	104.2	98.2	+6	+14	-9
Economic recovery and increase in citizens' welfare																
Successful	47.2	30.7	31.3	34.8	34.2	27.2	27.2	26.1	25.8	28.5	31.3	32.3	28.5	+1	-2	-19
Unsuccessful	39.1	56.1	56.8	53.4	52.3	59.4	61.1	59.1	57.3	57.2	55.9	55.3	57.7	-2	+2	+19
Success index	108.1	74.6	74.5	81.4	81.8	67.8	66.1	67.0	68.5	71.3	75.4	77.0	70.9	+3	-4	-37

* Ranked according to the average value of the index of success for 2016.

Over the past two months, the structure of Russians' preferences concerning political parties did not change significantly. The United Russia Party is supported by 35% (which, however, is lower than in 2015 (39%), LDPR – by 11%, KPRF – by 11%, the Just Russia Party – by 5%.

We should also note that in October 2017, as well as in August, 40% of respondents found it difficult to choose from Parliament parties the one that reflects their interests, or said that none of them expressed their opinion.

Which party expresses your interests? (as a percentage of the number of respondents)

Party	2007	Election to the RF State Duma 2007, fact	2011	Election to the RF State Duma 2011, fact	2013	2014	2015	2016	Election to the RF State Duma 2016, fact	Dec. 2016	Feb. 2017	Apr. 2017	June 2017	Aug. 2017	Oct. 2017	Average for the latest 6 surveys	Dynamics (+/-), the latest 6 surveys compared to…		
																	2016	2011	2007
United Russia	30.2	60.5	31.1	33.4	29.4	32.8	38.8	35.4	38.0	34.5	33.9	31.8	33.8	35.2	35.6	34.1	-1	+3	+4
LDPR	7.5	11.0	7.8	15.4	7.2	7.6	6.2	10.4	21.9	13.9	10.2	10.7	11.1	10.9	11.5	11.4	+1	+4	+4
KPRF	7.0	9.3	10.3	16.8	11.3	9.7	7.1	8.3	14.2	8.7	7.2	6.2	8.5	8.0	7.3	7.7	-1	-3	+1
Just Russia	7.8	8.8	5.6	27.2	4.6	3.5	3.6	4.2	10.8	4.9	4.3	4.8	5.1	5.8	4.5	4.9	+1	-1	-3
Other	1.8	–	1.9	–	0.6	0.3	0.2	0.3	–	0.3	0.1	0.5	0.3	0.4	0.8	0.4	0	-2	-1
No party	17.8	–	29.4	–	34.9	34.4	31.8	29.4	–	30.1	30.7	34.8	29.1	26.1	26.2	29.5	0	0	+12
It is difficult to answer	21.2	–	13.2	–	10.2	11.7	12.2	12.0	–	7.7	13.6	11.2	12.1	13.7	14.1	12.1	0	-1	-9

The most significant changes in August – October 2017 occurred in the dynamics of assessments of social well-being:

– in the past two months, the percentage of people describing their mood as positive decreased (by 3 p.p., from 74 to 71%);

– the share of those who believe that "everything is not so bad; it is difficult to live, but possible to stand it" decreased by 7 p.p. (from 81 to 74%).

As the results of the survey show, it may be associated with the dynamics of the assessments of people's standard of living. Thus, for the period from August to October 2017, the proportion of those who subjectively consider themselves to be "poor and extremely poor", increased by 3 p.p. (from 46 to 49%, which is the highest value for the latest six surveys).

Meanwhile, the dynamics of the consumer confidence index (CSI) show no negative changes: like two months earlier, it is 86 points, which indicates the predominance of pessimistic forecasts concerning the prospects of the economic situation in the country and people's personal financial situation.

Estimation of social condition (as a percentage of the number of respondents)

Answer	2007	2011	2013	2014	2015	2016	Dec. 2016	Feb. 2017	Apr. 2017	June 2017	Aug. 2017	Oct. 2017	Average for the latest 6 surveys	Dynamics (+/-), the latest 6 surveys compared to…		
														2016	2011	2007
Mood																
Usual condition, good mood	63.6	63.1	68.6	69.4	68.7	68.0	70.4	67.2	68.6	71.0	73.8	71.0	70.3	+2	+7	+7
I feel stress, anger, fear, depression	27.8	28.9	26.2	24.9	25.9	26.2	26.1	28.5	25.5	23.2	21.2	22.8	24.6	-2	-4	-3
Stock of patience																
Everything is not so bad; it's difficult to live, but it's possible to stand it	74.1	74.8	79.3	80.8	78.4	78.0	81.1	78.2	77.3	78.7	80.5	74.4	78.4	0	+4	+4
It's impossible to bear such plight	13.6	15.3	14.2	12.6	14.5	15.6	14.9	16.1	16.4	14.8	13.5	17.5	15.5	0	0	+2
Social self-identification*																
The share of people who consider themselves to have average income	48.2	43.1	43.9	43.2	38.7	42.1	43.7	42.5	42.8	43.5	45.2	43.0	43.5	+1	0	-5
The share of people who consider themselves to be poor and extremely poor	42.4	44.3	46.9	49.1	50.7	49.0	47.4	47.2	47.3	43.2	45.8	48.8	46.6	-2	+2	+4
Consumer sentiment index																
Index value, points	105.9	89.6	90.3	87.6	77.1	77.7	79.4	82.0	80.8	84.3	86.2	86.7	83.2	+6	-6	-23

* Question: "Which category do you belong to, in your opinion?"

Negative changes in the dynamics of social mood in the past two months occurred in 6 out of 14 socio-demographic categories (in other groups no significant changes are observed). First of all, we should note a decrease in the proportion of positive characteristics of emotional condition among men (by 4 p.p., from 75 to 71%); people 30 to 55 years of age (by 5 p.p., from 76 to 71%); and among those who according to their own assessments of their income fall within the category of 20% of the wealthiest (by 4 p.p., from 86 to 82%).

Social mood in different social groups (answer: "Good mood, normal condition", as a percentage of the number of respondents)

Population group	2007	2011	2013	2014	2015	2016	Dec. 2016	Feb. 2017	Apr. 2017	June 2017	Aug. 2017	Oct. 2017	Average for the latest 6 surveys	Dynamics (+/-), the latest 6 surveys compared to…		
														2016	2011	2007
Sex																
Men	65.9	64.5	69.9	68.9	69.5	68.8	73.3	66.9	67.6	72.5	74.6	71.3	71.0	+2	+7	+5
Women	61.7	62.0	67.5	69.8	68.0	67.4	68.1	67.4	69.4	69.9	73.1	70.8	69.8	+2	+8	+8
Age																
Under 30	71.3	70.0	75.5	75.1	77.1	76.4	80.8	70.9	80.5	75.4	80.1	79.4	77.9	+1	+8	+7
30-55	64.8	62.5	69.2	69.5	67.2	67.4	71.8	66.7	70.1	72.0	75.9	71.4	71.3	+4	+9	+7
Over 55	54.8	58.3	62.4	65.4	65.5	64.0	62.8	65.8	60.4	67.4	67.8	66.4	65.1	+1	+7	+10
Education																
Secondary and incomplete secondary	58.4	57.4	60.6	62.5	63.6	62.1	62.8	61.4	64.9	65.8	65.2	63.3	63.9	+2	+7	+6
Secondary vocational	64.6	63.6	68.1	70.4	70.1	68.4	72.7	67.7	69.3	70.2	76.7	73.3	71.7	+3	+8	+7
Higher and incomplete higher	68.6	68.3	77.4	76.2	72.7	74.3	76.9	73.1	71.7	78.0	79.1	77.1	76.0	+2	+8	+7
Income groups																
20% of the poorest people	51.6	45.3	46.2	50.8	51.8	52.5	57.5	44.6	49.1	57.1	58.1	57.9	54.1	+2	+9	+2
60% of the people with median income	62.9	65.3	71.9	72.3	71.0	69.4	70.7	70.8	70.6	72.9	73.7	71.7	71.7	+2	+6	+9
20% of the most prosperous people	74.9	75.3	83.3	84.8	82.0	80.9	83.5	86.3	79.9	81.3	86.4	82.1	83.3	+2	+8	+8
Territories																
Vologda	63.1	67.1	75.0	76.4	73.9	69.9	73.6	67.9	70.6	74.0	77.0	74.0	72.9	+3	+6	+10
Cherepovets	68.1	71.2	75.3	76.3	70.6	71.7	74.0	73.7	74.1	76.1	77.9	76.9	75.5	+4	+4	+7
Districts	61.6	57.1	61.6	61.8	64.6	64.8	66.6	63.1	64.3	66.6	69.7	66.1	66.1	+1	+9	+4
Oblast	63.6	63.1	68.6	69.4	68.7	68.0	70.4	67.2	68.6	71.1	73.8	71.1	70.4	+2	+7	+7

CONCLUSION

The results of this stage of the monitoring indicate that, despite the fact that the level of support of the President is still consistently high (68-69%), the dynamics of social well-being show negative change. There has been a decrease in the proportion of those who positively describe their emotional state, people's stock of patience has decreased, and the proportion of "the poor and the extremely poor" has increased. These changes have not yet become a trend and they still can be of a seasonal nature (for example, they can be associated with the end of the holiday period). However, there is reason to believe that in this way people can respond to the discrepancy between the official statements of the authorities and the real situation in the dynamics of the standard of living and quality of life.

Contrary to the statements of the minister of economic development Maxim Oreshkin that "pessimistic forecasts of experts who did not expect GDP to grow by more than 1 percent have not materialized" and that "following a minor technical slowdown in July, we expect a new wave of positive news and accelerated economic growth in the next few months"[2], the dynamics of the standard of living show no significant changes so far, as evidenced by the data of official statistics. For instance, in the first half of 2017, compared with the first half of 2016, the consumer price index in the Vologda Oblast increased by 1.6% (for food products – by 2.6%). While real disposable monetary incomes of inhabitants of the region decreased by 10%. Experts of Vologdastat note that "almost one third of organizations sustained loss from economic activity. Compared with the corresponding period of the previous year (the 1st half of 2017 to the 1st half of 2016) the amount of the loss of unprofitable organizations increased by 54.8% and amounted to 1.7 billion rubles"[3].

It is noteworthy that negative changes in social mood are observed not in socially vulnerable population groups (pensioners, low-income categories of citizens), but primarily among middle-aged people and those who assesses their own incomes as being average or high. Real wage, which is the main source of income in these groups increased by only 1.1% in the 1st half of 2017 compared with the 1st half of 2016.

Thus, ordinary citizens still do not feel that that "the Russian economy has overcome the crisis and is gathering momentum"[4]. The unfulfilled expectations of people regarding the standard of living negatively affect social identity and the assessments of social well-being. In this regard, further dynamics of public opinion will largely depend on whether the Russian economy is able not only to get out of the crisis, but also to develop at such a rate that the general population would feel it.

Materials were prepared by M.V. Morev, I.V. Paranicheva, T.V. Urvanova.

[2] Speech of M.S. Oreshkin at the meeting of the Russian President with Government members on September 11, 2017: transcript. *Official website of the Russian President*. Available at: http://www.kremlin.ru/events/president/news/55590

[3] *Sotsial'no-ekonomicheskoe polozhenie Vologodskoi oblasti v 1 polugodii 2017 g.*[Socio-economic situation in the Vologda Oblast in the first half-year of 2017]. Vologdastat, 2017. 13 p.

[4] Vladimir Putin's speech at the meeting of the Russian President with Government members on September 11, 2017: transcript. *Official website of the Russian President*. Available at: http://www.kremlin.ru/events/president/news/55590

AUTHOR GUIDELINES
for Submission of Manuscripts to the Editor of the Scientific Journal "Economic and Social Changes: Facts, Trends, Forecast"

The Journal publishes original theoretical and experimental articles that fall within the scope of the journal. The manuscript should be of no less than 16 pages (30,000 characters with spaces). The maximum length of the paper submitted to publication is 25 pages (approximately 50,000 characters with spaces). Book reviews, information on scientific conferences, scientific chronicles are also submitted to publication. The papers should contain research findings of completed and methodologically proper works.

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Requirements to the package of materials submitted

The following materials are submitted to the editorial office in electronic form:

1. A file containing the article in a Microsoft Word document, format .docx. The name of the file is typed in the Roman characters and reflects the author's last name (e.g.: Ivanova.docx).
2. Full information about the author on a separate page: full name, academic degree and title, place of work and position, contact information (postal address, telephone, e-mail – if available), ORCID, Researcher ID. The information should be arranged in a table.
3. Scanned copy of the commitment of the author not to publish the article in other publications.
4. A color photo of the author in the .jpeg / .jpg format of no less than 1 MB.

The package of materials is to be sent to the editor's email address: common@vscc.ac.ru.

Text design requirements

1. Margins

Right – 1 cm, others – 2 cm.

2. Font

Font size of the article's text – 14, type – Times New Roman (in case a special type font is needed, when typing Greek, Arab, etc. words, Windows default fonts are to be used). In case the paper contains seldom used fonts, they (font family) are to be submitted along with the file. Line interval – 1,5.

3. Indent – 1.25. Made automatically in MS Word.

4. Numbering

Page numbers are placed in the lower right corner of the page automatically with the use of MS Word tools.

5. First page of the article

In the upper right corner, the UDC is placed, under it, after the 1.5 spacing – the LBC, then – the symbol ©, indent (spacing), and the name and initials of the author in semi-bold. After the 2-spacing indent, the title of the article is given. Central alignment is used for the title of the article given in semi-bold. The abstract and key words are given below, after the 2-spacing indent, without a paragraph indent, in italics and aligned by width. Then, after the 2-spacing indent, the text of the article is placed.

6. Abstract

The abstract contains from 250 to 300 words. The abstract states the purpose of the research, points out its undoubted scientific novelty and its differences from similar works of other scientists; contains the methods used by the author and the main results of the work performed; identifies areas of application of the results of the study; briefly formulates the prospects for further research in this area.

Examples of good abstracts for different types of articles (reviews, scientific articles, conceptual articles, application articles) are available at: http://www.emeraldinsight.com/authors/guides/write/abstracts.htm?part=2&PHPSESSID=hdac5rtkb73ae013ofk4g8nrv1.

7. Key words

There should be not more than eight words or word combinations. Key words should reflect the content of the manuscript to the fullest extent. The number of words within a phrase should not exceed three.

8. Tables

The caption of the table and its number (if present) are given in normal font, without highlighting. The caption runs in bold and is center aligned.

Tables are inserted; drawing tools and AutoShapes are not allowed; column and cell alignment using spaces or tabs is not allowed. MS WORD table editor is used for tables. Each piece of data of the stub and head of the table correspond to discrete cell. Only editor standard tools are applied for creating and formatting tables, no pilcrows, spaces and extra blank lines for semantic breakdown and line adjustment are allowed.

9. Figures (schemes, graphs, diagrams)

The caption and its number are placed below the figure. The word "Figure" is in normal font (without highlighting). The caption runs in bold, center alignment, single-spaced.

MS EXCEL is to be used for creating charts, MS WORD, MS VISIO – for flow charts, MS Equation for formulas.

Figures and charts, created in MS WORD are to be grouped within one single object. No scanned, exported or taken from the Internet graphic materials are allowed in the article.

Algorithm of charts insertion from MS EXCEL to MS WORD:

1) in MS EXCEL select the chart, using the mouse, right click and select "copy" from the list of options;

2) in MS WORD right-click, select "paste" from the list of options, click on "paste special", "Microsoft Excel chart".

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10. Bibliographic description of the sources under tables and figures

Write: either "Source", or "Compiled with the use of", or "Calculated with the use of", etc., after that – information about the source.

11. Page footnotes

Page footnotes are executed according to GOST R 7.0.5.– 2008.

12. References

The word "References" is given after a 1.5 spacing after the body of the article in lower-case letters, semi-bold italics, center alignment. Then, the list of references is given after the 1.5 spacing.

The sources are given in alphabetical order (first – Russian-language sources, arranged alphabetically, then – foreign sources, also arranged alphabetically).

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The list of references contains links to scientific works used by the author in the preparation of the article. It is obligatory that the author provides links to all the sources from the list of references in the body of the article.

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4) sources without attribution of the author (for example, collections under someone's editorship);
5) dictionaries, encyclopedias, other reference books;
6) reports, records, memos, protocols;
7) textbooks, etc. It is recommended to provide the corresponding page footnotes for these sources.

[1] Information about the modified Harvard standard is given in the book: Kirillova O.V. *Redaktsionnaya podgotovka nauchnykh zhurnalov po mezhdunarodnym standartam: rekomendatsii eksperta BD Scopus* [Editorial Preparation of Scientific Journals according to International Standards: Recommendations of a Scopus Expert]. Moscow, 2013. Part 1. 90 p.

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1) articles from printed scientific journals (or electronic versions of printed scientific journals);

2) books;

3) monographs;

4) published conference proceedings;

5) patents.

A reference to the bibliographic source in the body of the article is given in square brackets indicating the ordinal number of the source from the references and page number referenced by the author. It is possible to make reference to multiple sources from the list, the ordinal numbers of these links are separated by a semicolon (for example: [26, p. 10], [26, p. 10; 37, p. 57], [28], [28; 47], etc.).

Articles that do not have the complete package of accompanying documents and articles that do not conform to the editor's requirements are not accepted.

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