THE RUSSIAN ACADEMY OF SCIENCES
INSTITUTE OF SOCIO-ECONOMIC DEVELOPMENT OF TERRITORIES OF RAS

ECONOMIC AND SOCIAL CHANGES:

FACTS, TRENDS, FORECAST

1 (31) 2014

The journal is published according to the decision of RAS economic institutions' administration in the North-West Federal District
Institute of Economics of Karelian Scientific Centre of RAS (Karelia Republic)
G.P. Luzin Institute of Economic Problems of Kola Scientific Centre of RAS (the Murmansk Oblast)
Institute of Socio-Economic Development of Territories of RAS (the Vologda Oblast)
and according to the decision of the administration of
Saint Petersburg State University of Economics and Finance
Cherepovets State University (the Vologda Oblast)
and RAS institutions of other RF regions
Institute of Social and Economic Research of Ufa Science Centre of RAS (Bashkortostan Republic)
Institute of Economics of the Ural RAS Department (the Sverdlovsk Oblast)

The decision of Presidium of the Higher Attestation Commission of the Russian MES (No.6/6, dated 19.02.2010) the journal is included in the list of leading scientific editions, recommended for publication of the main results of dissertations for the degree of Doctor and Candidate of Sciences.

The journal is included into databases: VINITI RAS, Ulrich's Periodicals Directory, Index Copernicus International, EBSCOhost, Proquest, and also into the Russian Science Citation Index, and is presented in the open access on the platform of the Scientific e-Library ***(http://www. elibrary.ru)***.

ISSN 2307-0331

Internet address: **http://esc.vscc.ac.ru**

CONTENT

FROM THE CHIEF EDITOR

DEVELOPMENT STRATEGY

THEORETICAL ISSUES

BRANCH-WISE ECONOMY

SOCIAL DEVELOPMENT

SOCIAL FINANCES

INNOVATION DEVELOPMENT

MODELING AND INFORMATICS

YOUNG RESEARCHERS

FROM THE CHIEF EDITOR

Vladimir Aleksandrovich ILYIN
Doctor of Economics, Professor, Honoured Scientist of the Russian Federation,
ISEDT RAS Director
ilin@vscc.ac.ru

Time factor

February 9, 2012, presidential candidate V.V. Putin, speaking at the Congress of the Russian Union of Industrialists and Entrepreneurs, was quite objective in his statements about the root cause of high social tension in Russia: **"...concerning what was going on in the 1990s, when doing business was often reduced to slicing the state pie"**. V.V. Putin points out: **"We should, of course, turn over this very page as well... Otherwise we will not be able to develop a modern market economy and, what is more, we will not be able to create a healthy civil society... The most important decisions must be taken in 2012 already."**[1]

Two years have passed since V.V. Putin announced his determination to handle this pressing issue. Besides, he has been President for more than 18 months now, but, sadly, no actual steps have been taken so far.

The system of state property distribution that has developed in Russia is socially unfair; it is a sore spot for the vast majority of the population. However, this issue is reflected neither in the Decrees of May 7, 2012, adopted on V.V. Putin's accession to presidency, nor in his first Address to the Federal Assembly, nor in his second Address on December 12, 2013.

Speaking at the Valdai International Club in September 2013, President V.V. Putin pointed out: **"...The main thing that will determine success is the quality of citizens, the quality of society: their intellectual, spiritual and moral strength"** [2].

[1] V.V. Putin's speech at the RUIE congress on February 9, 2012. *Official website of V.V. Putin*. Available at: http://premier.gov.ru/events/news/18052/

[2] Putin V.V. *Speech at the session of the Valdai International Discussion Club on September 19, 2013*. Available at: htpp://www.kremlin.ru/news/19243

V.V. Putin's Valdai speech gave rise to many commentaries in different expert groups[3]. People were arguing what the national idea should be, what principles it should be based on, and how our elite could be nationalized.

Political Scientist Aleksandr Isaev voiced the opinion of experts, sociologists and the public on what must be done to remove the accumulated social tension; he notes that it is important "to establish a new system of control and distribution that would do away with poverty of scholars, teachers and rural residents, on the one hand, and with extreme luxury of the rich, on the other. No doubt, we have to do something with Russia's national riches.

Anti-patriotism among business and other elite has reached its peak: quite a few of them are comfortably settled down in the West – with estates, accounts, with their children attending top-ranking colleges like Cambridge and Oxford. Enormous resources are transferred abroad, easily evading all the barriers. The nationalization of the very elite is the task-at-hand... I believe, it is necessary to restore order in the first place. And all this should be done not just by some department, but the President himself and his team"[4].

It must be done without delay. Neglect of the time factor, expressed in a constant discrepancy between words and actions, became a hallmark of the extremely liberal financial and economic bloc of Russian Government.

Nobody was held responsible for the flaws in Russia's economic development in 2012–2013: the Ministers of the economic bloc, the Deputy Chairpersons of the Government, or the Chairman of the Government D.A. Medvedev. And the saddest thing of all is that the Government is planning to continue the current policy, which would lead, according to the Ministry of Economic Development, to a decline in the share of Russia in global GDP by almost 20% (from 4% to 3.4%) by 2030.

The editorial of Nezavisimaya Gazeta newspaper points out that this forecast of the country's development till 2030 by the Minister of Economic Development A.V. Ulyukaev indicates the actual recognition of the fact that the social and economic course pursued by the Government cannot and will not be able to provide a decent rate of the country's development either in the short term or in the long term. "The authorities have virtually challenged the society – they have been doing nothing for at least three five-year periods, and they did not even try to change the pattern of development. A new forecast by the government is essentially the recognition of the fact that the current political and economic system is in a very poor state, and is unable to move forward even at a medium pace. Besides we do not know the possible duration of a new stagnation. Perhaps we are talking about a longer term.

[3] See for example: **G. Zyuganov**: "It is the first time that Putin said that the nation cannot live without a national idea. I have been waiting for such statements for 20 years... I consider Putin's speech as a political and ideological justification of an urgent necessity to change the political course and dismiss this Government" (*RIA Novosti*. Available at: http://ria.ru/politics/20131219/985234099.html#ixzz2tw8zu6Iz); **F. Lukyanov**: "Putin's Valdai speech contains a claim for a new philosophy of development. The approach is conservative, but in its own way, it is revolutionary and even liberal, with the focus shifted from the state to a person" (*RIA Novosti*. Available at: http://ria.ru/analytics/20130920/964803117.html#ixzz2twHvsasi); **P. Salin**. Available at: http://www.lawinrussia.ru/node/285611); **A. Shchipkov**. Available at: http://lgz.ru/article/40643309102013/osvobozhdenieyazyka/); **B. Mezhuev**. Available at: http://www.lawinrussia.ru/node/285611); **P. Dutkevich**. Available at: *RIA Novosti*; http://ria.ru/valdaiclub_tenth_anniversary/0131018/971014036.html#ixzz2twHBocFN; **D. Symes**. Available at: *RIA Novosti*; http://ria.ru/valdaiclub_tenth_anniversary/20130921/964920156.html#ixzz2twHTZDA7; **Carrère d'Encausse**. Available at: *RIA Novosti*; http://ria.ru/valdaiclub_tenth_anniversary/20130919/964521946.html#ixzz2twGt5VZF.

[4] Isaev A. Natsionalizirovat' nado elitu [Elite Should Be Nationalized]. *Literaturnaya gazeta* [Literary Newspaper], 2014, no.6, February 12–18.

So far no one can guarantee that in 2030 the situation will change. If the country's leaders almost openly confirm that they do not know how to rule the country, and they still remain in power, it is very odd indeed..."[5]

In fact, Academician S.Yu. Glazyev hold similar opinion: "Libertarian ideology is very convenient for evading responsibility for the results of economic policy, the failures of which are attributed to the spontaneous movement of market forces. A closer examination reveals that these forces are driven by actual people on the basis of their personal interests. Like illusionists, they claim their tricks of fantastic enrichment to be actual achievements of entrepreneurial genius, who was able to harness market trends. In reality, oligarchic capitalism grows on the simultaneous failure of market self-organization mechanisms and public administration institutions. Creation of new benefits is not the main source of wealth accumulation. The main source lies in the redistribution of national revenue due to the underfunding of wages, the renewal of capital assets, and misappropriation of natural and monopoly rents" [6].

President V.V. Putin, who was clearly under the influence of extremely liberal ideas generated by the financial and economic bloc of the Government, is now more concerned about the time factor that becomes decisive not only in the execution of pre-election programs set out in the decrees of May 7, 2012, but also in the issue concerning the place and role of Russia in the world. An economically unsuccessful country, whose GDP growth rate is twice below that of its foreign counterparts, will be treated respectively, like a "poor relation".

The expert community, and, in particular, economic scientists at the Russian Academy of Sciences[7] talked about the necessity to change the country's economic course a few years ago, at the onset of the global economic crisis that exposed all the negative results of the extremely liberal monetarist policy of the Government.

The 2009 GDP fall that reached 8% was deeper that that in industrialized countries and in most of the BRICS nations. V.V. Putin, after his re-election as President in 2012, ordered the Russian Academy of Sciences to prepare suggestions for the acceleration of economic growth. The report "Russia on the way to the modern, dynamic and efficient economy" was prepared in due time – to April 1, 2013 and submitted to the President of the Russian Federation[8]. And so, February 19, 2014, 10 months after the submission of the report, the President held a meeting with its authors.

The President pointed out the following in his opening speech: **"We have agreed to meet today, to hear your opinions. I will ask my colleagues from the Cabinet and the Presidential Executive Office to express their ideas as well, to work together on seeking concrete measures to promote economic growth. We believe we can resolve the challenge of faster**

[5] Tri pyatiletki zastoya – ne predel dlya Rossii: redaktsionnaya stat'ya [Three Five-Year Periods of Stagnation Is Not the Limit for Russia: editorial]. *Nezavisimaya gazeta* [Independent Newspaper], 2013, no.246, November 14.

[6] Glazyev S.Yu. Neprostitel'nye illyuzii [Unforgivable Illusions]. *Ekspert* [Expert], 2013, no.50 (880), December 16.

[7] Makarov V.L. Plavnoe nachalo – vazhnyy faktor optimizatsii razvitiya ekonomiki [Smooth Start – an Important Factor in Optimization of Economy Development]. *Ekonomika i obshchestvo* [Economy and Society], 2007, no.1112; Grigor'ev L., Ovchinnikov M. Korruptsiya kak prepyatstvie modernizatsii (institutsional'nyy podkhod) [Corruption as an Obstacle to Modernization (Institutional Approach)]. *Voprosy ekonomiki* [Economic Issues], 2008, no.2; Boldyrev Yu. Eshche raz o soderzhanii formuly "Rossiya – energeticheskaya derzhava" [Once Again on the Content of the Notion "Russia is an Energy Power"]. *Rossiyskiy ekonomicheskiy zhurnal* [Russian Economic Journal], 2008, no.3–4; Gubanov S.S. Neoindustrializatsiya plyus vertikal'naya integratsiya (o formule razvitiya Rossii) [Neoindustrialization Plus Vertical Integration (on a Formula for the Development of Russia]. *Ekonomist* [Economist], 2008, no.9; etc.

[8] Full text of the report is available at: http://www.ras.ru/news/shownews.aspx?id=4f0a07fe88534eda9428574f5fcf0654#content (Part of the report was published in the journal *Economic and social changes: facts, trends, forecast*, 2013, no.6(30), pp. 1831.)

growth in the economic and social spheres only by resolving this most important, capital, fundamental challenge. Without it, we cannot achieve anything, but it is all the more relevant that the Government of the Russian Federation is currently preparing a long-term forecast for the nation's socioeconomic development through 2030. So our meeting today is very necessary. We will need to develop and present a coherent policy on mobilizing all available resources for accelerated growth" [9].

It is noteworthy that the Chairman of the Government D.A. Medvedev and specialized Deputy Prime Ministers I.I. Shuvalov and A.V. Dvorkovich were absent at the meeting. It shows that the President is taking the situation under personal control, because D.A. Medvedev's team is unable to cope with the problems of maintaining stable and dynamic economic growth. We should pay attention to V.V. Putin's remark that the Government is preparing a long-term forecast of Russia's socio-economic development until 2030.

And what can we make out of the forecast of Russia's socio-economic development until 2030, proposed by the Minister of Economic Development A.V. Ulyukaev? Nezavisimaya Gazeta newspaper wrote about it with rightful indignation three months ago (issue of November 14, 2013).

This forecast can be interpreted as the pressure on the President, on his commitment to fulfill his election programs, recorded in the decrees of May 7, 2012, as an attempt to impede the implementation of the ideas expressed by the President in his Valdai speech.

These ideas are completely inconsistent with the policy, which for many years has been pursued by the extremely liberal economic bloc of the Government and a significant part of the ruling elite.

V.V. Putin pointed out: **"Practice has shown that a new national idea does not simply appear, nor does it develop according to market rules. A spontaneously constructed state and society does not work, and neither does mechanically copying other countries' experiences. Such primitive borrowing and attempts to civilize Russia from abroad were not accepted by an absolute majority of our people. This is because the desire for independence and sovereignty in spiritual, ideological and foreign policy spheres is an integral part of our national character"** [10].

The President gave a strict assessment of the majority of the ruling elite: **"In addition, the lack of a national idea stemming from a national identity profited the quasi-colonial element of the elite – those determined to steal and remove capital, and who did not link their future to that of the country, the place where they earned their money"** [11].

Speaking at the Valdai Discussion Club, the President pointed out that the political course should be focused on major social values, moral consensus in the society; but it is possible only with the nationalization of the elite. "We must return the elite and its money back in Russia, place their capital under state control, and solve tax issues, abolishing the flat scale; thereby, we must actually take the subsoil under the control of the state. After that we must begin to accumulate funds for a comprehensive recovery of the country's economy, defining the main ways of its development" [12].

And here the time factor will be crucially important for implementation of V.V. Putin's new political course.

[9] Meeting with Economists of the Russian Academy of Sciences. *Official Website of the President of Russia*. Available at: http://www.kremlin.ru/news/20291

[10] Putin V.V. *Speech at the session of the Valdai International Discussion Club on September 19, 2013*. Available at: htpp://www.kremlin.ru/news/19243

[11] *Ibidem*.

[12] Isaev A. Natsionalizirovat' nado elitu [Elite Should Be Nationalized]. *Literaturnaya gazeta* [Literary Newspaper], 2014, no.6, February 12–18.

Public opinion monitoring of the state of the Russian society

As in the previous issues, we publish the results of the public opinion monitoring of the state of the Russian society conducted by ISEDT RAS in the Vologda Oblast[1].

The following tables show the dynamics of a number of parameters indicating the social feeling and socio-political sentiment of the Vologda Oblast population on average for the last 6 surveys conducted for the period of April 2013 to February 2014 in comparison with the data for 2012, as well as for 2011, when D.A. Medvedev's presidential term was due to expire, and for 2007, when V.V. Putin's second Presidency was coming to an end.

Estimation of performance of the authorities

On average for the last 6 surveys in comparison with 2012, the assessments of the performance of Russia's President have improved (the share of positive evaluations has increased by 4 percentage points). However, so far the situation remains less favorable than in 2011 (the last year of D.A. Medvedev's presidency) and 2007. Still there are no positive changes in public opinion with regard to the activities of the RF Government. There is an increase in the level of assessment of performance of the Vologda Oblast Governor.

Table 1. Dynamics of the answers to the question: "How do you assess the current performance of..?", as a percentage of the number of respondents

Indicator	2007	2011	2012	2013	April 2013	June 2013	Aug. 2013	Oct. 2013	Dec. 2013	Jan. 2014	Average for the last 6 surveys	Dynamics (+/-), the last 6 surveys in comparison with		
												2012	2011	2007
RF President														
I approve	75.3	58.7	51.7	55.3	55.5	54.3	55.1	54.3	57.3	56.1	55.4	+4	-3	-20
I do not approve	11.5	25.6	32.6	29.4	31.5	29.3	28.9	28.7	28.9	29.3	29.4	-3	+4	+18
Chairman of the RF Government*														
I approve	-	59.3	49.6	48.9	48.5	46.2	50.4	49.0	51.1	49.3	49.1	-1	-10	-
I do not approve	-	24.7	33.3	32.8	35.7	33.2	30.4	30.6	32.5	32.9	32.6	-1	+8	-
Governor														
I approve	55.8	45.7	41.9	44.4	44.4	44.3	44.8	45.9	44.1	42.8	44.4	+3	-1	-11
I do not approve	22.2	30.5	33.3	33.2	34.9	31.9	31.1	32.4	35.3	36.9	33.8	+1	+3	+12

* included into the survey since 2008.

[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 1500 people aged from 18 and older. The sample is purposeful and quoted. 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 details on the results of ISEDT RAS polls are available at http://www.vscc.ac.ru/.

Estimation of social condition

The share of positive assessments of social mood and stock of patience on average for the last 6 surveys has increased in comparison with 2012, 2011 and 2007 (68 and 80%, accordingly).

However, in comparison with 2012, there has been a slight increase in the share of the residents, who consider themselves "poor" and "extremely poor" (47%). Over the period of April 2013 – September 2014 their share has not virtually changed.

Table 2. Estimation of social condition, as a percentage of the number of respondents*

	2007	2011	2012	2013	April 2013	June 2013	Aug. 2013	Oct. 2013	Dec. 2013	Feb. 2014	Average for the last 6 surveys	Dynamics (+/-), the last 6 surveys in comparison with		
												2012	2011	2007
Mood														
Usual condition, good mood	63.6	63.1	67.3	68.6	68.6	66.4	68.7	71.5	69.6	65.1	68.3	+1	+5	+5
Feeling stress, anger, fear, depression	27.8	28.9	27.0	26.2	26.0	25.9	26.3	24.0	26.2	27.1	25.9	-1	-3	-2
Stock of patience														
Everything is not so bad; it is difficult to live, but it is possible to stand it	74.1	74.8	76.6	79.3	77.9	77.8	79.7	81.6	83.1	79.8	80.0	+3	+5	+6
It is impossible to bear such plight	13.6	15.3	15.8	14.2	16.5	13.7	14.7	12.3	12.0	12.3	13.6	-2	-2	0
Social self-identification														
The share of people who consider themselves to have average income	48.2	43.1	44.7	43.9	42.6	41.9	44.9	45.7	43.7	44.2	43.8	-1	+1	-4
The share of people who consider themselves to be poor and extremely poor	42.4	44.3	44.5	46.9	48.2	48.3	46.8	45.4	46.7	46.9	47.1	+3	+3	+5
Consumer Sentiment Index														
Index value, points	105.9	89.6	91.5	90.3	90.4	89.8	91.0	90.4	87.9	91.5	90.2	-1	+1	-16

* Ranked according to the average value of the index of success for the last six surveys. For calculating each index the share of negative answers is subtracted from the share of positive answers, after that 100 is added to the obtained figure in order to avoid negative values. Consequently, fully negative answers would give the total index 0, fully positive answers – index 200, the balance between the former and the latter – index 100, which is, in fact, a neutral mark. The index of social strain has a reversed order of values: 0 points is an absolutely positive value, 200 points – an absolutely negative value.

Attitude of the population toward political parties

Positive attitude toward the party of power on average for the last 6 surveys was 29%, which corresponds to the indicators for the previous years.

One can be alarmed by a gradual increase in the share of the oblast residents, who consider that no political party among currently existing ones expresses their interests (in 2007 – 18%, in 2011 – 29%, in 2012 – 31%, on average for the last 6 surveys – 35%).

Table 3. Dynamics of the answers to the question: "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	2012	2013	April 2013	June 2013	Aug. 2013	Oct. 2013	Dec. 2013	Feb. 2014	Average for the last 6 surveys	Dynamics (+/-), the last 6 surveys in comparison with		
														2012	2011	2007
United Russia	30.2	60.5	31.1	33.4	29.1	29.4	28.5	31.3	29.6	26.9	29.5	28.3	29.0	0	-2	-1
KPRF	7.0	9.3	10.3	16.8	10.6	11.3	11.0	11.3	12.0	11.9	11.8	10.9	11.5	+1	+1	+5
LDPR	7.5	11.0	7.8	15.4	7.8	7.2	7.1	6.6	6.8	8.4	8.1	8.9	7.7	0	0	0
Just Russia	7.8	8.8	5.6	27.2	6.6	4.6	5.1	4.7	4.3	4.0	4.4	3.5	4.3	-2	-1	-4
Other	1.8	–	1.9	–	2.1	0.6	3.4	2.0	3.4	1.0	0.8	0.4	1.8	0	0	0
No party	17.8	–	29.4	–	31.3	34.9	37.1	31.7	33.4	37.3	34.4	35.2	34.9	+4	+6	+17
It is difficult to answer	21.2	–	13.2	–	11.7	10.2	7.8	12.3	10.5	10.5	10.9	12.7	10.8	-1	-2	-10

ISEDT RAS has been carrying out a long-term assessments of the attitude of the Vologda Oblast residents to existing power structures and political institutions. The performance indicators are given below.

The graphs, presented hereto, in comparison with those published earlier, take into account the results of assessments obtained during V.V. Putin's third presidential term, including the results for 2013 in general.

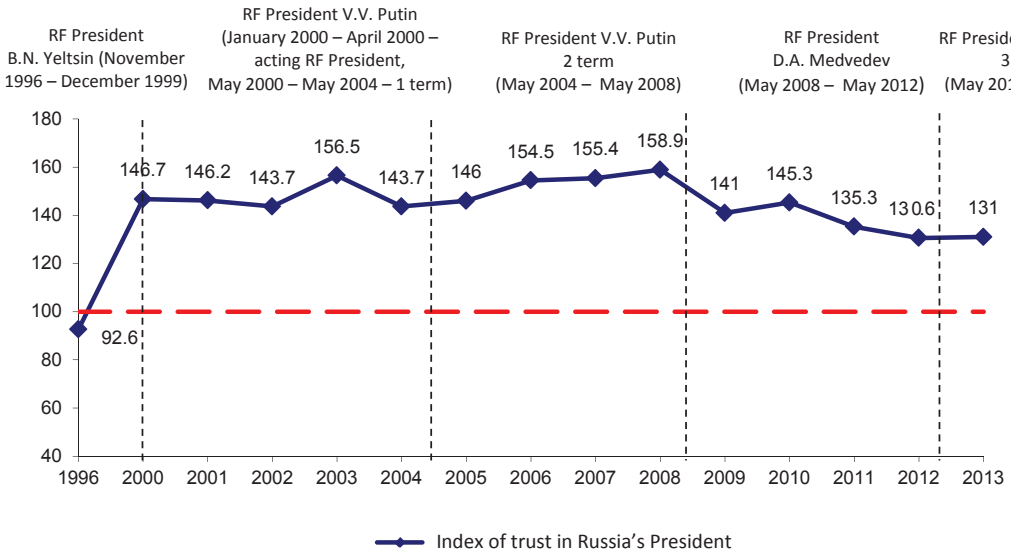
The data show that a sharp increase (in comparison with the period of B. Yeltsin's presidency) in the level of trust in President V.V. Putin, taking place in 2000–2008, was replaced by a constant decrease of trust in the President (represented by D.A. Medvedev) in 2009–2012, and it has not been restored so far.

We should note that the level of trust in the Church has remained relatively high. The value of the index of trust is higher than that concerning government structures and the majority of political institutions; and it is characterized by stability in all the periods of sociological assessments.

At the same time, there has been an increase of public trust in the Court. 2013 witnessed a positive shift in the trust in the Procuracy, the Federal Security Service, the Army, and the Police – those institutions that are crucial links in the strength of the state system.

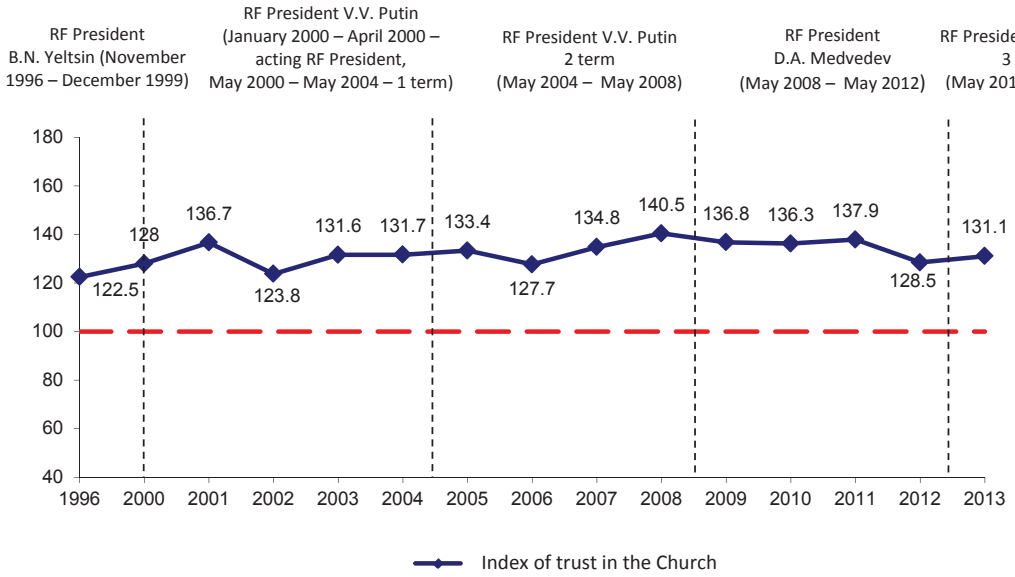
So far, it has not been possible to overcome the recession of recent years concerning the trust in the activities of the State Duma and the Federation Council, which indicates that the system of domestic legislation responds untimely to the formation of the legal framework.

Attitude toward the President of the Russian Federation



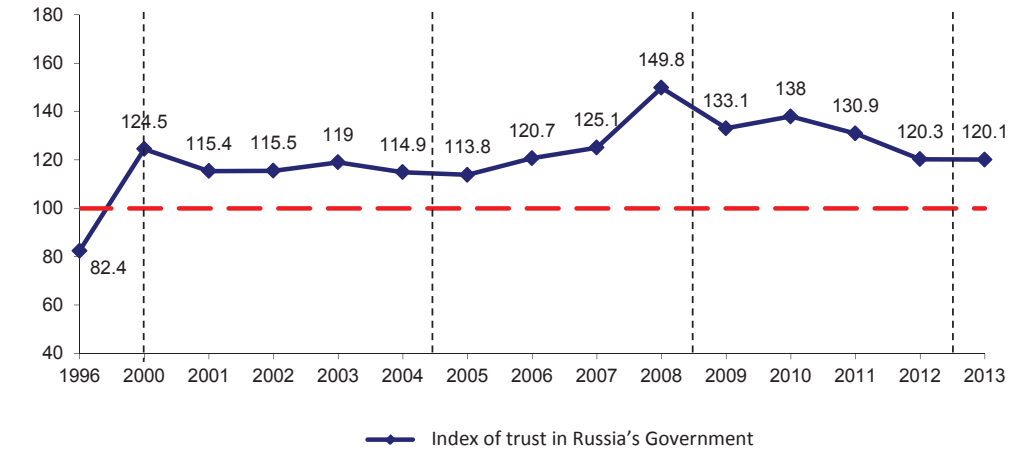
The share of the Vologda Oblast residents, who have trust in Russia's President, did not change significantly in 2013 (47%). In 2010–2012 there was a decrease in the level of trust (from 145 to 131 points).

Attitude toward the Church



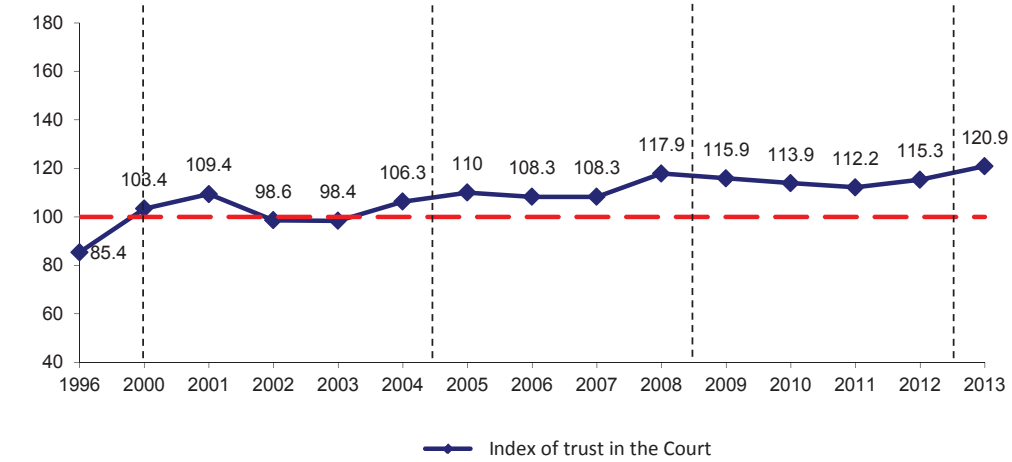
The level of trust in the Church increased a little in 2013 (the index increased from 129 to 131 points) after its fall in 2012 by 9 points. (from 138 to 129 points).

Attitude toward the Government of the Russian Federation



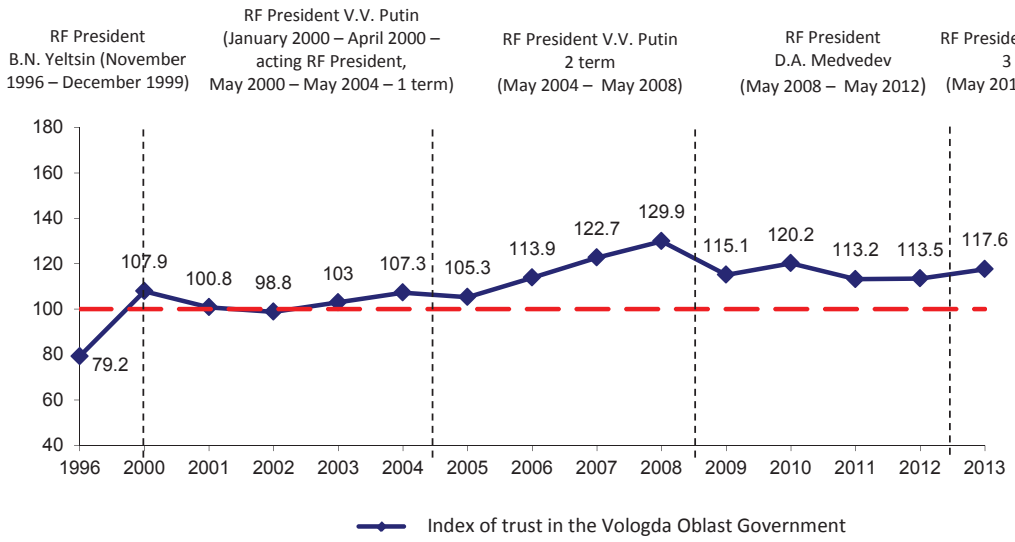
Index of trust in RF Government, after its decrease in 2010–2012 (from 138 to 120 points), has stabilized.

Attitude toward the Court



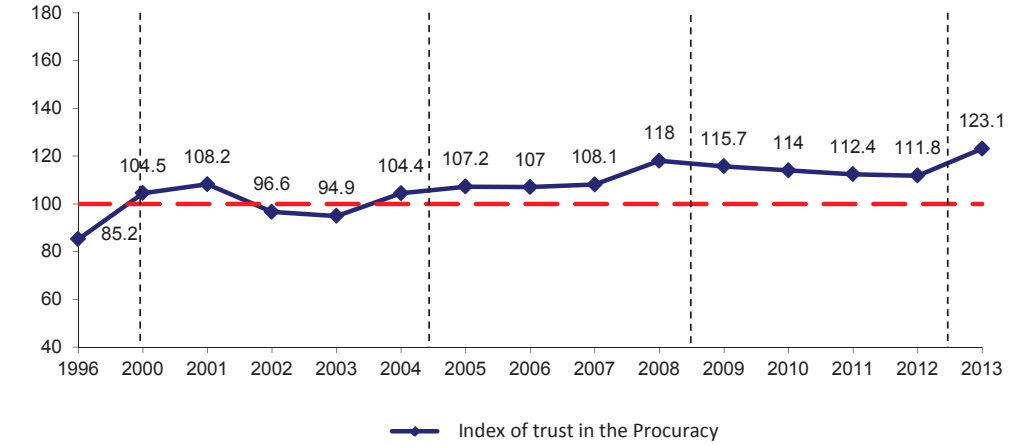
Level of the Oblast residents' trust in the Court has been increasing since 2011. The index has increased by 9 points over this period (from 112 to 121 points).

Attitude toward the Government of the Vologda Oblast



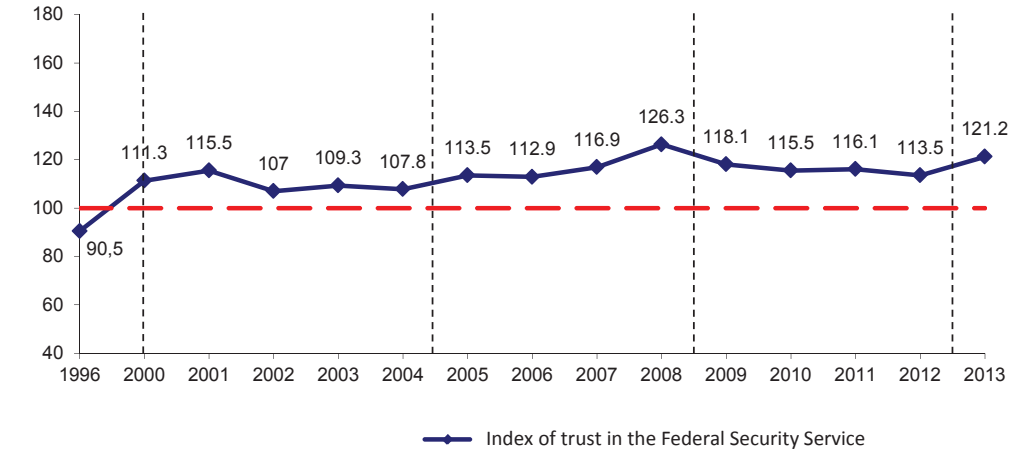
In 2013 the index of trust in the Oblast Government slightly increased (from 114 to 118 points).

Attitude toward the Procuracy



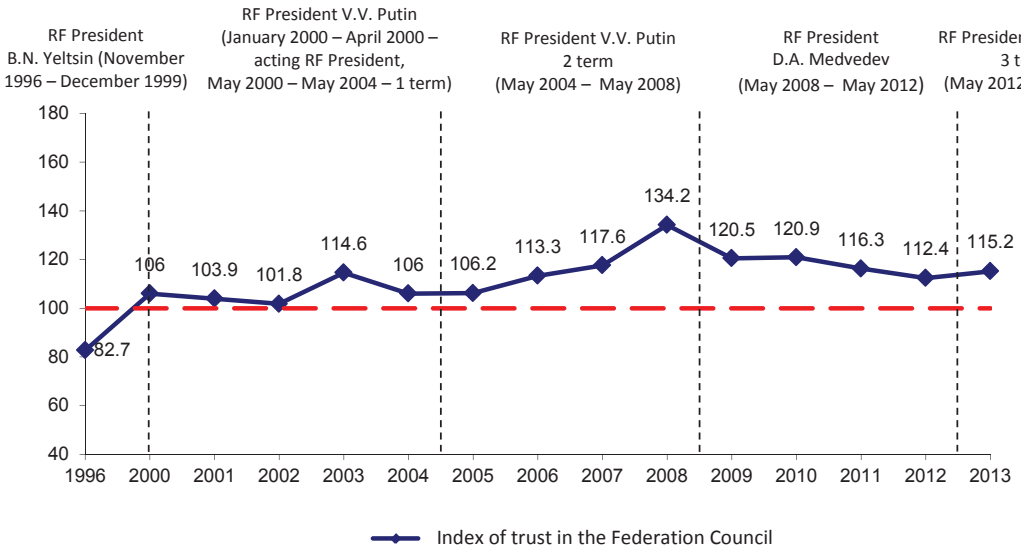
The level of trust in the Procuracy in 2013 increased considerably (from 118 to 129 points). The opposite trend was observed in 2008–2012 (the index has decreased from 118 to 112 points over this period).

Attitude toward the Federal Security Service of the Russian Federation



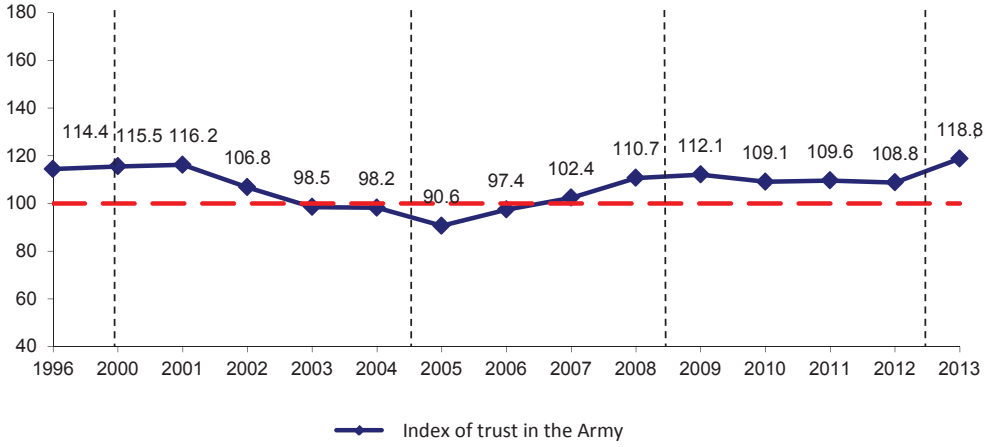
The level of the Oblast residents' trust in the Federal Security Service in 2013 increased considerably (the index has increased from 114 to 121 points). In 2009–2012 there were no significant changes in the dynamics of the index.

Attitude toward the Federation Council of Russia



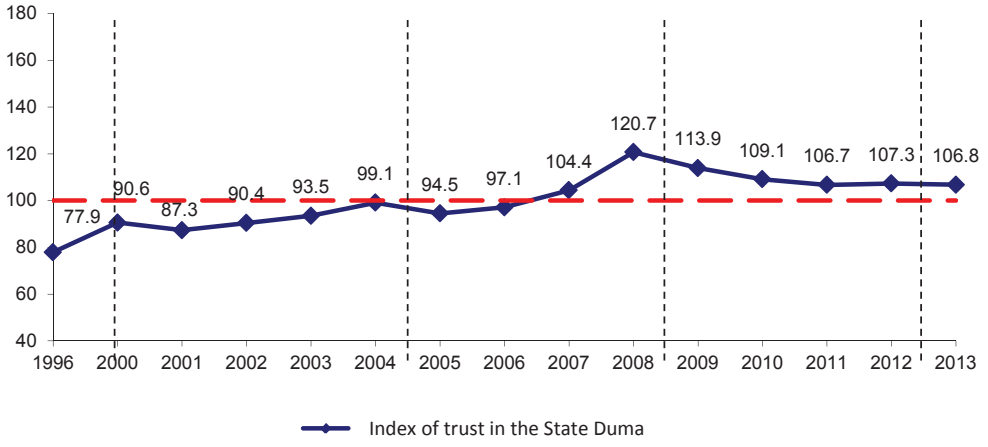
After the decline in the level of trust in the Federation Council in 2009–2012 (the index decreased from 121 to 112 points), there were positive changes in 2013: the index of trust increased a little (from 112 to 115 points).

Attitude toward the Army



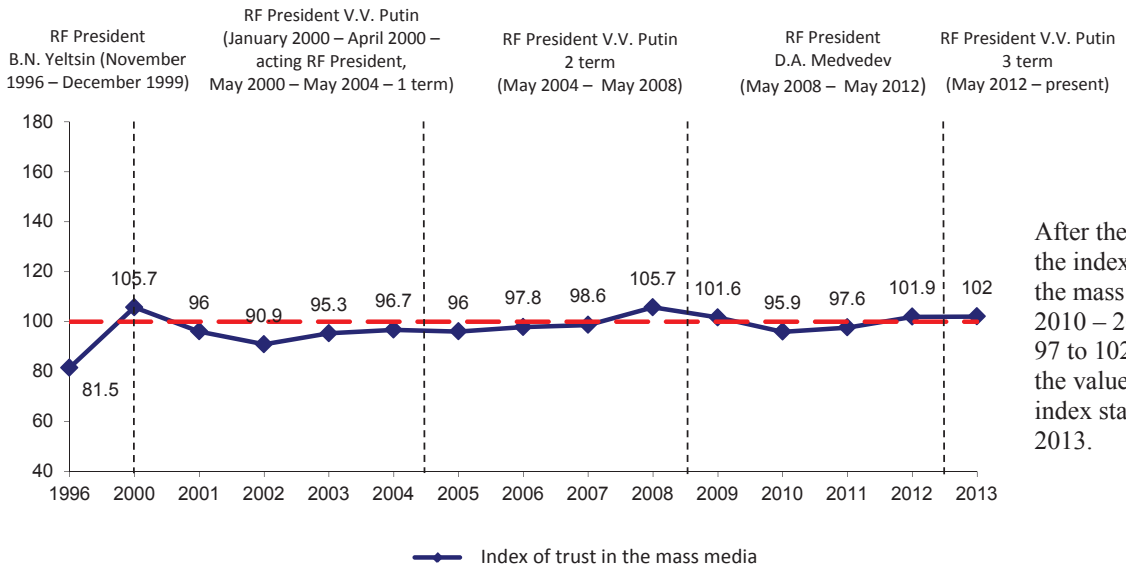
The residents' trust in the Army in 2013 increased considerably (the index increased from 109 to 119 points). In 2009–2012 there were no noticeable changes in the dynamics of the index.

Attitude toward the State Duma



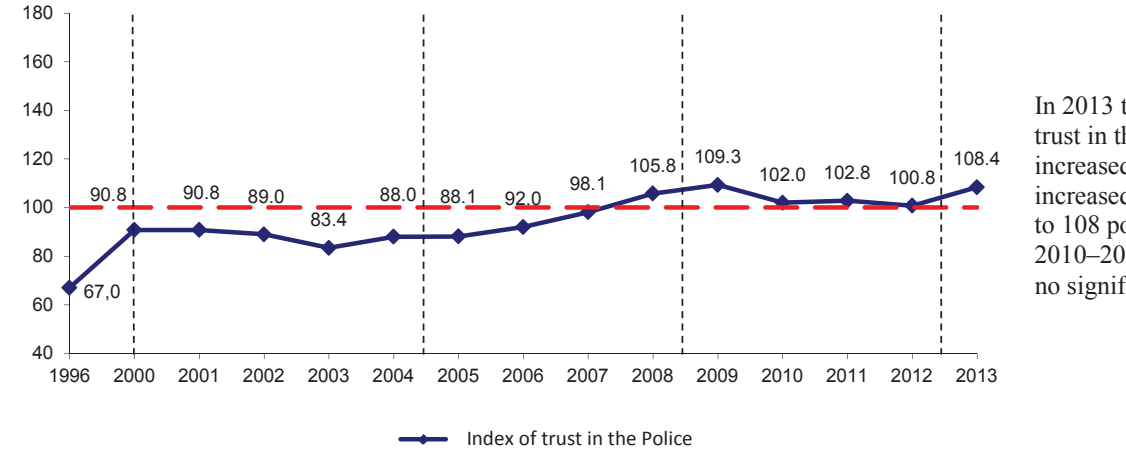
Since 2011 there have been no noticeable changes in the dynamics of the index of trust in RF State Duma (107 points).

Attitude toward the mass media



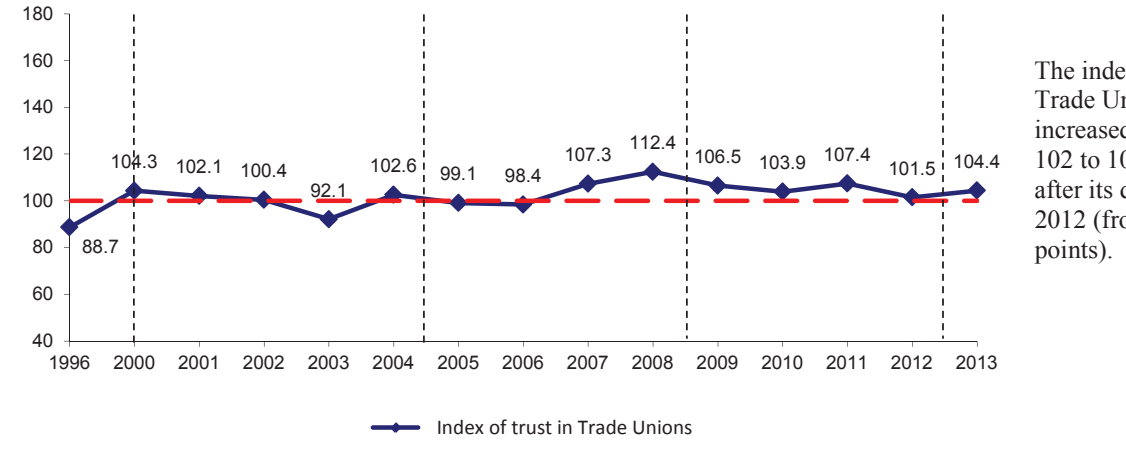
After the increase in the index of trust in the mass media in 2010 – 2012 (from 97 to 102 points), the value of the index stabilized in 2013.

Attitude toward the Police



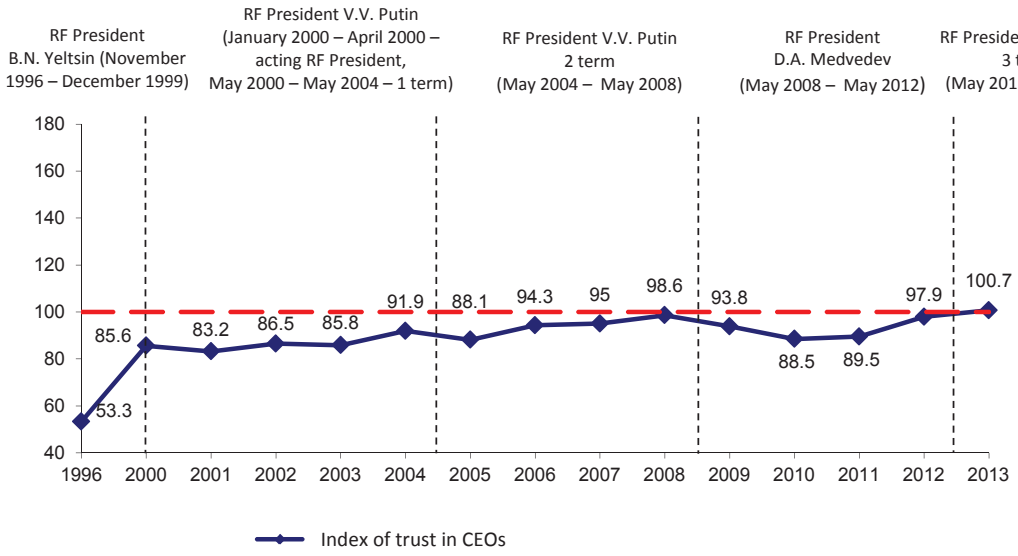
In 2013 the level of trust in the Police increased (the index increased from 101 to 108 points). In 2010–2012 there were no significant changes.

Attitude toward Trade Unions



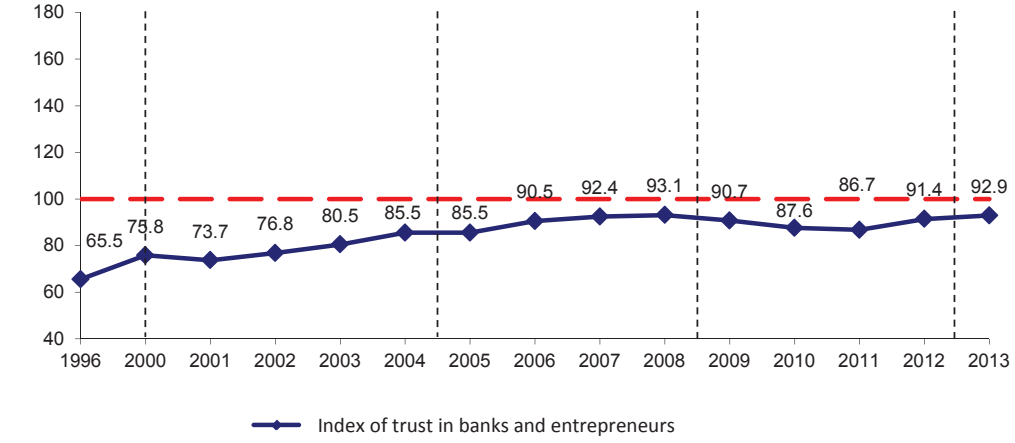
The index of trust in Trade Unions in 2013 increased a little (from 102 to 104 points) after its decrease in 2012 (from 107 to 102 points).

Attitude toward CEOs



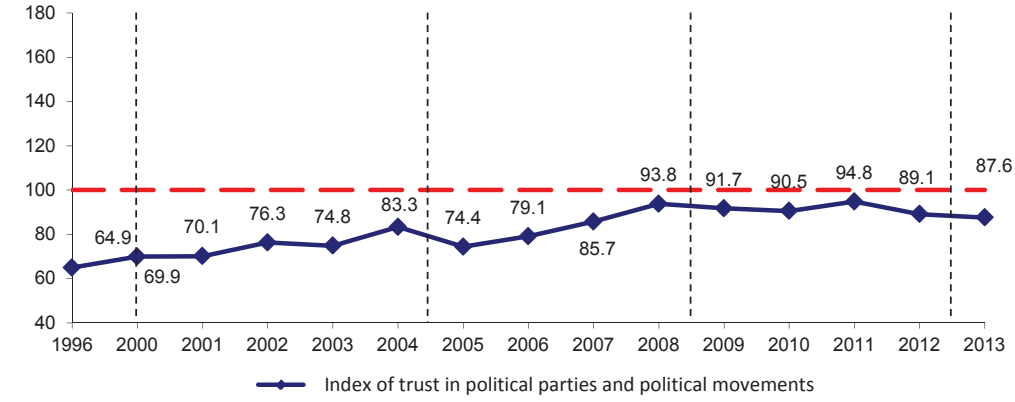
The index of trust in CEOs has been increasing since 2011 (the index has increased from 90 to 101 over this period).

Attitude toward banks and entrepreneurs



The index of trust in banks and entrepreneurs has been increasing since 2011 (from 87 to 93 points over this period).

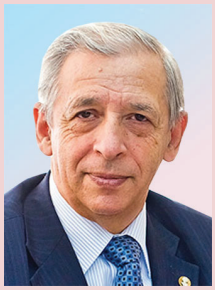
Attitude toward political parties and political movements



The level of trust in political parties and political movements has been decreasing since 2011. The index has decreased by 7 points (from 95 to 88) over this period.

Minakir P.A.

On the key tasks of Russia's economic development (following the Address of the RF President to the Federal Assembly)*



Pavel Aleksandrovich MINAKIR
Doctor of Economics, RAS Academician, Director of Economic Research Institute, Far Eastern Branch of RAS

The RF President delivered another Address to the Federal Assembly. As always, it concerned the whole range of issues and trends in the social life. The situation in the country and in the world is extremely complex, and therefore the Address should not be an ordinary political action. It would be logical to expect if not revelations, but at least adequateness in diagnosis, if not univocacy but at least clarity in methods of prevention and treatment. How have the expectations been met? Let us focus only on two cases.

The first case – economic growth called by the President himself "the core of our (obviously of the Government and the Presidential Administration?) work» and a basic prerequisite for solving problems of social development.

Good news is the fact that the President pointed to the internal causes of the growth rate reduction or even the beginning of large-scale economic stagnation if we call things by their proper names. The bad news is the interpretation of "the internal causes", given in the Address. Actually, two such causes are singled out: 1) low labor productivity, 2) excessively high share of commodity export. Hence, all the other reasons are already not significant, at least for the government and the President.

Well, perhaps, the public and independent experts have not noticed or have not appreciated the fact that in Russia corruption is defeated, administrative barriers are removed, effective competition is provided, control over state corporations is established, state regulation of monopolists' activity (natural or unnatural) is imposed, sound monetary policy is implemented, control over external debt (government and corporate) is introduced, the "fiscal rule" is substituted for the rule of optimization of "unprotected" budget expenditures, external capital flows are optimized, the problem of unspent funds at the regional

* The article was published (untitled) in the journal *Spatial Economics* (2013, no.4) in the section "From the Chief Editor". Reprinted with the author's permission..

and municipal levels is solved and the threat of subnational defaults is eliminated, the proprietary rights are guaranteed, sound industrial policy is implemented, etc. It is possible, but unlikely. More likely, all the stated above is such a huge undertaking, that it would be better to adhere to general and, therefore, very logical and correct slogans.

However, the increase in labor productivity is a critical issue. Labor productivity should be understood as the ratio of GDP to the number of the employed in the economy. It is just the indicator of work quality, production processes management, the state of a technical structure of the capital, the technology level, etc. The low level of labor productivity shows that the level of management and technology in the entire chain of economic relations and for all economic agents is extremely low.

In fact, the problem of the indicator of the direct labor effectiveness is even more acute than it was reflected in the Address. The President has been provided with data according to which Russia is one of the "five largest economies in the world". This is true, if you judge by data provided by international institutions for 2012. However, Russia belongs to this group only according to the World Bank, and according to the IMF and CIA it takes sixth place, but it is still very good, although the GDP estimates differ almost by 800 billion US dollars[1]. But it should be taken into consideration that this is data, obtained by comparing GDP levels, measured by purchasing power parity. And if we compare estimates of nominal GDP, and also those of per capita, that characterize the level of economic development, we see that Russia takes a modest 50th place between Lithuania and Latvia. Obviously, if we had at least twofold increase in nominal GDP per an employee, then Russia would reach Spain and Israel in the rating (30th–32rd place)[2].

How can we achieve this bright future? The President proposed the recipe of four ingredients: enhancement of professional education quality, creation of a flexible labor market, a favorable investment climate, modern technologies. There is nothing strange and new. There are nuances. And they are amazing.

The basis for boosting direct labor productivity is the increase in its technical and technological capabilities. And this cannot be achieved without constant introduction of new technical and technological solutions. No wonder, the President starts with urging the government and (now that is a surprise) the Academy of Sciences to "correct perspective directions of science and technology development" taking into account the fact that the Academy of Sciences has just been, if not destroyed formally, but demonstratively humiliated.

The Academy of Sciences practically lost the right to determine the trends and prospects of scientific and technological search, and in a two-month period after that the Academy had to determine the path of technological upgrade. Maybe, it has been done by habit. Maybe, one tries to find a future convict for a very probable failure of the project "labor productivity breakthrough". That would be logical, because the government's responsibility for the economic breakdown as well as the absence of the convict (as in the case of the "GDP breakthrough failure") are out of the question.

Another nuance is applied research, a key point in practical innovation. But nothing was mentioned about the key link in applied research – corporate development, centers, laboratories, that was previously called as "sectoral science". Substitution of the problem of R&D management and its relations with fundamental research by the problem of patents/licenses and related revenues does not advance the desired technological upgrade. The country can produce a lot of patents/licenses, but they will be used only if there is demand on the likely results of their use. In fact

[1] *List of countries by GDP (PPP)*. Available at: ru.wikipedia.org/wiki/ (accessed December 15, 2013).

[2] *List of countries by GDP (nominal) per capita*. Available at: ru.wikipedia.org/wiki/ (accessed December 15, 2013).

it is necessary to "form" domestic demand for high technologies. But why do we need only high technologies? Aren't we just satisfied with technologies, we got used to having, or don't we have problems with them?

But let us assume that in some miraculous way under conditions of the started collapse of fundamental science, lethargy of applied research, domestic business' reluctance to implement the modernization strategy, which requires higher accumulation rates in the absence of available credit sources, Russia increases the number of patents and licenses significantly. What will happen to productivity? Most likely, nothing will. As the increase in the revenues share, got from patents and licenses, in the GDP value only means a change in the GDP structure, and only in case if domestic patents and licenses are required by the market, competitive in internal and external markets. Another reason is that it is impossible to base a national economy only on its own patents; the real problem is management of effective and continuous technological borrowing. But it requires changes in motivation in the economy, in accumulation policy, in a number of institutions, and not only "development institutions".

The second case is connected with strategic objectives of economic development. The task of "Siberia and the Far East development" is an example of such goals, provided in the Address. It is called a rational project of the 21st century. One cannot but agree that "the tasks to solve are unprecedented in scale ...and our steps should be original". Hence, there are two issues, not clearly reflected in the Address.

First, there remains great uncertainty for the tasks to solve. What are these task about? There are theories, but there is no clarity. This can be the task of accelerating GDP growth rate in the Far East and Siberia. This can be the task of boosting foreign trade turnover with the Eastern neighbors. This can be the task of creating "open economy". This can be the task of forming a new industry, the tasks of changing an economic structure. This can be the task of creating a comfortable living environment. And this list can be continued. Clear and unambiguous definition of the objectives is known to determine the way of its solution, and the likely outcome. However, clarity and certainty are still in deficit.

Secondly, there still remains some uncertainty with "original steps". As follows from the text of the Address, non-standard solutions mean the creation of a network of "special territories of advanced economic development with special conditions for establishment of non-extracting industries focused on export". It already looks very much like the concept for new industrialization in its versions "the model of export and production curves", projects "TOR-2030" and "TOR-2050"[3]. The difference lies in the fact that the projects envisage specialization in these zones on the use of technological monopolies, including, and even primarily, in the processing of raw materials intended for export and in export-oriented new production. The Address does not make such emphasis; i.e. it is implied that the provision of tax incentives and the promise to create conditions for doing business, competitive with key business centers of the Asia-Pacific, are sufficient arguments for shifting the focus of domestic and foreign investment to Eastern Siberia and the Far East. This implicitly assumes that the state is ready to take on the costs of compensating for not just increased production costs, but also such "invisible" articles like losses from low scale, high capi-

[3] See for example: *Sintez nauchno-tekhnicheskikh i ekonomicheskikh prognozov: Tikhookeanskaya Rossiya – 2050* [Synthesis of Scientific-Technological and Economic Forecasts: Pacific Russia – 2050]. Vladivostok: Dal'nauka, 2011. 912 p.; *Tikhookeanskaya Rossiya – 2030: stsenarnoe prognozirovanie regional'nogo razvitiya* [Pacific Russia – 2030: Scenario Planning for Regional Development]. Khabarovsk: DVO RAN, 2010. 560 p.; Minakir P.A. *Ekonomika regionov. Dal'niy Vostok* [Economy of the Regions. The Far East]. Moscow: Ekonomika, 2006. 848 p.

tal intensity, enhancement of competition. If so, one should have a clear understanding of the purpose of all this, for what economic or military-political result it is done.

But even if all of this has been studied and explained, these steps can hardly be called "original". In fact, they are very standard actions, which should consider the main thing – they will bring success only when the key comparative advantages of these "zones" are specified. Such advantages can be found in technological leadership, the abundant and cheap resources and/or production factors, the scale of the market, preferential system of institutions. Tax benefits can and should facilitate the decision making that concerns the use of these advantages in a particular place.

It is possible that the limits of the Address did not allow the President to develop the declared intentions on these two subjects, and it will be done later. It can be worse, if these brief and sketchy intentions once again rely on the notorious "invisible hand of the market", which will put everything in order. Then we would have to deal with these issues at the level of abstract ideas and intentions.

UDC 316.422, LBC 60.524.122.115

On the strategy of integrated modernization*

Nikolay Ivanovich LAPIN
RAS Corresponding Member, RAS Councilor, Head of the Centre for the Study of Social and Cultural Change, Supervisor of the Monitoring "Values and Interests of Russia's Population", Federal State-Financed Scientific Institution the Institute of Philosophy, Russian Academy of Sciences (14, Volkhonka Street, building 5, Moscow, 119991, Russia (lapin@iph.ras.ru, lapini31@mail.ru).

Abstract. The article is continued designing strategy of modernization in Russia and its regions, originally set out by the author in the report at the Conference "The evolution of Russia's regions and their strategies of socio-cultural modernization» (Vologda, ISEDT RAS, October 2012; see. sat. Conference materials, part 1). Extended meaning of "integrated modernization", proposed by Professor Chuanqi He. Special attention is paid to the unfinished state of societal transformation as the main limit, modernization of Russia and its regions. Grounded three-phase strategy of integrated upgrades, each of which has its own set of strategic priorities, which should ensure the interaction of industrial and information stages of modernization of regions of the appropriate types.

Key words: integrated modernization, strategy of modernization, phases of strategy, strategic priorities.

Modernization as a global process of civilizational changes. Its structural components

The discourse on Russian modernization does not pay sufficient attention to the fact that modernization, as the complex process of civilizational changes, which acquired the global scale[1], is conditioned by history. Reasonable arguments about nonlinearity of historical processes are not identical to the denial of progress and its historical causality. Modernization is a consistent evolution (but not linear evolution: not with the only stationary state, but with potential set of these states) of human civilization from agrarian societies to industrial (first stage), then to information (second stage) societies. By the 21st century this evolution has acquired global character that proves its historical pattern.

It is a complex process. It consists of three main components, each of them can be considered as a partial, component modernization.

* The article was prepared under the financial support from RHSF (grant No. 14-03-00421a).

[1] For details, see [6, p. 32-49]. A number of topical aspects of this subject was discussed at the Russian-Chinese conference "Civilization and modernization", held in may 2012 at the Institute of Philosophy of RAS (see [8]).

1. Engineering-and-technological modernization – the transition to a new technological mode – a new way to create the means for people's life activity, the way that becomes the main (>50%) source of the gross domestic product of the country, region (GDP, GRP) or a new resource for the competitive development of other societies and countries. At the beginning of information modernization, such source was found in the fifth technological mode (electronics, computer engineering) that was replaced by the sixth mode (nanotechnology, cellular technology).

2. Socio-economic modernization. With the establishment of new technological modes the share of the three main economic sectors in GDP changes consecutively: the primary, industrial stage of modernization experiences sharp reduction in the share of the primary, agricultural sector due to a corresponding increase in the share of secondary, industrial sector; the secondary, information stage is characterized by a significant increase in the share of the tertiary sector (services in a broad sense, including the production, transfer and use of new knowledge), and the share of the first two sectors (material production) reduces accordingly). Having studied the history of modernization in developed countries of Europe and North America for 200 years, specialists from the Center for Modernization Research at the Chinese Academy of Sciences (CMR CAS) have identified stable indicators and included them into the tools for the monitoring of global modernization, which has been conducted annually since 2000, as default values when obtaining industrial modernization indexes [6, p. 59-60].

3. Socio-cultural modernization – the achievement of decent standard of living and quality of life, the formation and adoption of the set of values centered around the development of a person as an individual, his/her rights and freedoms; and their approval in everyday life is ensured by social and other structures and institutions such as science, education, medical care, profound democratization of the state and the entire political life of society, its judicial institutions, promotion of the activity of civil society.

All the components of modernization as a civilizational process are interrelated. Together they form an integrated unity. If one or another component is represented clearly insufficiently, or, on the contrary, dominates all the rest, then the complex modernization can turn into a partial quasi-modernization.

The analysis of the annual CMR CAS monitoring shows that the indicators and indexes of the tools applied represent quite convincingly the state, dynamics and place of each country according to the socioeconomic component of modernization, and partly according to its socio-cognitive indicators; thus, to a certain extent, according to modernization in general, differentiating it into two stages – primary (industrial) and secondary (information), as well as measuring their integrated index. However, social and cognitive indicators and indices reflect its cultural component only partially. As for the engineering-and-technological component, it is presented indirectly.

Thus, the CMR CAS tools are very effective, and we are going to use it. But it is necessary to adapt it more comprehensively to the specifics of Russia as a country with the medium level of modernization, the country that experienced deindustrialization and has not completed its transition to democratic society with socially oriented market economy.

Aggravation of competition between countries for the success of modernization

According to the latest results of the CMR CAS monitoring, by 2010 66 industrialized countries have implemented the primary modernization by 100%, and since the 1970s 30 countries have entered the secondary stage of global modernization. Among these, 22 countries had a high level of information

development (their index was 80 or more points), and 26 countries had the medium level of development. Russia was among the countries with medium level of development (71 points) and ranked 29th. The six countries with the medium level of development: Greece, Czech Republic, Kuwait, Estonia, Italy, Portugal were ahead of Russia on their way to the high development level (from 72 to 79 points). Slovenia was ahead of them (82 points). The United States (109 points) remained the most developed country [10, p. 71-74].

The future of the world modernization in the second half of the 21st century will affect more than 190 countries (approximately 6 billion people). **By 2100**, according to the forecasts:

- the standards of secondary modernization of 20 developed countries will increase 5-fold as compared to 2005, and the average level of modernization in the world will lag behind them by 50 years;
- in the conditions of global competitiveness, the position of any country in the world modernization may increase or decrease; therefore, the leading countries should always protect their forward positions, and the catching-up countries should accelerate their pace of modernization.

Conclusion: the 21st century will see the increase in the irregularity of modernization in the countries, and the competition between the countries will be tough [6, p. 230-234].

What hampers modernization in Russia and what should be done for maintaining and enhancing Russia's modernization status and its competitiveness in the world in the conditions of tough competition?

The incompleteness of societal transformation is the main reason for the slowdown in Russia's modernization

According to estimations by T.I. Zaslavskaya, V.A. Yadov and other Russian scientists, socie-tal transformation (radical change of the entire society), which began after the systemic crisis and the collapse of the USSR in the late 1980s, has not been completed yet: it has not reached the developed state that ensures competitiveness in the global community (see [2, p. 104; 9, p. 8-11]).

It is the incompleteness of societal transformation that is the main reason for Russia's lagging behind in global modernization. But the incompleteness of transformation does not mean that no new society has emerged. What is a modern Russian society, what are its main features?

There are grounds to conclude that **there emerged an intermediate transitional condition of the Russian society – a symbiosis of structures of early capitalism with modern globalization: oligarchic-bureaucratic capitalism with a comprador dominant, which bends the capital created in Russia to the interests of transnational business** (see [5, p. 337-340]). As a result, there is no demand for modernization of the Russian economy and the whole society; there is no demand for Russia's innovation human potential, which is still considerable, although already reduced, and it is dying in vain.

Information concerning the sociocultural portraits of regions, which is based on sociological surveys, indicates that the efficiency of modernization processes in the regions, from the viewpoint of human potential, is low; although statistics record inertial growth in its socio-economic indexes. Here we are faced with *quasi-modernization* that is not balanced socially and culturally.

Such is the price of the opportunities for completing societal transformation that are being lost. In the conditions of intensified international competition for modernization success, the incompleteness of this transformation has become a strategic flaw in the evolution of modern Russia. The inertial growth of *quasi-modernization* should be opposed to the strategy of integrated, socially and culturally balanced, thereby, anticipatory, modernization.

The completion of the transformation, first of all, should provide a response to the two main issues posing a threat to modern Russia, such as:

1. Threat to security that is aggravating due to conflicts in the conditions of global instability; it requires urgent modernization of the country's defense industry, ensuring its competitiveness in global markets.

2. Threat to political stability and integrity of the country due to glaring financial and material contrasts between the thin layer of the super-rich and the masses of the poor; this fact is exacerbated by the contrasts between the standard of living in different regions; this threat is to be dealt with by bringing the standard of living and quality of life to the European average in all the regions of Russia.

Strategic theses and decrees of Russia's President V.V. Putin

In 2012, explaining the reasons for his consent to stand for election, presidential candidate V.V. Putin wrote the following: "In my opinion, our task in the forthcoming elections is to get rid of everything that hinders our progress on the way of national development. *Russia should complete the creation* (italics added). – N.L.) of such a political system, such a structure of social guarantees and protection of citizens, such an economic model that will together form a single, living, constantly evolving and, at the same time sustainable, stable, healthy state body, which will unconditionally guarantee Russia's sovereignty, and prosperity of the citizens of our great nation for decades. Our task is to defend justice and dignity of every person. The truth and trust in relations between the state and society" [7].

In fact, **it is a call to take immediate action** on the basis of the main values of the Russians, like justice, human dignity, inherent worth of his/her life.

Immediately after the inauguration, Russian President V.V. Putin signed the Decree "On the long-term national economic policy". Its first paragraph orders the Government of the Russian Federation to take measures aimed at "creation and modernization of 25 million high-performance jobs by 2020".

This task is not just words, but an urgent necessity. It is backed by the statistical data. Many sociological studies, including the monitoring "Values and interests of Russia's population" carried out by the Center for the Study of Social and Cultural Change of the Institute of Philosophy of RAS in 2006 and 2010, and the studies conducted by more than 20 research teams on preparation of the portraits of regions prove that in 2006-2010 Russia's population considered the **task of creating millions of new jobs** a priority. In conditions of the crisis and subsequent depression this task has become even more urgent, and it should be specified in the strategies and development plans for each region. The disruption of its implementation must be prevented.

How to overcome the incompleteness of societal transformation in Russia?

Comprehensive completion of societal transformation is the most complicated historical task. Actions for its solution should come primarily from higher authorities, and be implemented with active participation of business structures and civil society. However, it is not only important, **who** does it, but also **how** the actions are carried out: the method largely determines the structure of participants. Their actions can be successful only if they are coordinated. It is necessary to establish a *multilateral negotiation process*, initiated by the President of Russia and aimed at such coordination.

The power – owners – civil society should become the main participants of the negotiation process. Obviously, the power structures should be headed by the President of Russia. The owners should not be represented by the oligarchs alone, but also by the Union of Industrialists and Entrepreneurs, and by small business. Civil society can be represented

by a deputation from federal and regional public chambers, as well as from scientific, educational and other structures.

Measures that are to be undertaken to complete the societal transformation in Russia should be the priority subject of such negotiations. This should be an open, public, thoughtful discussion. It is necessary to identify the main provisions of draft laws and other normative acts seeking the *completion of economic, political and legal institutions effective for the entire society*. It is also necessary to do the following:

– provide the protection of the rights and freedoms of citizens (equality before the law, etc.) by the court and law enforcement agencies;

– formalize in the legislation the social responsibility of employers (enterprises, companies) to the employees for a worthy level of wages, working conditions, pension provision and other types of social security, the possibility of participation in the management of organizations;

– legislate against or severely restrict the withdrawal of revenues obtained in Russia from Russian jurisdiction and taxation;

– carry out a set of other measures (see [3, p. 62-69; 9, p. 12-22]).

The achievement of consensus on effective economic, political and legal institutions will provide opportunities for the solution of **the second task** of the negotiation process: the development and implementation of the strategy for integrated, anticipatory modernization as a socially and culturally balanced civilizational process in Russia.

Principles for the development of anticipatory modernization strategy

Successful elaboration and implementa-tion of anticipatory modernization strategy requires the use of the following principles: 1) program-project principle, and 2) counter principle of its federal-and-regional construction.

In accordance with the proposed strategy, **on the orders** from the federal and regional executive bodies, it is necessary to develop programs and projects for modernization that will contain definite problems/tasks of socially and culturally balanced priority development and propose the ways of their solution.

It is important to ensure the systemic character of the composition of proposed programs/projects. For example, using a matrix, the rows of which can present the main levels of regulation of the objects under modernization, and the columns can present the stages and states (types) of modernization in the regions, the corresponding programs and projects.

The preparation of programs and projects should take place in three clusters-levels *of their counter construction*. The upper cluster-level is federal-and-district, "from the top to the bottom". The lower cluster-level is local-and-regional, "from the bottom to the top" (to save time, it may be enabled simultaneously with the upper one). The median cluster-level is integrative-regional. The results are to be approved by the regional authorities.

The advanced nature of integrative modernization

Modernization objectives are achieved more successfully, when its processes are going more dynamically in comparison with other countries (regions), especially its neighbors. Therefore, the *advance* should be considered an important criterion in the success of modernization.

A priority task for Russia can be the task of outrunning the above mentioned six European countries with medium development level. In estimating the timing of such advance, it is necessary to bear in mind that these countries are also striving to the success of modernization and are moving forward, competing between each other and with Russia. Therefore, Russia should start moving faster than these countries as early as possible in order to catch up with the twenty developed countries by the mid-2030s.

The next task will be much more difficult: gradually leave the twenty developed countries behind and join such countries as England, France, Germany. But this requires a completely different pace of movement than those observed now and those expected in accordance with inertial trends. It is clear that we are not talking about the one-time advancing spurt or breakthrough, but rather of a long, gradual process of tough competition with other countries for the success of modernization.

Its own competitive logic can be traced among **the regions** as well. The regions that differ in the state (type) of modernization require different priorities of modernization policy (priority investment targets, specialization of tax incentives, promotion and utilization of human potential). These priorities should change as the regions transition from one state (type) of modernization to another. At that, each region is striving to save and improve its status. The priorities of re-industrialization can dominate at the beginning of regional modernization; in the process of its implementation the priorities will focus on the development of information modernization. At that, civilizationally different regions will differ in their vectors and rate of modernization.

Stages and priorities of integrated modernization strategy, the dynamics of the number of regions at different stages

For Russia, as a country with medium level of modernization development, **integrated modernization** is not only the integrity of its components characterized above, but also the relationship of its two stages[2]. We can distinguish three types of this relationship, or three combinations of strategic priorities for modernization of the regions; they form the stages of integrated modernization strategy. Each stage corresponds to one of the three pairs of conditions (types) of modernization degree in the regions[3].

Stage 1. Priorities: mainly promoting the growth and development of re-industrialization; regions with low levels of industrial modernization (types 1 and 2).

Stage 2. Priorities: promoting the completion of re-industrialization and simultaneously promoting the transition to information modernization; regions in the state of transitional modernization (types 3 and 4).

Stage 3. Priorities: mainly promoting the growth and development of information modernization; regions in the state of system information modernization (types 5 and 6).

Dynamics of the number of regions, corresponding to these stages in 2000–2010, is presented in the *figure*.

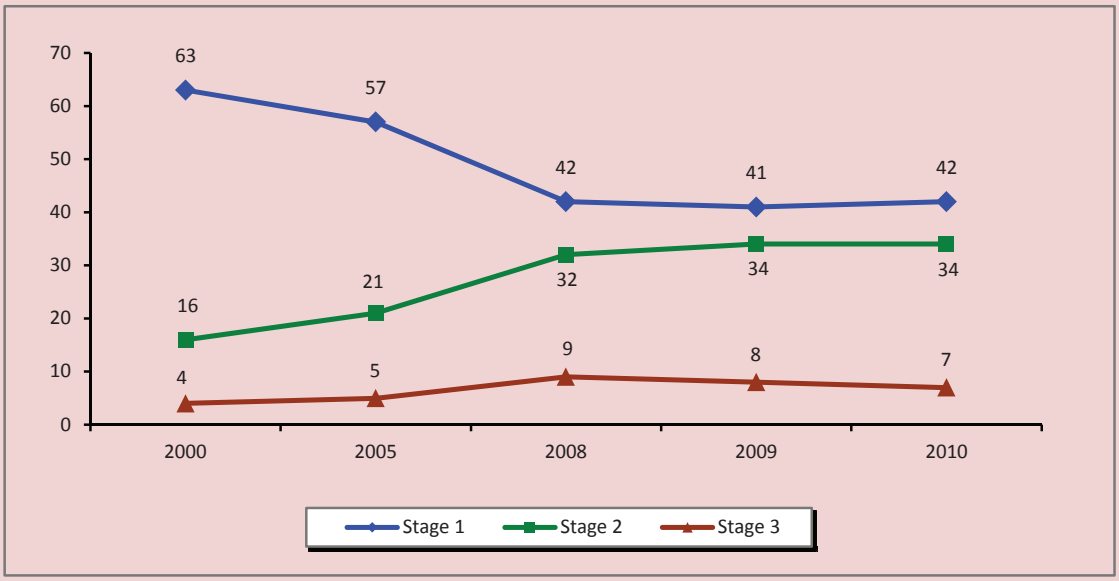
As we can see, in 2000–2008 the number of regions corresponding to the first stage decreased by one-third; and the number of regions, corresponding to the second and third stages of integrated modernization strategy, almost doubled. However, only 7 regions corresponded to the highest phase 3 (continuation and development of secondary modernization, i.e. the system information modernization). **The rate of increase in the number** of regions from lower stages to higher ones was on average **two regions per year, and then it slowed down**. In 2008–2010 it was close to zero. Hence, if the stagnation, or, even worse, recession of the economy remains, then the further transition of the regions to higher modernization states will become very difficult.

These trends confirm the above conclusions about the existence of the *hindered inertial growth of socio-economic modernization without social and cultural development*. Russia is in danger of gradual reduction of its modernization status and competitiveness. This is the most likely scenario for the country until the middle

[2] About the balanced development of these stages as an integrated modernization and its measurement, see [6, p. 18-20, 64-66].

[3] Earlier we defined six such stages. See [4, p. 22-24].

Dynamics of the number of regions corresponding to the main stages of integrated modernization strategy



Source: the results of calculations using Information System "Modernization" (ISEDT RAS, 2013).

of this century, if its societal transformation remains incomplete. The high probability of such a way is confirmed by the forecasts of Russian historians and mathematicians, obtained with the help of calculation multifactor mathematical model (see [1, p. 143-144, 211]), and the findings of the Moscow Economic Forum (Moscow State University, March 2013) [8, p. 8-11].

Expected results of anticipatory modernization strategy

According to our estimates, the rate of the regions' advance from the lower stages to higher ones over the next two decades may increase in two –three times, *if by 2018 the societal transformation in Russia will be completed, and a democratic society will be established with a socially oriented market economy, and also as a result of implementing the strategy of integrated modernization*. In a historically acceptable period of time (by the mid-2030s), about 80% of Russia's regions will complete primary modernization by 100%, and almost 50% of regions will enter the stages of the beginning and growth of secondary modernization (they will enhance their state of modernization to types 4, 5 and 6), they will also bring the quality of life to the European average. By 2018, about 20 regions can achieve this, by 2024 – up to 25 regions, by 2030 – about 35, and by 2036 – more than 40 regions. Among these, about 20 regions can enter the state of the system information modernization (types 5 and 6).

The middle of the 21st century will see new opportunities for innovation, intensive development of the fifth and sixth technological modes, the quality of life in most regions will increase to the European average, **complex modernization will be mostly formed as a new civilizational quality of Russian society**. Such values as the dignity and equality of each person's opportunities, the competence of democracy and the culture of business and political elite, the transparency of administrative and business management, high standard of living and quality of life. As a result, Russia will take its place among the developed countries of the world, and will increase its attractiveness in Europe and Asia.

References

1. Akaev A.A., Sarygulov A.I., Sokolov V.N. *Modelirovanie i prognozirovanie ekonomicheskogo razvitiya lokal'nykh tsivilizatsiy* [Modeling and Forecast of Economic Development of Local Civilizations]. Saint Petersburg: Izd-vo politekhnicheskogo universiteta, 2011.
2. Zaslavskaya T.I., Yadov V.A. Sotsial'nye transformatsii v Rossii v epokhu global'nykh izmeneniy [Social Transformation in Russia in the Period of Global Changes]. *Sotsiologiya i obshchestvo: puti vzaimodeystviya: materialy plenarnogo zasedaniya Vserossiyskogo sotsiologicheskogo kongressa* [Sociology and Society: the Ways of Interaction: Proceedings of the Plenary Session of the All-Russian Congress of Sociology]. Ed. by G.V. Osipov, M.K. Gorshkov. Moscow: Veche, 2010.
3. Ilyin V.A., Povarova A.I., Sychev M.F. *Vliyanie interesov sobstvennikov metallurgicheskikh korporatsiy na sotsial'no-ekonomicheskoe razvitie: preprint* [The Influence of the Interests of Metallurgical Enterprises' Owners on Socio-Economic Development: Preprint]. Vologda: ISERT RAN, 2012.
4. Lapin N.I. Modernizatsiya v mire i v Rossii. Sostoyaniya (tipy) modernizirovannosti rossiyskikh regionov [Modernization in the World and in Russia. Conditions (Types) of Modernization in Russia's Regions]. *Problemy sotsiokul'turnoy modernizatsii regionov Rossii* [Issues of Socio-Cultural Modernization of Russia's Regions]. Complied and edited by N.I. Lapin, L.A. Belyaeva. Moscow: Academia, 2013. Ch. 1.
5. Lapin N.I. Cherez zavershenie transformatsii – k integrirovannoy, sotsiokul'turno sbalansirovannoy modernizatsii [Through the Completion of Transformation to the Integrated, Socially and Culturally Balanced Modernization]. *Problemy sotsiokul'turnoy modernizatsii regionov Rossii* [Issues of Socio-Cultural Modernization of Russia's Regions]. Complied and edited by N.I. Lapin, L.A. Belyaeva. Moscow: Academia, 2013. Ch. 22.
6. *Obzornyy doklad o modernizatsii v mire i Kitae (2001–2010)* [A Review Report on the Modernization in the World and China (2001-2010)]. Executive Editor He Chuanqi. Moscow: "Ves' mir" Publ., 2011.
7. Putin V.V. Rossiya sosredotachivaetsya – vyzovy, na kotorye my dolzhny otvetit' [Russia Is Concentrating – the Challenges We Must Answer]. *Izvestiya* [Bulletin], 2012, January 16.
8. *Tsivilizatsiya i modernizatsiya: materialy rossiysko-kitayskoy konferentsii, 29–31 maya 2012 g.* [Civilization and Modernization: Proceedings of the Russian-Chinese Conference, May 29–31, 2012]. Editorial Board: N.I. Lapin, He Chuanqi et al. Moscow: Institut filosofii RAN, 2012.
9. "Ekonomika dlya cheloveka" – sotsial'no orientirovannoe razvitie na osnove real'nogo sektora: itogovyy dokument Moskovskogo ekonomicheskogo formuma, MGU, 20-21 marta 2013 g. ["Economics for the People" – Socially Oriented Development on the Basis of the Real Sector: Outcome Document of the Moscow Economic Forum, MSU, March 20–21, 2013]. *Mir peremen* [World of Transformations]. Moscow, 2013, no.3.
10. *The 1st International Modernization Forum: Modernization and Global Change. Proceedings*. Beijing, 8 and 9 August 2013.

UDC: 332.1, LBC 65.050.1(211)

Participation of the state in the economic development of Russia's Arctic: privatization (historical aspect)*

Lyudmila Olegovna
ZALKIND
Ph.D. in Economics, Associate Professor, Chief Research Associate, Federal State-Financed Scientific Institution G.P. Luzin Institute of Economic Problems of Kola Scientific Centre of the Russian Academy of Sciences (24A, Fersman Street, Apatity, Murmansk Oblast, 184209, Russia, mila@iep.kolasc.net.ru)

Ekaterina Evgen'evna
TOROPUSHINA
Ph.D. in Economics, Associate Professor, Chief Research Associate, G.P. Luzin Institute of Economic Problems of Kola Scientific Centre of the Russian Academy of Sciences (24A, Fersman Street, Apatity, Murmansk Oblast, 184209, Russia, toropushina@iep.kolasc.net.ru)

Abstract. The article considers the processes and results of privatization of enterprises taking place in the Arctic regions of the Russian Federation in the period of 1991–2010. The authors study the aspect concerning the redistribution of influence (financial, political, etc.) between companies and the state, and between different levels of power. A conclusion has been made that the 2000–2010 period faced the intensification of transition from the direct intervention model, when the government acts as a regulator and entrepreneur, to the principles of indirect management.

Key words: privatization, Arctic, state policy, distribution of property.

* Part of the results have been obtained in the framework of the project No. 12-32-06001 "Russian Arctic: modern paradigm of development" for 2012–2014, the grant of the target contest of the Russian Humanitarian Science Foundation (RHSF) "Russia in the Arctic: history, modernity, perspectives".

The necessity to protect its national interests was the driving force of Russia's public policy (in the 19th as well as early 20th century) with regard to its Northern and Arctic territories. Certain countries strived to gain control over the Arctic archipelagoes, abundant in natural reserves, trying to take advantage of Russia's lack of attention to its polar possessions. Such situation posed a threat to Russia. However, state policy was inconsistent and not focused due to the fact that the most important strategic interests of Russia were connected with the West and South, rather than the North, although the population of the Arctic regions[1] was increasing throughout the 20th century *(tab. 1)* and it began to decline only at the end of the 20th century. At present, the population continues to decline.

From the mid-1930s, the state policy in the Arctic had undergone qualitative changes. The government began to regulate the processes of exploration and development of the territory. The desire to use natural resources for the development of national economy was the driving force of these processes. In 1933–1935 the issues of studying, exploration and colonization of the Barents sea archipelagoes were handed over to the Main Department of the Northern Sea Route, the management of these processes became centralized.

A large-scale Soviet industrial development of the Arctic required considerable expenses. The geopolitical interests of the centralized state often prevailed over economic issues. High costs of Arctic's development had been covered by cheap labor force for a long time. The rapid development of these territories in the 1930s was ensured by such organizations as "Pechlag", "Norillag", "Dalstroy" and others that widely used the work of GULAG prisoners.

In the late Soviet period of development of the Arctic was guaranteed by government agencies – a system of powerful sectoral associations controlled from the center. High development costs were compensated by the extensive redistribution of oil and gas rent, which enabled (against the requirements of economic expediency) to subsidize prices, transport and energy tariffs, to provide the citizens with generous benefits and guarantees, and so on. The maintenance of control over the Arctic territories was ensured by the regime of strict forced centralization, directive government management.

Until 1991, almost all the enterprises in the country were state-owned, except for the property of co-operative enterprises, amounting to not more than 5%. In 1991, the federal government initiated the transfer of enterprises from state to private ownership; in this connection a number of normative acts [1, 3, 8, 12, 13] regulating this process were issued in 1991–1992.

The first stage of privatization consisted in the division of the unified state property by different levels [11, 15]; in this regard, military enterprises and facilities, ensuring the security of the country and other economic sectors

Table 1. The population of the Arctic regions of the Russian Federation

Year	Population, million people
1926	1.7
1939	2.9
1959	4.3
1967	5.2
1979	6.4
1989	8.3
1995	7.9
2002	7.2
2010	6.9

Source: Rosstat data on the all-Russia censuses of 1926, 1939, 1959, 1979, 1989, 2002, 2010. Available at: http://www.gks.ru

[1] The article analyzes the privatization processes that took place in the following regions of Russia's Arctic (republics of Karelia, Komi and Sakha (Yakutia), Arkhangelsk, Magadan and Murmansk oblasts, Nenets, Khanty-Mansi autonomous okrugs, Chukotka, Yamalo-Nenets autonomous okrugs, Taymyr Dolgano-Nenets and Evenk autonomous okrugs of Krasnoyarsk Krai.

Table 2. Distribution of the enterprises in the Arctic regions by forms of ownership, %

Form of ownership	Year			
	1996*	1999	2008	2010**
State	30.6	7.1	5.8	4.6
Municipal	24.0	8.1	9.3	8.4
Private	6.8	68.4	74.5	79.1
Non-commercial	0.2	7.2	6.4	4.7
Mixed	38.4	9.3	4.0	3.1

* In 1996 the distribution is given according to the volume of main assets due to the absence of the data comparable with the subsequent periods.
**Excluding the data on Taymyrsky and Dolgano-Nenetsky districts of Krasnoyarsk Krai.
Source: calculated according to the Rosstat data. Available at: http://www.gks.ru

(transport and energy infrastructure), large plants, universities, large suppliers of communal services, agricultural enterprises, etc. were assigned exclusively to the federal level. That is, almost all the enterprises in the Arctic became federal property *(tab. 2)*. Regional property was formed on leftovers, and its volume depended on the decisions of federal authorities.

The enterprises providing housing and utilities services, trade, healthcare, cultural facilities, etc. were assigned to the municipal level. Thus, the major property in the Arctic regions was distributed between the federal and municipal levels. As a result, municipalities received highly liquid property – shops and public amenities and less liquid property like municipal services, hospitals, requiring large investments.

Only minor enterprises were transferred to the regional ownership. For instance, in the Magadan Oblast only 45% of enterprises were transferred to the region's ownership in 1993 out of the total number of enterprises that could potentially be transferred to the regional level. None of the companies that play a significant role in the region's economy became regional property [31]. All 40 mining companies of the region that form its economy were transferred to the federal level. This separation of ownership made it possible to maintain the dependence of the regions from the center.

The second stage of privatization consisted in the process of "small" privatization and transformation of large and medium-sized enterprises into joint stock companies. "Small" privatization is the process of privatization of municipal enterprises: shops, cafes, hairdressing salons and barber's shops, etc. This process started in 1992, and passed over its peak in 1992–1993 (after 1994 it was restrained legally [6]). But by 1996 already, the major part of these objects had been privatized. The most widely used method of "small" privatization was the sale of companies at special auctions[2], part of the municipal property was transformed into joint-stock companies [21].

The process of "small" privatization in the Arctic regions began rather vigorously. For example, in 1992 in the Magadan Oblast 35 municipal objects (mostly shops and public amenities enterprises) were privatized, in 1993 – 250, in 1994 – 75, in 1995 – 69 objects (by 1996 most of them have become private).

The pace of this process was different in the Murmansk Oblast. Despite the fact that, according to the privatization program, it had been planned to privatize 524 such enterprises in 1992, only 126 of them were actually privatized, and in 1993 – 109 enterprises. Municipalities and the workers of enterprises tried to avoid privatization. Municipalities wanted to preserve their revenue base, which they were loosing in the process of privatization along with the enterprises. As for the workers of

[2] Auctions were carried out with regard to preferential rights of the labour collective of the enterprise on its buyout.

those enterprises, the entry into the free market demanded marketing efforts. If an enterprise retained its municipal status, it guaranteed a minimal wage and the possibility of being unprofitable. As a result, to the middle of 1997 only 406 municipal enterprises were privatized in the Murmansk Oblast [21].

Thus, the privatization of municipal enterprises was not full, but fast enough. A significant part (60–70%) of wholesale and retail trade enterprises, public amenities and public catering enterprises became private ones [35].

Small business emerged as a result of small privatization. The number of small enterprises in the Arctic exceeded 30 thousand in 1994. Then, by 1998, during the liquidation of unprofitable enterprises, the number of small enterprises decreased by one third. And only by 2006 the volume of small business recovered and exceeded the level of 1994. The number of small enterprises in 2010 amounted to about 65 thousand.

Enterprises belonging to the state property (including regional and federal property), were transformed into joint stock companies before the privatization. In the Arctic regions about 1500 state enterprises were incorporated in 1993–1999, and more than 300 – in 2000–2010.

The process of corporatization went on by leaps and bounds. For instance, in 1993–1994 111 enterprises of federal and regional ownership in the Magadan Oblast were transformed into joint-stock companies, which was not more than 15% of all the enterprises [31]. The most part of the enterprises went through the process of corporatization in 1996 *(tab. 3)*. In 1998–2001 there was a decline in the process of corporatization. But by the end of the 2000s, all the large and medium enterprises of the federal and regional ownership subject to privatization, became joint-stock companies.

All in all, 152 joint stock companies were formed in 1992–1996. In this period, all the large enterprises playing a crucial part in the region's economy were reincorporated as joint-stock companies. Then, up to mid-2000s, the process stopped, and then went on by transforming state unitary enterprises into joint-stock companies[3].

The third stage of privatization consisted in the placement of shares of the privatized enterprises. Part of the shares in 1992–1996 was transferred free of charge to the employees of these enterprises; the remaining part of the shares was sold by the State Property Fund at auctions or left as a fixed state package. During the period of corporatization the concept of "golden share" was introduced. A "golden share" is a share, which for a certain period of time[4] provides the state body with the decisive vote at shareholders' meeting. In 1995 the state retained control over 28% of the Arctic enterprises, which were privatized this year, in the form of controlling interest and/or the

Table 3. The number of joint stock companies in the Arctic regions of the Russian Federation, created out of state and municipal enterprises

Year	Number of joint stock companies, Increment total
1993	552
1995	1359
1997	1546
1999	1593
2001	1607
2003	1642
2005	1783
2007	1848
2009	1920
2011	1958

Source: calculated according to the Rosstat data. Available at: http://www.gks.ru

[3] The major part of these enterprises is comprised by "strategically important" enterprises (enterprises of the military industrial complex, research institutes, including military-oriented, transport enterprises, oil and gas companies) [10].

[4] Initially the "golden share" was valid for 3 years, and then the term was extended up to the present [7].

"golden share" [35]. In general, the process of corporatization and transition from state to mixed, and then private form of property took 3–4 years.

Regional authorities could retain their influence not only in case of direct control. For example, in 1998 the owners of the enterprises Severonickel and Pechenganickel[5] intended to close them due to an unfavourable economic situation in the world nickel market. Due to the active intervention of the regional government and under its pressure a new company was established, OJSC Kola Mining and Metallurgical Company, which is operating efficiently at present. The regional government used indirect leverages[6] over the company's owners.

The difficult situation, which the enterprises had to face after privatization, often served as the basis for state intervention. In 1996 the state regained 25% of the shares of JSC Kovdorsky GOK, one of the largest enterprises in the Murmansk Oblast (by order of the court, for the non-fulfillment of the investment terms of privatization) [22]. The enterprise was on the verge of bankruptcy. In early 1997 21% of Kovdorsky GOK shares were returned (in the pre-trial settlement) to the municipal ownership of Murmansk. I.e. the regional government controlled 46% of the shares, which ensured full control over the enterprise, because another significant package of about 30% was sprayed between the employees of GOK. The regional government managed to stabilize the company and to establish production distribution; as a result, by 1999 the plant has made profit of 30 million rubles a year. In 2001, a decision was made on the sale of the state and municipal stock of shares. The private company OJSC MCC EuroChem became the owner of OJSC Kovdorsky GOK.

At the same time, regional authorities tried to retain their influence over the enterprises located on their territory. The reason for this can be found in the fact that in most of the Arctic regions the company's assets are "stationary", i.e. closely attached to a particular space. And an important issue was who controls these enterprises: the "insider" business structures, closely cooperating with regional and municipal authorities, or "outsider" structures that are difficult to influence. Therefore, regional authorities actively interfered into the process during the initial division of state property and also during the subsequent periods of transformations, seeking either to establish their direct control over the main assets of the territory, or appoint their "insider" owners hereto. For example, in the 1990s, on behalf of the Komi Republic residents, a group of the region's top managers gained control over the major large enterprises and subsoil areas rich in mineral resources [30]. The struggle of the "outsider" private capital for regional ownership ended in 2001 by the change of the regional power and complete transfer of major enterprises in private hands [29].

However, the cooperation between regional authorities and large enterprises is maintained through the "migration" of officials in the governing bodies of enterprises and vice versa. By placing officials as heads of the boards of directors, the government regained control over large enterprises, especially over energy giants.

However, one can find some examples of a significant decrease in the influence of the state, when regions are turned into quasi-corporations and they are subsidized by large companies [19, 28]: for example, JSC RAO Norilsk Nickel, which forms an almost entire budget of Taimyr

[5] The enterprises were the principal employers and mainstay of neighbouring settlements, and their shut down would result in the abandonment of these settlements and a large-scale unemployment – about 30 thousand people.

[6] We can only guess in what way the regional authority influenced the owners. No doubt, it appealed to the federal authorities and gained their support. In fact, the owners offered the regional government to "save" these enterprises on its own by giving them full independence. When OJSC Kola Mining and Metallurgical Company was established, the shares were distributed as follows: JSC Severonickel owned 50%, JSC Pechenganickel owned 50%. And 100% of the shares of both companies belonged to private capital – JSC RAO Norilsk Nickel.

Autonomous Okrug and directs a significant amount of finances to its social sphere. Norilsk Nickel has an almost complete control over Taimyr AO. The merger of the corporation and the region has reached the maximum level, since the corporations' representatives can belong to power structures and they are even appointed as region's governors. As a result, large companies and the region become a single unit, they become responsible for economic and social policy and for the functioning of public services, regional infrastructure, etc.

The redistribution of influence is going on not only between companies and the state, but also between the levels of authorities. It often takes place by establishing formal environmental and social constraints for corporate structures. Regional authorities in Khanty-Mansi AO, after losing some of their powers in the sphere of subsoil use (due to the transfer of the main control functions to the federal level) in 2004 approved the new maximum permissible levels of water pollution for oil and gas companies [29]. This innovation was aimed at regaining partial control over large external owners in the okrug, since, despite the long-standing need for tougher environmental standards, the region has introduced them only when it lost actual rights of control over and direct influence on the companies.

Making strategic sectors (fuel and energy complex, transport, communication) the priority spheres of state control and regulation is becoming the main tool for the implementation of the state policy in the Arctic [33]. This occurs through the formation of large business-structures, which consolidate in their hands the right of control over the most valuable assets of the territory: for example, AK ALROSA is such super-organization in the Republic of Sakha (Yakutia).

In the mid-2000s, federal authorities continued to pursue the policy of further privatization of enterprises. According to the law [4], by 2009, local authorities were bound to either privatize or transfer to the state ownership the property that did not ensure the performance of their functions. Only schools, kindergartens, polyclinics and hospitals could remain in the municipal ownership.

A similar decision concerning state property privatization was made in respect of enterprises, which do not provide the performance of public functions. Since 2005, the state has been reducing the number of unitary enterprises [10]. Most of them underwent the procedure of incorporation with the preservation of 100% of shares in state ownership. Then they were offered for privatization. Besides, it was proposed to privatize the packages of shares that belonged to the state and the size of which did not exceed 50% of the authorized capital; any shares of fuel and energy complex companies, civil aviation, etc., including the shares of the enterprises that were previously on the list of strategic enterprises not subject to privatization.

In the Arctic regions for the 1992–1999 period over 6000 enterprises were privatized *(tab. 4)*. For 2000–2009 almost 800 enterprises were privatized in the framework of the program for selling non-core state and municipal property. Despite such significant rate of privatization, about 50% of the enterprises,

Table 4. The number of privatized enterprises in the Arctic regions of the Russian Federation

Year	Number of privatized enterprises, increment total
1993	3186
1995	5268
1997	5869
1999	6145
2001	6456
2003	6619
2005	6780
2007	6846
2009	6919

Source: calculated according to the Rosstat data. Available at: http://www.gks.ru

out of their total number in 1990[7], have been privatized so far. Many enterprises remain in state ownership, although they have changed their organizational form, the others have been liquidated or reorganized into other forms.

By 2007, the federal government had retained direct control over more than 600 enterprises, registered or operating in the Arctic regions. Among them 34 enterprises of federal ownership with a 100% package of shares belonging to the state, 3 – with a package of shares over 50%, 9 – with a package of 25–50% and 8 – with a package less than 25% were subject to further privatization[8]. These were partly the enterprises, which had not found buyers previously[9], or the enterprises of nuclear industry and military complex.

The enterprises that had not been privatized often remain in state ownership due to the lack of individual entrepreneurs willing to buy them. 80 enterprises were prepared for privatization and 29 privatized in 2007. The next year an attempt was made to privatize even more enterprises (about 120), but only 39 were privatized [26]. The reasons for these failures, in addition to low economic attractiveness of the asset of these enterprises, include their excessive price at the auction and sale in single lot.

In recent years, the share of joint stock companies fully owned by the state has increased in Russia as a whole. We can assume that the same tendency is typical for the Arctic regions. According to incomplete data, by 2010 the federal government has maintained control over the enterprises through equity participation in more than 200 enterprises located in the Arctic regions, and it has been the owner of about 400 unitary enterprises. In addition, the list of strategic companies of the Russian Federation (i.e. not subject to privatization) contained 12 more enterprises, which were registered or operating in the Arctic. About 40 enterprises, previously included in the list, were excluded from it (which does not mean their privatization; most of them were transformed into joint stock companies with 100% state package or included in the state corporations).

In general, we can observe the increase of state control, but mainly in relation to key natural resources. Russia is distinguished by the fact that the state's part of economic rent from oil and gas extraction and from the production of diamonds in Russia's Arctic goes almost exclusively to the federal level. Priority state control and regulation are carried out with regard to such strategic sectors as fuel and energy complex, transport and communications.

One can also find some examples of a significant reduction in the state control, when corporations have such a considerable impact (financial, political, etc.) on the region's development that the space is actually privatized together with the institutional infrastructure, and the territory becomes a quasi-corporation.

There is certain progress in the transition from the model of direct policy intervention, when the state acts as regulator and as entrepreneur, to the principles of indirect management. The influence is redistributed between the companies and the state, as well as between different levels of power. The establishment of formal environmental and social constraints for corporations is one of the instruments of such indirect influence.

Besides, it is necessary to consider the process of housing and utilities enterprises' privatization, which was held in the framework of the housing reform launched in 1992. Earlier, all the housing and utilities enterprises in the Arctic regions were either in the municipal or departmental ownership. The main purpose of

[7] Calculated using the Rosstat data. Available at: http://www.gks.ru

[8] Calculated using the data of the Federal agency for state property management. Available at: http://www.old.rosim.ru

[9] For example, an attempt to sell the shares of JSC Sea Port "Egvenikot" located in Chukotka Autonomous Okrug failed in 2003 [22].

the housing reform was to reduce state funding of the housing sector in the conditions of the high budget deficit. The housing reform was also aimed at enhancing the quality of housing and the quality of communal services.

The following measures were proposed to achieve these goals [2, 9, 14]:

- privatization of residential premises (for details see [18]);
- demonopolization of the housing and communal services market through the liberalization of supply and demand in this market;
- changes in the policy of state subsidies: the reduction of state services in the housing and utilities sector, transition from the provision of subsidies to utility companies to the subsidization of persons with low incomes;
- increase of prices for housing and communal services for the purpose of increasing the attractiveness of the sector for private business.

Organizations involved in the management of houses, remained in the municipal ownership for a long time. On the one hand, it was due to the willingness of municipalities to retain control over the financial flows, which were comparable with the volumes of municipal budgets. On the other hand, it was conditioned by the fact that the residents themselves considered the municipal company to be more reliable than private management companies that could significantly raise the cost of houses' maintenance.

The establishment in 2007 of the state corporation, the Fund for Support to the Reforming of Housing and Utilities Sector (hereinafter – the Fund) changed the situation with the participation of state and municipal authorities in the housing sphere [5]. In 2007 only one region, Karelia, out of the nine Arctic regions, for which statistical data are available, was ready to comply with the conditions of the Fund. On the whole, in all the Arctic regions private managing companies accounted for about 50% of the housing services market only in eight cities located in four regions. In 2008 seven out of nine regions complied with the requirements concerning the commercialization of the management services market. In 2010 the share of private managing companies exceeded 50% of the housing fund in five regions, in three regions it amounted to about 40% and only in Chukotka AO[10] it was 20% [27].

Many private management companies emerged after the reorganization of municipal management companies into private ones, as a rule, through corporatization. The city authorities tried to maintain their influence in the new companies through their ownership of 25% of shares or more. In Murmansk, for example, in 2008, the municipal management company was transformed into three joint-stock companies, in all of them the municipal government owned from 40 up to 50% of the shares through other municipal enterprises (which allowed it to bypass the requirements of the Fund). These three companies managed 94% of the city housing fund. However, the changes in the government (change of the mayor and the coming of new people to power), as well as the struggle inside the power structures resulted in the creation of new, fully private, management companies, which, using the administrative resource, gained most of the housing fund of the city. At the beginning of 2010 there were about 12 management companies [24].

With the help of the administrative resource attempts were made to intercept the financial flows directed from the federal budget for the capital repair of houses.

Associations of owners and the "outsider" managing companies at the regional level were

[10] Despite the fact that none of the Arctic regions had fulfilled the requirements of the legislation, and the share of the housing fund managed by private companies had not achieved 80%, all the regions received financial support from the Fund. This is caused mainly by the fact that these requirements should have been fulfilled in a particular municipality, and not in the region in average.

forced to accept the choice of certain contractors for capital repairs, as it happened in the Murmansk Oblast in 2010 [23, 32]. In the early summer of 2010, financial resources were allocated from the Fund for capital repairs to the number of management companies. The regional authorities, who were the managers of these funds, claimed that the main condition for receiving the money was the competition among the contractors. The organization of the competition caused the 3–4 month delay in receiving the money. It means that the works could actually start in autumn or early winter. It is unacceptable in the Arctic conditions, since the cost of works increases greatly in the autumn and winter period. Furthermore, according to the terms of the competition, the contractors had to belong to one and the same self-regulatory organization of builders that included only large firms, for which the proposed works were of little interest. As a result, even though the organizations that had won the competition, fitted the necessary requirements, the contractors could not get to work immediately [16, 17], because the regional authorities detained the transfer of the necessary documents. Therefore, the authorities still tried to influence the processes in the housing sector, and maintain control over financial flows.

Another condition, upon which the Fund would grant budget subsidies, was that the housing fund had to be serviced by private utility companies. By 2010 their share was to be not less than 50% of the housing fund, by 2011 – at least 80%. The total share of the municipality and the region in these companies could not exceed 25%.

As a rule, most of the communal enterprises operated in the form of either municipal or regional unitary enterprises. The requirement of the Fund concerning privatization was fulfilled slowly. For instance, only two out of the five major water supply enterprises in the Murmansk Oblast have been made joint stock companies by 2010, with 100% state and municipal capital (JSC Apatityvodokanal and JSC Monchegorskvodokanal). Three water supply enterprises, one of which was the largest in the oblast, remained unitary enterprises (state regional unitary enterprise Murmanskvodokanal, municipal unitary enterprise Severomorskvodokanal, state regional unitary enterprise Kandalakshavodokanal).

Heat and power supplying companies, as a rule, are joint-stock companies. However, all of them are part of large companies, which include many re-allotted joint-stock companies. In turn, some of these large companies standing on the top of the pyramid have state presence, some do not. The heat supply enterprises owned by the regional government, usually go bankrupt. It happens mainly due to the fact that they accumulate sufficient debts to fuel suppliers caused by consumers' non-payments. In 2005 in the Murmansk Oblast five organizations providing heat supply to 70% of the region's population were combined into one regional unitary enterprise (GOUTP Tekos). This company, which operated with losses in 2005–2009, has been continuing to balance on the brink of bankruptcy up to the present time.

The problem of heat supply remains very acute for the Arctic regions. All urban settlements have a centralized heat supply scheme. Worn-out heat systems, debts, accumulated by the population and enterprises lead to the fact that the settlements remain without heat for the winter period. The cost of fuel delivery in some remote settlements is so high that their residents have to pay 10–12 times more for the heating of 1 square meter than in the oblast center [20]. In this regard, municipalities are provided with subsidies from regional budgets (in special cases – from the federal budget) for the purchase of fuel (in the framework of the "northern delivery") and repair of heating systems.

Heat supply to the Arctic regions, especially the outlying settlements, is effected

through the so-called "northern delivery"[11]. In the 1990s, the financing of fuel and food deliveries was carried out according to the following scheme: the federal budget allocated target budget loans to the regions according to their applications. Then regional budgets had to return these funds to the federal budget, but, due to the lack of resources in the majority of regional budgets, the funds were not returned in most cases. In 1999 the mechanism of financial support to the "northern delivery" somewhat changed. The Fund of target-oriented subventions was established, and its resources were allocated to the regions for providing gratuitous financial assistance in the organization of the "northern delivery". The right to issue interest-free budget loans from the federal budget was retained.

In 2005 the mechanism of providing support to the "northern delivery" changed: the regions themselves became responsible for the "northern delivery" in their territories [34]. Currently, the state support of the "northern delivery" consists in the preliminary allocation of a budget loan for the purchase of necessary food and fuel and their delivery with the subsequent loan repayment [36].

The tendency of reduction in the federal funding and state influence is typical for all the spheres of life-support in the Arctic. Priority state control and regulation are carried out only with regard to strategic sectors (fuel and energy complex, transport, communication). Consequently, the main prospects of the national policy on the development of the Arctic are focused on the development of the Arctic seas shelf resources, on the development of transport corridors and infrastructure, and the provision of military security of Russia's Arctic.

Conclusion

The Soviet model of state policy in the Arctic is characterized by its excessively centralized character, policy management and maximum participation of the state in all spheres of life. The reforms of the Soviet political and economic system fundament-ally changed the attitude of the state to the Arctic regions. There was a transition from direct administrative control methods to indirect methods based on the legislative regulation, the use of financial tools and informal interaction.

State presence in the economy of the Arctic regions has decreased due to the transfer of the rights of ownership on a considerable part of companies to the private sector. But the state maintains the ownership of land and natural resources; it also owns the enterprises that are strategically important for the country. At the same time, municipal ownership has been essentially eliminated and the municipalities have very few actual tools of influence on the socio-economic situation.

The state property in the housing sector was almost completely turned into municipal and private property. A lot of companies that provide housing and communal services are becoming private, and this trend is increasing. State support, primarily the financial support of housing, utilities and infrastructure in the remote areas of the Arctic has been reduced.

Thus, we can point out that the state management and control has enhanced in recent years, but only with regard to key natural resources. As for other spheres, they are facing the transition from the model of direct policy intervention to indirect management.

[11] "Northern delivery" is a complex of annual activities aimed at supplying the Far North and Arctic regions of Russia with essential goods (first of all, foodstuffs and petrochemicals).

References

1. *O privatizatsii gosudarstvennykh i munitsipal'nykh predpriyatiy v Rossiyskoy Federatsii: Zakon RF ot 03.07.1991 №1531-1 (red. ot 17.03.1997)* [Law of the Russian Federation "On the Privatization of State and Municipal Enterprises in the Russian Federation" No.1531-1 of July 3, 1991 (Amended on March 17, 1997)]. Available at: http://www.consultant.ru/.
2. *Ob osnovakh federal'noy zhilishchnoy politiki: Zakon RF ot 24.12.1992 №4218-1 (red. ot 22.08.2004)* [Law of the Russian Federation "On the Fundamentals of Federal Housing Policy" No.4218-1 of December 24, 1992 (Amended on August 22, 2004)]. Available at: http://www.consultant.ru/.
3. *O privatizatsii gosudarstvennogo i munitsipal'nogo imushchestva: Federal'nyy zakon ot 21.12.2001 №178* [Federal Law "On the Privatization of State and Municipal Property" No.178 of December 21, 2001]. Available at: http://www.consultant.ru/.
4. *Ob obshchikh printsipakh organizatsii mestnogo samoupravleniya v RF: Federal'nyy zakon ot 06.10.2003 №131* [Federal Law "On the General Principles of Organization of Local Self-Government in the Russian Federation" No.131 of October 6, 2003]. Available at: http://www.consultant.ru/.
5. *O Fonde sodeystviya reformirovaniyu zhilishchno-kommunal'nogo khozyaystva: Federal'nyy zakon ot 21.07.2007 №185 (red. ot 05.04.2013)* [Federal Law "On the Fund for Support to the Reforming of Housing and Utilities Sector" No.185 of July 21, 2007 (Amended on April 5, 2013)]. Available at: http://www.consultant.ru/.
6. *O Gosudarstvennoy programme privatizatsii gosudarstvennykh i munitsipal'nykh predpriyatiy v Rossiyskoy Federatsii: Ukaz Prezidenta RF ot 24.12.1993 №2284 (red. ot 28.09.2011)* [Decree of the President of the Russian Federation "On the State Program for Privatization of State and Municipal Enterprises in the Russian Federation" No.2284 of December 24, 1993 (Amended on September 28, 2011)]. Available at: http://www.consultant.ru/.
7. *O merakh po realizatsii promyshlennoy politiki pri privatizatsii gosudarstvennykh predpriyatiy: Ukaz Prezidenta RF ot 16.11.1992 №1392* [Decree of the President of the Russian Federation "On the Measures for the Implementation of Industrial Policy under the Privatization of State Enterprises" No.1392 of November 16, 1992]. Available at: http://www.consultant.ru/.
8. *Osnovnye polozheniya Gosudarstvennoy programmy privatizatsii gosudarstvennykh i munitsipal'nykh predpriyatiy v Rossiyskoy Federatsii posle 1 iyulya 1994 g.: Ukaz Prezidenta RF ot 22.07.1994 №1535* [Decree of the President of the Russian Federation "Main Provisions of the State Program for Privatization of State and Municipal Enterprises in the Russian Federation after July 1, 1994" of July 22, 1994 No.1535]. Available at: http://www.consultant.ru/.
9. *O reforme zhilishchno-kommunal'nogo khozyaystva v Rossiyskoy Federatsii: Ukaz Prezidenta RF ot 28.04.1997 №425 (red. ot 27.05.1997)* [Decree of the President of the Russian Federation "On the Reform of the Housing and Utilities Sector in the Russian Federation" No.425 of April 28, 1997 (Amended on May 27, 1997)]. Available at: http://www.consultant.ru/.
10. *Ob utverzhdenii Perechnya strategicheskikh predpriyatiy i strategicheskikh aktsionernykh obshchestv: Ukaz Prezidenta RF ot 04.08.2004 №1009 (red. ot 01.10.2010)* [Decree of the President of the Russian Federation "On the Approval of the List of Strategic Enterprises and Strategic Joint Stock Companies" No.1009 of August 4, 2004 (Amended on October 1, 2010)]. Available at: http://www.consultant.ru/.
11. *O razgranichenii gosudarstvennoy sobstvennosti v Rossiyskoy Federatsii na federal'nuyu sobstvennost', gosudarstvennuyu sobstvennost' respublik v sostave RF, kraev, oblastey, avtonomnykh oblastey, avtonomnykh okrugov, gorodov Moskvy i Sankt-Peterburga i munitsipal'nuyu sobstvennost': Postanovlenie VS RF ot 27.12.1991 №3020-1 (red. ot 24.12.1993)* [Resolution of the Supreme Soviet of the Russian Federation "On the Differentiation of the State Property of the Russian Federation into the Federal Property, the State Property of the Russian Federation Republics, Krais, Oblasts, Autonomous Oblasts, Autonomous Okrugs, Cities of Moscow and Saint Petersburg, and Municipal Property" No.3020-1 of December 27, 1991 (Amended on December 24, 1993)]. Available at: http://www.consultant.ru/.
12. *Ob utverzhdenii prognoznogo plana (programmy) privatizatsii federal'nogo imushchestva na 2007 g. i osnovnykh napravleniy privatizatsii federal'nogo imushchestva na 2007–2009 gg.: Rasporyazhenie Pravitel'stva RF ot 25.08.2006 №1184-r* [Resolution of the Government of the Russian Federation "On the Approval of the Forecast Plan

(Program) for the Privatization of Federal Property for 2007 and the Main Directions of Federal Property Privatization for 2007–2009" No.1184-r of August 25, 2006]. Available at: http://www.consultant.ru/.

13. *Ob utverzhdenii Polozheniya ob opredelenii poob"ektnogo sostava federal'noy, gosudarstvennoy i munitsipal'noy sobstvennosti i poryadke oformleniya prav sobstvennosti: Rasporyazhenie Prezidenta RF ot 18.03.1992 №114-rp* [Resolution of the President of the Russian Federation "On the Approval of the Provisions on the Definition of Object-by-Object Composition of the Federal, State and Municipal Property and the Order of Registration of Property Rights" No.114-rp of March 18, 1992]. Available at: http://www.consultant.ru/.
14. *O Gosudarstvennoy tselevoy programme "Zhilishche": Postanovlenie Pravitel'stva RF ot 20.06.1993 №595 (red. ot 26.07.2004)* [Resolution of the Government of the Russian Federation "On State Target Program "Housing" No.595 of June 20, 1993 (Amended on July 26, 2004)]. Available at: http://www.consultant.ru/.
15. *O razgranichenii predmetov vedeniya i polnomochiy mezhdu federal'nymi organami gosudarstvennoy vlasti RF i organami vlasti kraev, oblastey, gorodov Moskvy i Sankt-Peterburga RF: Federativnyy dogovor ot 31.03.1992* [Federal Agreement "On Delimitation of Matters of Authority and Powers between Federal Government Bodies of the Russian Federation and Government Bodies of Krais, Oblasts, Cities of Moscow and Saint Petersburg of the Russian Federation" of March 31, 1992]. Available at: http://www.consultant.ru/.
16. Gerchina O. S pravitel'stvom ne soglasny! [We Do not Agree with the Government!]. *Dvazhdy Dva Newspaper*, 2010, issue of July 30.
17. Gerchina O. Zhdat' net sil [Sick and Tired of Waiting], *Dvazhdy Dva Newspaper,* 2010, issue of September 24.
18. Zalkind L.O., Toropushina E.E. *Zhilishchnaya politika v Rossii: Severnoe izmerenie* [Housing Policy in Russia: the Northern Dimension]. Apatity: KNTs RAN Publ., 2009. 230 p.
19. Zelenko B.I. Finansovo-promyshlennye gruppy v rossiyskom politicheskom protsesse [Financial and Industrial Groups in the Russian Political Process]. *Sotsiologicheskie issledovaniya* [Sociological Studies], 2004, no.5, pp. 108-113.
20. *Zolotoe teplo* [Golden Heat]. Available at: http://www.turuhansk-region.ru/publ/5-1-0-52
21. Zubareva T.A. Ot gosudarstvennoy sobstvennosti – k chastnoy i smeshannoy formam sobstvennosti (na primere raboty Fonda imushchestva Murmanskoy oblasti) [From State Ownership to Private and Mixed Forms of Ownership (Case Study of the Murmansk Oblast Property Fund)]. *Sever i rynok* [The North and the Market]. Apatity: KNTs RAN Publ., 2000, No.1, pp. 152-156.
22. Kvitko E., Telen' L. Ochen' spetsial'nyy auktsion. *Moskovskie novosti* [Moscow News], 2001, issue of June 12.
23. Kommunal'noe reyderstvo v assortimente [Municipal Raiding in Assortment]. *Vestnik zhilishchnogo samoupravleniya* [Bulletin of Housing Self-Governance], 2009, no.2. Available at: http://tsg-rf.ru/book/export/html/253
24. Nikitin A. Zhilishchno-kommunal'naya khvatka [Housing and Communal Grip]. *Novyy Vest-Kur'er* [New West Courier], 2009, issue of April 29.
25. *Otchet Federal'nogo agentstva po upravleniyu gosudarstvennym imushchestvom za 2003 g.* [Report of the Federal Agency for State Property Management for 2003]. Available at: http://www.old.rosim.ru
26. *Otchet Federal'nogo agentstva po upravleniyu gosudarstvennym imushchestvom za 2008 g.* [Report of the Federal Agency for State Property Management for 2008]. Available at: http://www.old.rosim.ru
27. *Otchety Gosudarstvennoy korporatsii – Fonda sodeystviya reformirovaniyu zhilishchno-kommunal'nogo khozyaystva za 2007, 2008, 2009 gg.* [Reports of the State Corporation – the Fund for Support to the Reforming of Housing and Utilities Sector for 2007, 2008, 2009]. Available at: http://www.fondgkh.ru/result/index.html
28. Pachina T. Pochivalova G. Eksterritorial'nost' kapitala syr'evykh korporatsiy: regional'nyy aspekt [Extraterritoriality of the Capital of the Raw Materials Corporations: Regional Aspect]. *Problemy prognozirovaniya* [Issues of Forecasting], 2005, no.5, pp. 85-95.
29. Pilyasov, A. Regional'naya sobstvennost' v Rossii: svoi i chuzhie [Regional ownership in Russia: insiders and outsiders]. *Otechestvennye zapiski* [Domestic Notes], 2005, no.1, pp. 84-111.
30. Respublika Komi: ot Spiridonova k Torlopovu i obratno [Komi Republic: from Spiridonov to Torlopov and Back]. *Komi News Portal.* February 06, 2007. Available at: http://www.komi.in/archive/2007/02/06/003765.html

31. *Rossiyskiy Sever i federalizm: poisk novoy modeli* [Russian North and Federalism: Search for a New Mode]. Ed. by A. Pilyasov. Magadan: SVKNII DVO RAN, 1997. 180 p.
32. Severnyy shantazh. U chinovnikov Murmanska est' proverennoe nou-khau [Northern Blackmail. Murmansk Officials Have a Reliable Know-How]. *Vestnik zhilishchnogo samoupravleniya* [Bulletin of Housing Self-Governance], 2009, no.2. Available at: http://tsg-rf.ru/book/export/html/253
33. Selin V.S. Ekonomicheskiy krizis i ustoychivoe razvitie severnykh territoriy [Economic Crisis and Sustainable Development of Northern Territories] *Sever i rynok* [The North and the Market]. Apatity: Izd-vo KNTs RAN, 2011, no.1(27), pp. 20-25.
34. Serova V.A. Analiz zakonodatel'nogo obespecheniya sistemy "severnogo zavoza" v rayony Kraynego Severa [Analysis of the Legal Framework of the System of "Northern Delivery" to the Far North Regions]. *Sever i rynok* [The North and the Market], 2007, no.17, pp. 40-48.
35. Khod privatizatsionnogo protsessa v 1995 g. [The Progress of Privatization in 1995]. *Federal Portal protown.ru*. Available at: http://www.protown.ru/information/hide/3068.html
36. Shpak A.V., Serova V. A. Problemy i sovremennye tendentsii formirovaniya transportnoy infrastruktury na Severe [Problems and Modern Trends in the Development of Transport Infrastructure in the North]. *Sever i rynok: formirovanie ekonomicheskogo poryadka* [The North and the Market: formation of economic order], 2011, no.1, pp. 165-170.

THEORETICAL ISSUES

UDC 331, LBC 65.24

Intellectual potential of population: theoretical and methodological framework for research

Galina Valentinovna LEONIDOVA
Ph.D. in Economics, Associate Professor, Head of the Laboratory for the Studies of Labor Potential Development Issues, Federal State-Financed Scientific Institution the Institute of Socio-Economic Development of Territories of the Russian Academy of Sciences (56A, Gorky Street, Vologda, 160014, Russia, galinaleonidova@mail.ru)

Abstract. The article considers the theoretical and methodological framework for the research into the population's intellectual potential. The presented materials show that this category is the subject of interdisciplinary studies, including philosophy, psychology, sociology, pedagogics, economics. One of the important conclusions drawn from the analysis of the essence of intellectual potential is the conclusion that the actual level of intelligence is the result of its development. It means that certain efforts on the part of such social institutions like family, education, government, promote not only the formation of smart people, but also the implementation of their potential intellectual capabilities in the production, creation of cultural values, society management, education, etc. when using this approach, the intellect ceases to be just a research object of related disciplines, but it acquires social dimension and becomes a socio-economic category.

The basic theories, concepts and approaches, used in its study, were analyzed. The theory of human capital was given a most thorough consideration, because, according to this theory, the income of a person is earned by knowledge, abilities and skills, i.e. the essence of intellectual properties of an individual.

The article provides the author's definition of the intellectual potential of the population, which brings to the fore the following elements necessary for the understanding of this category: relation to socio-economic development, factors in the formation of the characteristic, including the need for training (reproduction) of intelligent people, the psychological aspect (abilities), the carriers of intellectual potential are not ignored, because it is an attribute of the population.

The article identifies methodological approaches to the estimation of the population's intellectual potential, describes the applied procedures and research methods.

The authors propose methodological approaches to the monitoring of the population's intellectual potential as an indicator of innovation development of the society and the efficiency of public administration.

Key words: population, intellect, intellectual potential of population, labour potential, human capital, science, education, culture.

The strategic goal of the Russian Federation is reaching the world level of priority research and development and mastering the sixth technological mode [8, 16]. The objectives achievement is associated with the availability of high quality human potential of the country. However, modern Russia (the end of the 20th – beginning of the 21st century) is characterized by deterioration of the population quality, associated, first of all, with reduction of its intellectual component [21]. Serious scientific and technological backwardness of the Russian economy testifies it: the share of the Russian Federation in the world markets of high technologies is 0.3%, primarily due to a significant decline in the resource base of the scientific researches in the 1990s. The subsequent reduction in the number of researchers (by 2 times from 1992 to 2012) and intellectual migration (the scale of the "brain drain" is amounted to one million people or so according to the researchers' estimate) have significantly weakened scientific and technological development of the country [21].

The important indicator characterizing the degree of intellectual development of the population is a human development index[1] (HDI) calculated under the UN auspices. According to the latest countries ranking by HDI (2010), Russia takes 55th place (in 1990 its position was 33rd; *tab. 1*).

Although after a substantial "failure" in the late 1990s – early 2000s the Russian HDI has positive dynamics, its value has not reached the basic level. Furthermore, the gap between the world's leader (in 1992 – Canada – 0.982, in 2010 – Norway – 0.955) and the Russian Federation is growing (from 0.108 in 1990 to 0.112 in 2010). It has to be admitted that over the past years among the countries with high HDI[2] the index decreased only in Russia [5]. Moreover, none of the Russian Federation subjects has reached the HDI level of developed countries. This fact clearly demonstrates that the effective organizational and economic mechanisms to facilitate reproduction of population's intellectual potential were not established in Russia during the years of market economy formation and nowadays as well. Today this problem is in focus of the administration.

Continuing disintellectualization of the Russian economy requires not only the authorities' increased attention to this issue, but also identification of the concept "intellectual potential".

Its contemporary content is a result of scientific understanding of socio-economic practices of the leading world countries. It incorporates essential provisions of many theories, developed in the mid-1950s: human capital, labor capacity, knowledge economy

Table 1. Dynamics of a human development index in Russia

Indicators	1990	1992	2000	2005	2007	2009	2010
A human development index	0.873	0.862	0.781	0.792	0.817	0.840	0.843
Place in the UN rating	33	37	60	67	71	66	55

Sources: *National Reports on Human Development of the Russian Federation (the index publication year means that it is calculated by 2-year indicators): Russia Facing Demographic Challenges*. 2008. P. 178-180; *Regions of Russia: Problems, Goals, Achievements*, 2006–2007. P. 132-133; *Modernization and Human Development*. 2011. P. 137; *Sustainable Development: Challenges RIO*, 2013. P.149.

[1] In 2010 the range of indicators that measure the HDI has been broadened and the index itself has undergone significant revision. In addition to the HDI, a composite measure that is based on regional average statistical data and does not reflect internal inequalities there were introduced three new indicators: an index of human development, adjusted for socio-economic inequalities (IHDI), gender inequality index (GII) and multidimensional poverty index (MPI). On the basis of these changes all available data were recalculated.

[2] High index starts from 0.800 points.

and other concepts of postindustrial society, since the economy structure is undergoing drastic changes. All the necessary objective and subjective conditions have been created in the second half of the 20th century for the human capital theory (*fig. 1*).

The most important prerequisite for the human capital theory formation is a scientific and technological revolution of the late 1950s – early 1960s. It caused the profound transformation in the productive society forces, significantly strengthened the role and value of a human personality in economy, a level of education, scientific knowledge, skill and experience. Another precondition is transformation of science into direct productive force. The degree of production research intensity has begun to exert a direct influence on the intensity of industrial turnover. In the leading STP (scientific-technological progress) countries one can note growing progress in the development of intellectual productive forces and formation of non-property wealth, impressive in an absolute and relative size. The most significant factor in an economic breakthrough is the society's ability to develop and implement innovations.

Development of economic thought gradually contributed to a shift in emphasis from a materialistic interpretation of deve-lopment sources to realization of the original role of knowledge, intellect, creative abilities of a person.

The human capital theory [3] (T. Schultz, D. Becker) is important to understand economic nature of intellectual potential of the population. According to this theory, a person brings income due to knowledge and skills, that is the essence of intellectual features of a person. According to the researchers, human capital is a functional component of the innovation production ("knowledge, skills, practical experience, spiritual intellectual activity, serving as a form of realization of intellectual, moral and cultural-oriented abilities to create new, previously unknown knowledge that provides intellectual rent and various competitive advantages") [26, p. 332]. This implies that intellectual activity is a component that distinguishes creative work abilities from labor work abilities, human capital from simple labor power, determines conditions and nature of the process of "capitalization" of intellectual abilities to work.

The analysis of the existing definitions of "intellectual potential of the population" shows that the common understanding of this category has not been developed by modern science yet. We have singled out three methodological approaches:

- philosophical [1, p. 1472], that treats intellectual potential as "an abstract category, which does not change in time, but has inherent creative power" (T. Aquinas, A.A. Ukhtomsky, P.A. Florensky and others);
- psychological-pedagogical [25, p. 25], which defines intellectual potential as "an ability to learn, learning capability", and refers competence, initiative, creativity, self-regulation, uniqueness of mind to intellectual qualities of a person (D.B. Bogoyavlenskaya, P.S. Vygotsky, A.I. Kochetov, A.I. Subetto and others);
- socio-economic [7, p. 228; 12, 16, 26], that refers a comprehensive characterization of the development level of intellectual and creative resources of the country, industry, personality to functioning of the spheres of education and science and acceleration of scientific and technological progress (V.K. Levashov, B.G. Klejner, Ju.P. Lezhnina, R.E. Leshhiner, A.I. Tatarkin, A.F. Martynov and others; *tab. 2*).

The essence of the population's intellectual potential can be viewed through two key concepts – "intellect" and "potential".

The category "potential" has a scientific nature: it is used in mathematics, physics, engineering, biology, chemistry, economics, sociology and other disciplines. In the economic literature, it was used in the 1920s when designing the integrated assessment of the development level of productive forces. "Potential" (from lat. *potentia* – power) is

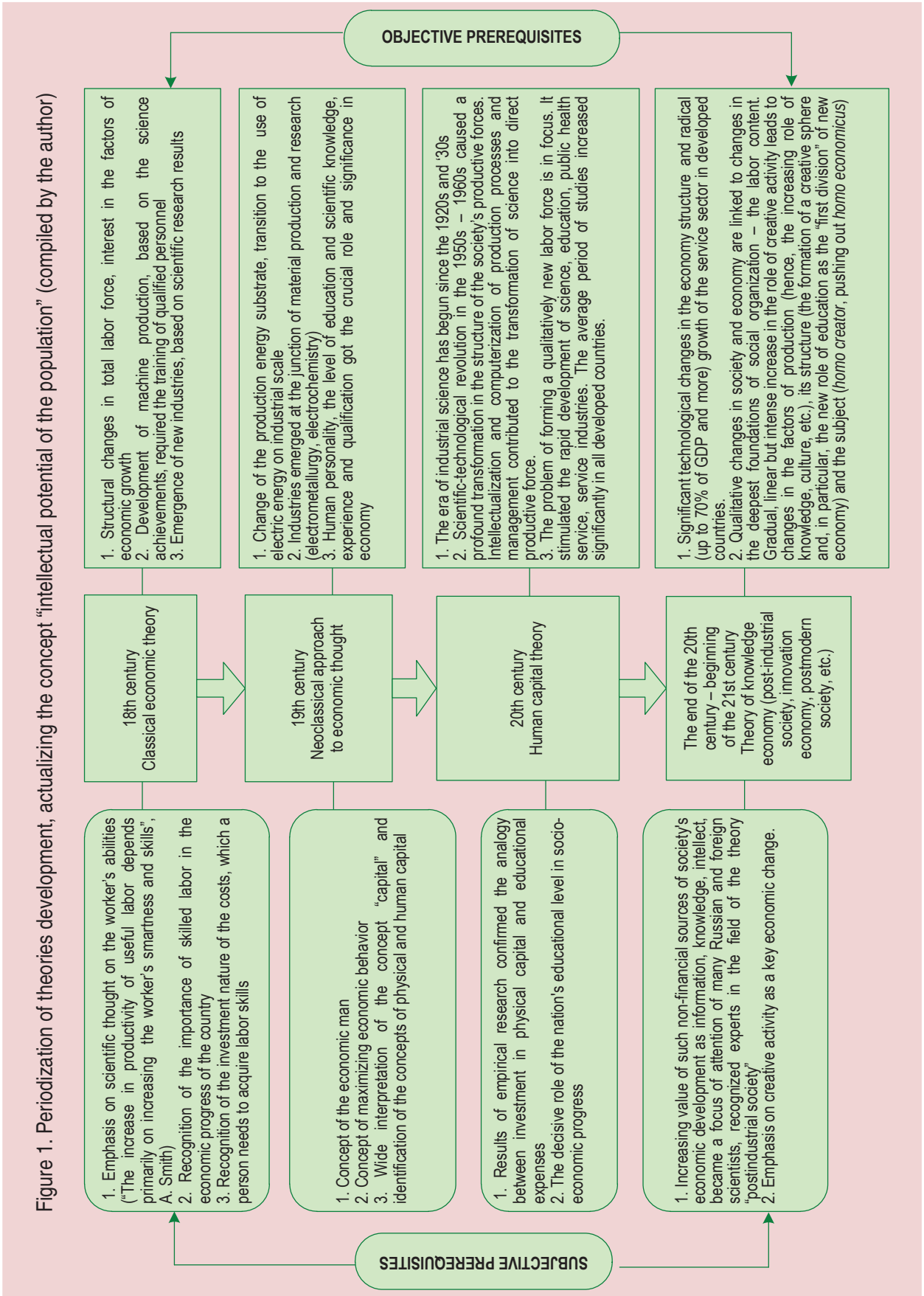


Figure 1. Periodization of theories development, actualizing the concept "intellectual potential of the population" (compiled by the author)

Table 2. Basic approaches to the "intellectual potential" definition

Basic approaches	Content	Authors
Philosophical	An open dynamic system of interacting cognitive-creative and value-praxeological components An abstract category, which does not change in time, but has inherent creative power Knowledge of objects inaccessible to the experience by means of operating symbols, models and other representatives of extrasensory being An ability of a person connected with spirituality, personality's cultural background, consciousness, thinking, directed to rational cognition of reality, universal connection of all things, all phenomena An individual level of thinking (intellect) occurs and forms in the beginning of noogenesis as a pure power of comprehension of actions meaning and its expression in his generally valid forms (words, symbols, signs)	T. Aquinas P.A. Florensky V.S. Solovyov I. Kant G. Gegel A.I. Herzen A.A. Ukhtomsky V.V. Orlova I.T. Frolov P.T. de Chardin
Psychological-pedagogical	"An ability to learn, learning capability" Competence, initiative, creativity, self-regulation, uniqueness of mind Wealth which determine the present and future of every nation and people, a progress "tool", an indicator of a society development level. It is not only a number of educated people, but also a level of cognitive independence, quality of mental activity of individuals and all people in general, a degree of mental activity of various population strata	A.I. Subetto A.A. Derkach D.B. Bogoyavlenskaya A.I. Kochetov P.S. Vygotsky
Socio-economic	An ability of the system (state, region, enterprise, organization, etc.) to find unique solutions for significant results achievement in the field of science, technique and technology, in the spiritual and moral sphere A combination of intellectual, creative, spiritual capacities, resources of a country, industry, personality to address the challenges ahead A combination of intellectual abilities of people constituting a single socio-demographic group and influencing a socio-economic status of this group members A combination of knowledge, skills, and abilities of an individual, developed to a socially required level and involved in the process of social production in order to meet interests and needs of various business entities An ability to reproduce a "marketable product" which takes the form of intellectual property A combination of intellectual potentials of the economic entities, which in turn are formed as a set of implemented intellectual potentials of workers contributing to the acceleration of scientific and technical progress Aggregate society's capacity to develop and comprehend the world, its accumulated volume of scientific and cultural information, systems of production, knowledge transfer, as well as a corresponding combination of labor force, capable to receive, process, use, reproduce and hand over information A system of relations concerning the production of new or enriched (updated) knowledge and intellectual abilities of individuals, groups and society in a sustainable, enhanced and balanced reproduction of national wealth to improve the quality of life and preserve the integrity of the country A complex characteristic of the development level of intellectual and creative resources of a country, industry, personality A combination of intellectual, communication, information, moral-aesthetic and "cognitive-activity" competences and capacities of the staff and opportunities availability for their implementation and development Amount of acquired innovations; input of implemented innovative products (depreciation of fixed assets, working capital turnover, capital productivity, a share of the research staff's wages in the cost of production); the state's ability to ensure rights and interests of intellectual property creators	E.V. Bobkova M.I. Bagdasarov V.K. Levashov Yu.P. Lezhnina M.N. Rutkevich Yu.M. Voronin L. Ya. Baranova O.V. Belyaeva A.A. Ivanov I.V. Usol'tseva E.V. Chmykhova E.Yu. Marusinina B.M. Ruditskiy V.A. Kadomtseva V.A. Ivantsov A.F. Martynov L.A. Lemdyaeva A.I. Tatarkin R.G. Aglyamov M.A. Nugaev B.G. Kleyner D.M. Shakirova G.V. Krayukhin R.E. Leshchiner

End of table 2

Sources: compiled by the author by: Bagdasarov M.I. *Intellektual'nyy kapital v sisteme korporativnykh otnosheniy: avtoref. diss k. s. n.* [Intellectual Capital in the System of Corporate Relations. Ph.D. in Sociology Dissertation Abstract]. Moscow, 2008. 28 p.; Kleyner G.B., Tambovtsev V.A., Kachalov R.M. *Predpriyatie v nestabil'noy ekonomicheskoy srede: riski, ekonomicheskie strategii, bezopasnost'* [An Enterprise in the Unstable Economic Environment: Risks, Economic Strategies, Security]. Ed. by S.A. Panov. Moscow: Ekonomika, 1997. P. 228; Lezhnina Yu.P. *Vzaimosvyaz' sotsial'no-ekonomicheskikh pokazateley regiona s intellektual'nym potentsialom ego naseleniya* [Interrelation between Socio-Economic Indicators of the Region and the Intellectual Potential of its Population]. *Trudy SGU* [Works of SGU], 2006, Issue 99 (Humanities. Psychology and Sociology of Education); Marusinina E.Yu. *Upravlenie intellektual'nymi resursami predpriyatiya v ramkakh realizatsii kontseptsii vnutriorganizatsionnogo marketinga: avtoref. diss. k. e. n.* [Management of Intellectual Resources of the Enterprise within the Framework of Realization of the Corporate Marketing Concept. Ph.D. in Economics Economics Dissertation Abstract]. Volgograd, 2007. 24 p.; *Regulirovanie innovatsionnykh protsessov v regione* [Regulation of Innovation Processes in the Region]. Ed by. G.A. Krayukhin. Saint Petersburg: SPbGIEA, 1997. P. 289; Rutkevich, M.N. Rutkevich M.N., Levashov V.K. O ponyatii intellektual'nogo potentsiala i sposobakh ego izmereniya [About the Concept of Intellectual Potential and Ways of its Assessment]. *Naukovedenie* [Science Studies], 2000, no. 1.; Subetto A.I. *Rossiya i chelovechestvo na "perevale" istorii v preddverii tret'ego tysyacheletiya* [Russia and Mankind on a "Crossover" of History on the Eve of the Third Millennium]. Saint Petersburg: PANIL, 1999. 827 p. P. 25; Tatarkin A.I. Intellektual'nyy resurs obshchestva [Intellectual Resource of the Society]. *Vestnik Rossiyskoy akademii nauk* [Herald of the Russian Academy of Sciences], 2011, vol. 81, no. 8, p. 684; Shakirova D.M. Kriterii otsenki intellektual'nogo i obrazovatel'nogo potentsialov v informatsionnom obshchestve [Criteria of Evaluation of Intellectual and Educational Potential in the Information Society]. *Obrazovatel'nye tekhnologii i obshchestvo* [Educational Technologies and Society], 2010, vol. 13, no.3, pp. 445-455; Tomas Aquinas. *Summa Theologica*. Kyiv: El'ga, Nika-Tsentr, El'-kor-MK, Ekslibris, 2002. P. 1472.

interpreted as "assets, reserves, sources that are available and can be mobilized, activated to achieve a certain goal, implement a plan, solve a problem; opportunities of an individual, society and the state in a certain sphere [4, p. 428].

"Intellect" is a property of the individual. However, "intellect" cannot be equated with thinking. One of the differences is that thinking is a process of reasoning and solving some cognitive tasks. Another difference is connected with the fact that thinking occurs when there is a practical task, and the ability to think (intellect) is sustainable, permanent feature of the individual inherent in him/her throughout life. Thus intellect is a feature of the individual, determining the possibility of mental activity occurrence [24, p. 71].

The modern authors associate philosophi-cal content of intellect with such a notion as a noosphere [30, p. 25]. According to P.T. de Chardin, intellect (an individual level of thinking) occurs and forms in the beginning of noogenesis as a pure capacity of comprehension of the actions meaning and its expression in generally valid forms (words, symbols, signs). Using these forms, a person can orientate in the community, which forms the ground of thin covering, earthly universe, called the noosphere [30, p. 178].

It is possible to identify key elements of intellect: knowledge and mental capacity, sufficient conditions for the intellectual potential to perform its function to be a basis of mental activity, i.e. solve practical or theoretical problems with required efficiency. In relation to the modern world one can differentiate professional competences (competency) as components of human intellectual potential. They are "a combination of intellect, certain types of thinking, moral-ethical qualities and activities". Moreover, according to A.A. Ovsyannikov [18, p. 76-96] competence is "a strategic resource predetermining social and economic life of the country for dozens of years".

The definition of intellect concludes that the existing level is a result of its development. So, certain efforts of social institutions such as family, education, government do not only contribute to the development of smart people, but also to realization of their potential intellectual capabilities in production, creation of cultural values, society management, education, etc. In this approach, intellect is no longer an object of study in psychology, it acquires social dimension and becomes a socio-economic category.

The study does not provide an unambiguous answer about the components of intellectual potential, its structure, because it all depends on who has this potential – an individual, a company or society as a whole (country, region, etc.).

In the structure of individual intellectual potential the researchers (A.V. Sokhan') such elements as [24, p. 71]:

– advanced skills;

– knowledge, skills, that is a system of mental formations, which reflects the results of individual's cognitive and processing activity at a personal level;

– ideals, beliefs, values, interests which are a result of a person's intellectual understanding of the surrounding world and his/her place in it [29, p. 448].

The difficulties to study intellectual potential of a person (an individual) lie in the fact that knowledge, as a rule, is considered within pedagogical sciences, and abilities – within psychological ones.

In the structure of an individual's intellectual potential the authors point out, in addition to knowledge, educational and socio-cultural values (an urge towards creativity, cognition of the surrounding world, a general standard of culture, etc.), a basic level of education, a professional-qualification level, a degree of talent, an ability to perceive innovations, which quickens implementing new technologies in production and management.

Analyzing socio-economic essence of the concept "intellectual potential of the population" one can conclude that there are several different approaches to its assessment in the works of Russian economists. Their systematization shows that the wordings, which highlight the cognitive-creative element guiding an individual to implement his/her knowledge and skills, have the greatest heuristic value. Intellectual potential is inherent in man as a latent possibility that needs to be formed in the direction necessary for the society, for its further improvement. The stated above presupposes that the main components of human intellectual potential are cognitive (knowledgeable) and creative characteristics [22, p. 9; 14, p. 70].

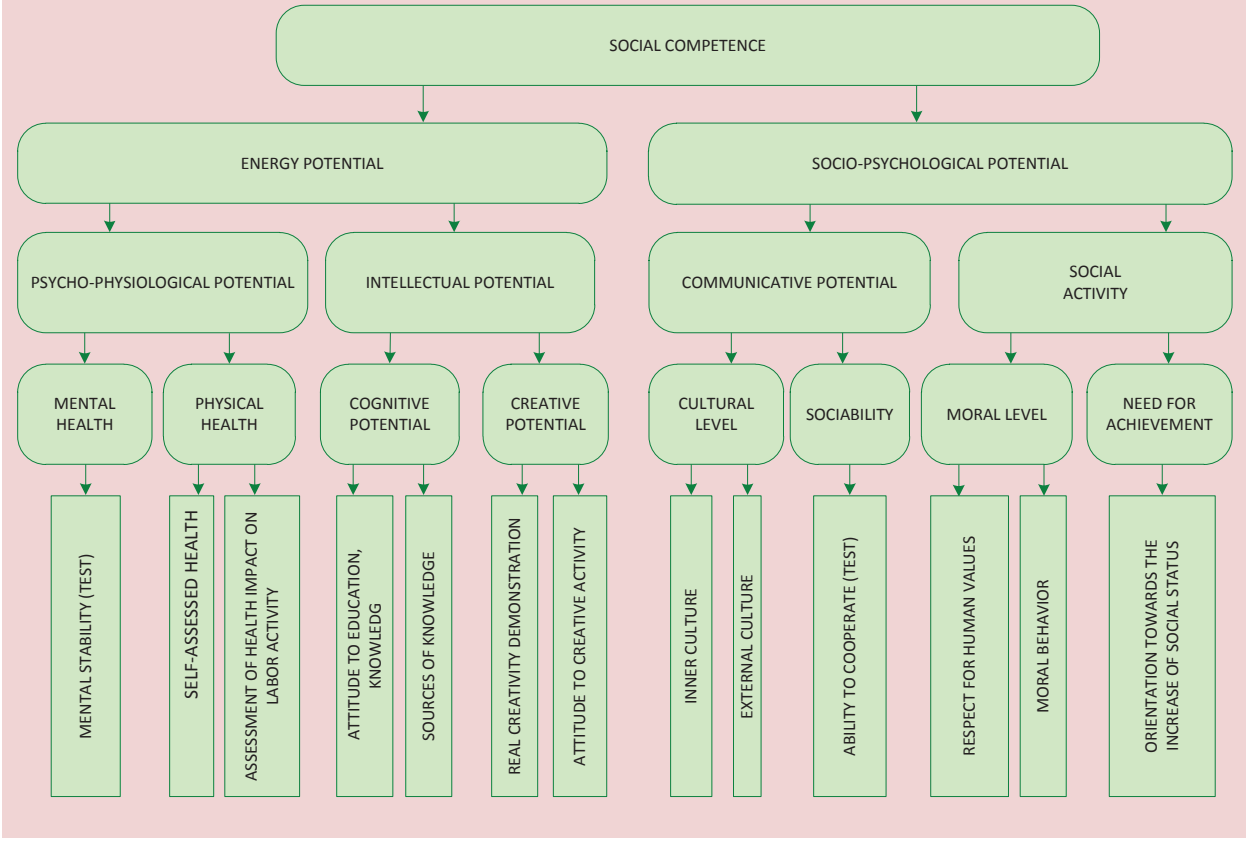
The concept of qualitative characteristics of the population fits in the logic this approach (N.M. Rimashevskaya). The Institute of Socio-economic Development of territories of RAS is carrying out a long-term research into the labor potential quality of the population on the basis of this concept[3]. In the described research the intellectual potential is considered, on the one hand, as a component of labor potential and, on the other hand, as an integral characteristic of human cognitive and creative abilities (*fig. 2*). The underlying empirical data contain information about the nature of intelligent behavior (activity) and the population attitude to the values of intellectual and artistic spheres [27, p. 30-33].

The facts stated above single out the following levels of the study of intellectual potential: a micro level (individual), a meso level (company) and a macro level (society; *fig. 3*).

Most authors characterize the essence and content of the intellectual potential of the population estimating tendencies of development of education, science and culture [6, p. 20, 22] as spheres of formation and

[3] Monitoring of the labor potential quality of the population in the Vologda Oblast has been carried by ISEDT RAS since 1997. The research object is able-bodied population of the Vologda Oblast. The surveys are conducted annually in August– September in the cities of Vologda and Cherepovetz and in eight districts of the region (Babayevsky, Velikoustyugsky, Vozhegodsky, Cherepovetsky, Kirillovsky, Nikolsky, Tarnogsky and Sheksninsky districts). The survey method is questioning of respondents at the place of their residence. The sample size is 1500 people, the sampling error does not exceed 3%. The research object is able-bodied population of the Vologda Oblast over the age of 16. According to the used methodology the basic characteristics of the labor potential quality of the population are: physical and mental health, cognitive potential, creativity, communication skills, a cultural and moral level, need for achievement (social claims). As a result of a mathematical processing of the monitoring database each of the qualities mentioned above receives a numerical assessment as an index in the range from zero to one. The integral index is a quality of labor potential, otherwise referred as social efficiency.

Figure 2. Components of the intellectual potential by the methodology of assessment of qualitative characteristics of the population

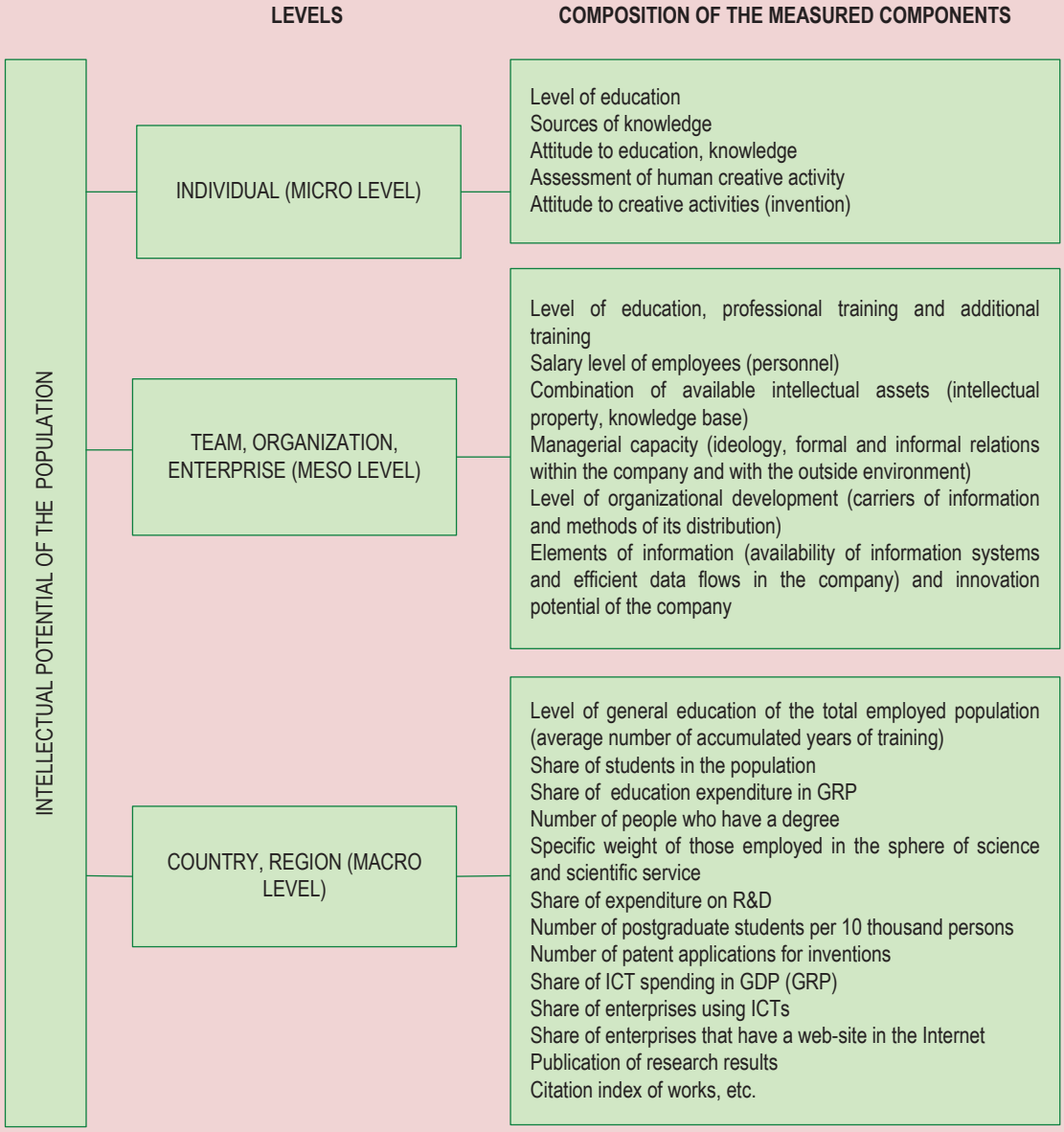


realization of this property. In this case, one uses indicators of scientific personnel density in the given spheres for the studied territory, a rate of consumption for research and development, both in total and per researcher, a development degree of facilities and infrastructure of the science on this territory (country, region). It gives an opportunity to determine not only a current situation of the country in the world community, but a vector of the future economic development of society through the creation of an appropriate macroeconomic environment to improve the quality of intellectual resources. The components structure of the public intellectual potential specifies spheres and subjects of the region's activity (*fig. 4*) that are directly involved in the reproduction of intellectual potential, and particularizes key directions of the reproduction process management.

When analysing and estimating intellectual potential, the scientists single out some methodological differences in the approaches. Some studies clearly pursue a *resource approach* [9, p. 18; 10, p. 20]. It proceeds from the premise that the social and intellectual potential is a special group of resources (material, natural, labor, financial, information) of social production and reflects the national economy's ability to use scientific and technical knowledge technologically and commercially for socio-economic development.

Other scientists (L.S. Blyakhman, F.L. Merson, E.M. Torf) used an effective approach, based on an assessment of the intellectual activity "output" in their works [15, p. 56]. At the macro level the financial results of the national economy got from the sale of goods containing objects of intellectual property on foreign markets are analyzed in this case.

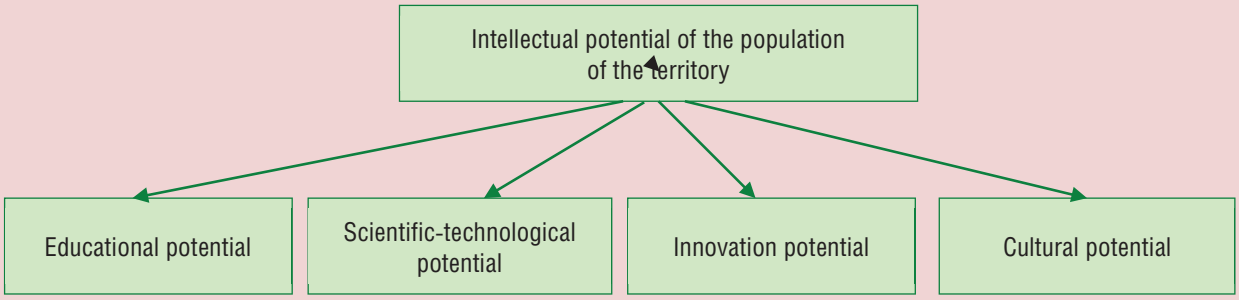
Figure 3. Levels of study of the intellectual potential of the population (compiled by the author)



In many researches the resource and effective approaches are combined (E.V. Bobkova, A.G. Krayukhin, R.E. Leshchiner, V.K. Levashov, Yu.P. Lezhnina, M.N. Rutkevich) [20, p. 45]. The estimation of intellectual potential is conducted in this case on the basis of the integral index, aggregating both the results of intellectual activity (volumes of assimilated innovations/implemented innovations) and resources (depreciation of fixed assets, working capital turnover, capital productivity, a share of the research staff's wages in the cost of production). According to this approach the category of "intellectual potential" is viewed as a measure of economic efficiency, reflected in its ability to implement intellectual opportunities of a person and society for socio-economic development [17, p. 20].

One of the methodological approaches to the intellectual potential study is based on the study of social structure of society [24, p. 19]. Its supporters single out intelligentsia as a bearer of

Figure 4. Structure of intellectual potential of the region



Source: Maksimenko I.I. Management of Intellectual Potential of the Region: Ph.D. in Sociology Dissertation Abstract. Perm, 2010.

intellectual potential. On the one hand, in fact intelligentsia concentrates a significant part of intellectual potential, but on the other hand, it is incorrect to reduce the studied concept essence only to creative activities of this category of people. The intellectual potential includes knowledge not only of those who are engaged in challenging intellectual work, but of the entire population performing certain economic, social, political and cultural functions.

In the broadside approach the intellectual resources are very close to the category of "human potential". And for this there are strong arguments based on international methodologies for evaluating and calculating a human development index. The assessments of the level of education (literacy), health (life expectancy), economical effectiveness (per capita income) specially modified (for comparability) according to the country are known to be used in this index [6, p. 15].

The estimates of the countries' intellectual development, adopted in international studies, include the following methodologies in addition to the HDI. Firstly, it is *a knowledge economy index* which shows how efficiently knowledge is used for economic development. This index measures the country's ability to produce and distribute knowledge on its territory. The index is calculated as an average estimate of four parameters: economic incentives, an institutional regime, education, innovations, information technologies use.

There is such international indicator as *the global competitiveness index* (GCI), the components of which are united into 9 basic groups[4], with one of which being "higher education and training"[5].

The intermediate level between micro- (person) and macro levels, corresponding to the entire national economy in general, is a measurement of intellectual potential within certain professional groups (a company, a firm). Among estimated figures one can differentiate either a combination of the firm's current intellectual assets (intellectual property, accumulated knowledge bases, beneficial relationships with other subjects (A.F. Martynov) [16, p. 40], or human (qualification and creative abilities of the company's employees) and administrative (a managerial ideology, formal and informal relationships, both within the company and with its external environment, an organizational development level and

[4] Nine basic groups: 1) institutional environment, 2) infrastructure status, 3) macroeconomic indicators, 4) development of public health service and 5) of primary education, 6) higher education and training, 7) market efficiency, 8) technological susceptibility, 9) business management and business practices.

[5] When calculating the index "higher education and training" one takes into account not only the share of people with higher and unfinished higher education but also the quality of education and science in the country (when calculating the index one considers business' assessment of educational system quality, a level of training in mathematics and natural sciences, quality of schooling management).

a development level of a single employee, employees' awareness, media and its distribution methods) potentials and elements of information (availability of an information system and well-functioning of information flows in the company) and innovation potential of the company [11, p. 1, 18].

The researchers single out a structural capital (intellectual property, information systems, financial relations system, regulations, standards, awards) as the essential component of intellectual potential of company. The main function of this potential is to greatly accelerate increment in profit by means of development and implementation of knowledge and relations systems, necessary for the enterprise [7, p. 13].

The analysis of theoretical and methodological approaches showed that while defining the essence of intellectual potential of the population most authors do not take into consideration an individual, a carrier of this feature.

Our approach is based on the following interpretation of the studied concept: "Intellectual potential is a property of the population of a definite territory, consisting in the human ability for knowledge acquirement, its generation and creative development of new knowledge, technologies, products, providing sustainable extended and balanced reproduction of the national wealth, that forms by the integrated influence of socio-economic, socio-cultural, and educational-scientific factors". Therefore, we actualize the components, compulsory for the category understanding, such as connection with society's socio-economic development, factors contributing to the formation of the feature, including the necessity for intellectual people training (reproduction), a psychological aspect (skills); nonetheless the intellectual potential carriers are not ignored, as it is a feature of the population. From our point of view, such an approach corresponds to formation of intellectual potential of the population in the environment that can be called innovative if all the stated above systems interact actively.

The complexity to define the essence and parameters of intellectual potential is determined by the fact that, on the one hand, it has revealed and unrevealed parts and, on the other hand, it includes a wide range of abstract notions: knowledge (theoretical, applicative, and experimental), skills (mental, creative), and intuition. In addition, the intellectual potential of the population evolves dynamically in time under the influence of many factors: if it is not used, it decreases quickly and, on the contrary, when the practice requires science, it grows fast, with the efficiency of its use increasing faster [14, p. 115].

The study of intellectual potential, its state at the moment is an important scientific and practical task which can be solved only within an interdisciplinary approach.

The described characteristics of this category indicate differences in its measurement: at the macro level – on the basis of official statistics data (it mostly concerns public intellectual potential), at the micro level – on the basis of empirical data (estimation of intellectual potential of the individual is in focus, a significant preference is that the research methodology gives an opportunity to also evaluate intellectual potential of the population of any territory or the company) [13, p. 73].

The algorithm to estimate intellectual potential at a micro level constitutes a system of procedures for empirical data uncovering, their subsequent mathematical processing and calculating a general overall indicator[6]. The index of human intellectual potential (I_{ip}) is calculated as a geometric average of the indices of creativity (I_{cr}) and cognitive (I_{kn}, knowledge) potential:

$$J_{ip} = \sqrt[2]{I_{cr} + I_{kn}} \quad (1)$$

On the basis of comparative analysis of the methodologies we have developed our own

[6] This entails monitoring the labor potential quality (intellectual potential of the population is one of the labor resources qualities).

system of indicators, comprehensively characterizing structural components of intellectual potential of the population at the macro level. They are educational, scientific and innovation, cultural indices. Despite the traditional character of these indicators, we used new approaches to their choice, consisting of fixing not only the result of intellectual activity, but conditions for its implementation. The approach takes into account synergistic effect to reproduce intellectual potential of the population (*tab. 3*).

For each index there are fixed minimum and maximum values. The minimum values are defined as the smallest possible values to be reached by these indicators (in this case they are adopted for 0), the maximum ones – as the greatest possible values to be achieved by these indicators separately in the Russian Federation and the Northwestern Federal District during the analyzed period. The values of educational (P_{ep}), scientific and innovation (P_{si}) and cultural potentials (R_{cp}) are calculated as an arithmetic average of their coefficients, and the integral index of intellectual potential of the population (I_{ipp}) is calculated according to the function (2):

$$I_{ipp} = \frac{P_{ep} + P_{si} + R_{cp}}{3} \qquad (2)$$

where:

I_{ipp} – an integral index of intellectual potential of the territory;

P_{ep} – an index of educational potential;

P_{si} – an index of scientific and innovation potential;

R_{cp} – an index of cultural potential of the territory.

The introduction of indicators of sociocultural development of the territory in the structure of the measured components makes it possible to evaluate contribution of the intellectual potential reproduction of not only educational, scientific and innovation spheres, but also of culture as an environment of historical continuity and social experience of people.

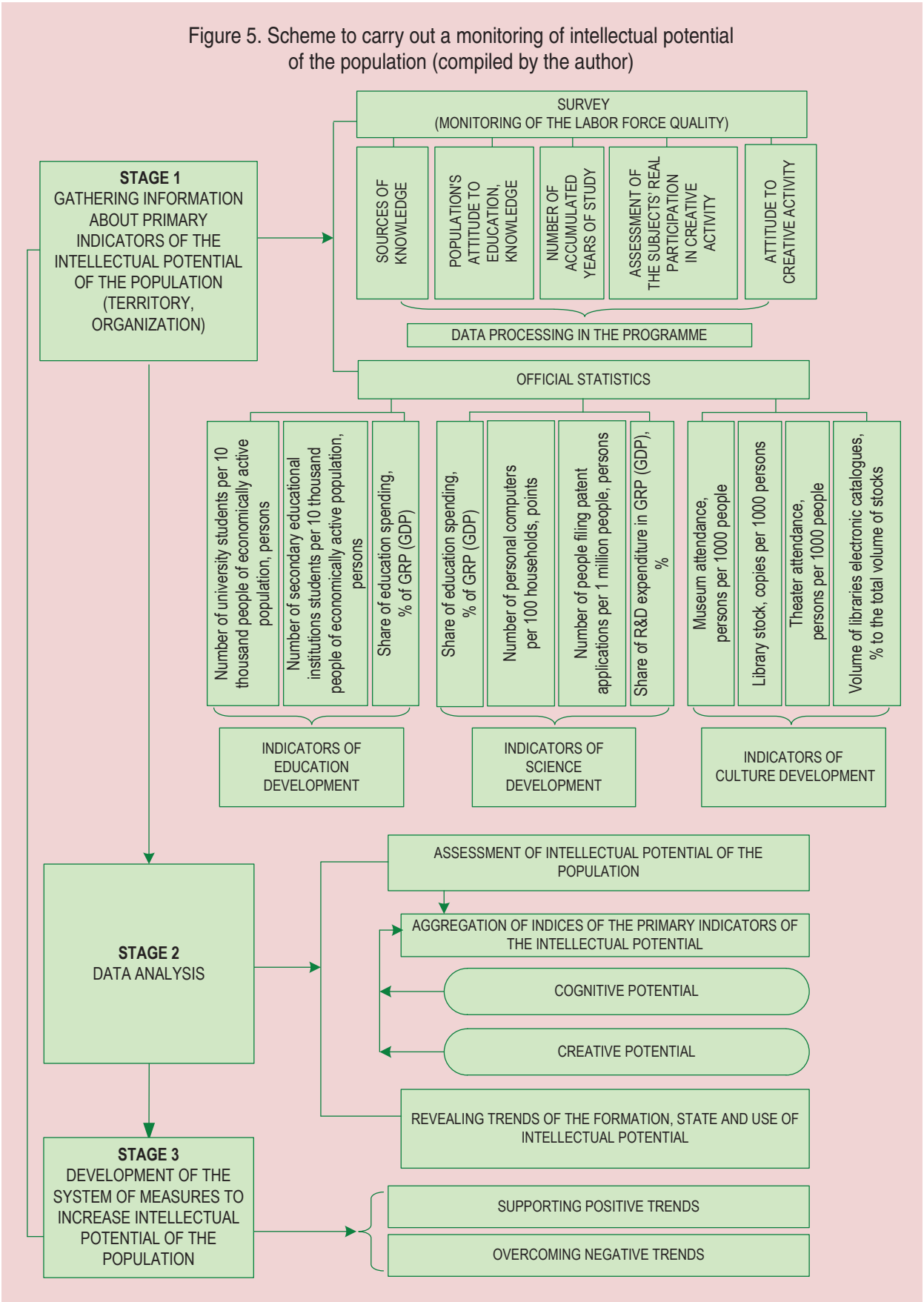
The methodology of intellectual potential evaluation at a macro level (including countries, federal districts, regions) provides an opportunity to rate territories by this indicator, thus ensuring effective measures to improve conditions for formation of intellectual features of the population for each particular society.

The described above tools for intellectual potential assessment at a macro level were applied while studying intellectual development of the Northwestern Federal district territories in 2000–2010. The results analysis has revealed that the characteristics demonstrate a slight

Table 3. Indicators used to assess intellectual potential of the population

Index	Indicator
Educational	Number of university students per 10 thousand people of economically active population, persons
	Number of secondary educational institutions students per 10 thousand people of economically active population, persons
	Share of education spending, % of GRP (GDP)
Scientific and innovation	Share of R&D expenditure in GRP (GDP), %
	Number of scientists and engineers per 10 thousand people, persons
	Number of people filing patent applications per 1 million people, persons
	Number of personal computers per 100 households, points
Cultural	Library stock, copies per 1000 persons
	Museum attendance, persons per 1000 people
	Theater attendance, persons per 1000 people
	Volume of libraries electronic catalogues, % to the total volume of stocks

Figure 5. Scheme to carry out a monitoring of intellectual potential of the population (compiled by the author)



tendency to increase intellectual potential of the Russian population at the macro level. However, the Vologda Oblast lags behind the Russian Federation by almost all indicators (except for the index of a cultural potential), especially by the science and innovation index values, which are 2 times lower than nationwide (0.19 points against 0.38 for the Russian Federation). All this clearly shows that the scientific and technological potential is currently the main source of socio-economic development of the Russian territories.

The given methodological tool can be used to assess intellectual potential of the population both at a municipal level and at a level of regions and countries.

Intellectual potential can be an indicator of innovation development of the territories and efficiency of the state administration. In this case it is viewed as scales to weigh the different political, economic and social regulations. When the authorities take any decision, it can be assessed in terms of which direction – increasing, decreasing or even eliminating intellectual potential of the society – it works.

The monitoring is a methodological tool to study intellectual potential. The proposed system of monitoring can be considered as an evaluation studies component of the direct and indirect mutual influence of economics and socio-economic development on intellectual potential and the impact of intellectual potential of the population on economic development of the region in the near-term prospect and remote future. The monitoring serves to examine and estimate dynamics of intellectual potential parameters, to identify trends in its development (*fig. 5*):

Taking into account simultaneous study of the indicators characterizing the intellectual potential and impacting factors of the environment, the monitoring solves the following tasks:

1) organization of observation, obtaining accurate and objective information about changes of intellectual potential of the region;

2) assessment and system analysis of the obtained information, revealing causes of the intellectual potential deterioration;

3) preparation of recommendations to how to overcome these negative trends;

4) providing the authorities with information got during the monitoring.

However, the monitoring serves as an information base for solution of such tasks as:

- justification of the objectives and priorities to retain and increase the population quality in the regional policy;
- preparation of the reports on the results of implementation of policies to maintain and improve the population quality or on the human development of the territories;
- assessment of the effectiveness of the local authorities activity to solve problems in the field of the society intellectual development.

The methodological tools for intellectual potential assessment can be one of the instruments to study the effectiveness of public administration in the conditions of building the knowledge society.

References

1. Tomas Aquinas. *Summa Theologica*. Kyiv: El'ga, Nika-Tsentr, El'-kor-MK, Ekslibris, 2002.
2. Bagdasarov M.I. *Intellektual'nyy kapital v sisteme korporativnykh otnosheniy: avtoref. diss k. s. n.* [Intellectual Capital in the System of Corporate Relations. Ph.D. in Sociology Dissertation Abstract]. Moscow, 2008.
3. Becker G. Chelovecheskoe povedenie: ekonomicheskiy podkhod [The Economic Approach to Human Behavior]. *Izbrannye trudy po ekonomicheskoy teorii* [Selected Works on Economic Theory]. Compiled by R.I. Kapelyushnikov. Moscow: GU-VShE, 2003.
4. *Bol'shaya Sovetskaya Entsiklopediya: v 30 t. T. 20* [The Great Soviet Encyclopedia: in 30 Volumes. Volume 20]. Ed. by A.M. Prokhorov. 3rd edition. Moscow: Sovetskaya entsiklopediya, 1975.

5. Zvereva N.V. *Chelovecheskiy potentsial ustoychivogo innovatsionnogo razvitiya Rossii* [Human Potential of Russia's Sustainable and Innovation Development]. Available at: http://igpr.ru/library/zvereva_nv_ chelovecheskij_ otencial_ustojchivogo_innovacionnogo_razvitija _rossii (accessed February 10, 2014)
6. Ilyin V.A., Gulin K.A., Uskova T.V. Intellektual'nye resursy kak faktor innovatsionnogo razvitiya [Intellectual Resources as Innovation Development Factor]. *Ekonomicheskie i sotsial'nye peremeny: fakty, tendentsii, prognoz* [Economic and Social Changes: Facts, Trends, Forecast], 2010, no.3.
7. Kleyner G.B., Tambovtsev V.A., Kachalov R.M. *Predpriyatie v nestabil'noy ekonomicheskoy srede: riski, ekonomicheskie strategii, bezopasnost'* [An Enterprise in the Unstable Economic Environment: Risks, Economic Strategies, Security]. Ed. by S.A. Panov. Moscow: Ekonomika, 1997.
8. *Kontseptsiya dolgosrochnogo sotsial'no-ekonomicheskogo razvitiya Rossiyskoy Federatsii na period do 2020 goda: utv. rasporyazheniem Pravitel'stva Rossiyskoy Federatsii ot 17 noyabrya 2008 g. № 1662-r.* [The Concept for Socio-Economic Development of the Russian Federation for the Period until 2020: Approved by the Resolution of the Government of the Russian Federation of November 17, 2008 No.1662-r].
9. Kudina M.V. Upravlenie intellektual'nym potentsialom kompanii kak element korporativnogo upravleniya [Management of Intellectual Potential of the Company as an Element of Corporate Management]. *Gosudarstvennoe upravlenie: Elektronnyy vestnik* [State Governance: Electronic Bulletin], 2010, no. 22, March.
10. Lagutina L.G. *Upravlenie intellektual'nym potentsialom regiona v usloviyakh formiruyushcheysya innovatsionnoy ekonomiki: makroekonomicheskiy aspekt: avtoref. dis. k.e.n.* [Management of Intellectual Potential of the Region in the Conditions of the Emerging Innovation Economy: Macroeconomic Aspect. Ph.D. in Economics Dissertation Abstract]. Moscow: NOU VPO "Moskovskiy institut ekonomiki, menedzhmenta i prava", 2009.
11. Laychuk O.V., Nikolaeva L.A. *Intellektual'no-informatsionnyy potentsial: voprosy teorii i praktiki: monografiya* [Intellectual and Information Potential: Issues of Theory and Practice: Monograph]. Irkutsk: VGUEP Publ., 2009.
12. Lezhnina Yu.P. Vzaimosvyaz' sotsial'no-ekonomicheskikh pokazateley regiona s intellektual'nym potentsialom ego naseleniya [Interrelation between Socio-Economic Indicators of the Region and the Intellectual Potential of its Population]. *Trudy SGU* [Works of SGU], 2006, Issue 99 (Humanities. Psychology and Sociology of Education).
13. Leonidova, G.V. Napravleniya otsenki intellektual'nogo potentsiala [Directions of the Intellectual Potential Estimation]. *Federalizm* [Federalism], 2011, no.2.
14. Leont'ev B.B. *Tsena intellekta. Intellektual'nyy kapital v biznese* [Price of Intellect. Intellectual Capital in Business]. Moscow: Izdatel'skiy tsentr "Aktsioner", 2009.
15. Makrusev V.V., Paukov A.A. *Sistema transgranichnoy zashchity intellektual'noy sobstvennosti: monografiya* [The System of Cross-Border Protection of Intellectual Property: Monograph]. Moscow: RTA, 2005.
16. Martynov A.F. *Vosproizvodstvo intellektual'nogo potentsiala: otsenka, modelirovanie, metodologiya upravleniya: avtoref. diss. d.e.n.* [Reproduction of Intellectual Potential: Evaluation, Modeling, Management Methodology: Doctor of Economics Dissertation Abstract]. Moscow, 2008.
17. Marusinina E.Yu. *Upravlenie intellektual'nymi resursami predpriyatiya v ramkakh realizatsii kontseptsii vnutriorganizatsionnogo marketinga: avtoref. diss. k. e. n.* [Management of Intellectual Resources of the Enterprise within the Framework of Realization of the Corporate Marketing Concept. Ph.D. in Economics Economics Dissertation Abstract]. Volgograd, 2007.
18. Ovsyannikov A.A. Potentsial modernizatsii vysshey shkoly Rossii: kommunikatsii kompetentnostey professury i studenchestva [Modernization Potential of Higher Education in Russia: Communication of Competences of Academic Staff and Students]. *Narodonaselenie* [Population], 2011, no.4.
19. *Osnovy politiki RF v oblasti razvitiya nauki i tekhnologiy na period do 2020 goda i dal'neyshuyu perspektivu: utv. Prezidentom RF 11 yanvarya 2012 g. № Pr-83* [Fundamentals of the RF Policy in the Field of Development of Science and Technology for the Period until 2020 and Further Perspective: Approved by the President of the Russian Federation on 11 January 2012 No. PR-83].
20. *Regulirovanie innovatsionnykh protsessov v regione* [Regulation of Innovation Processes in the Region]. Ed by. G.A. Krayukhin. Saint Petersburg: SPbGIEA, 1997.
21. Rimashevskaya, N.M. Kachestvo chelovecheskogo potentsiala v sovremennoy Rossii [Elektronnyy resurs] / N.M. Rimashevskaya. – Rezhim dostupa: http://spkurdyumov.narod.ru/Rimash1.htm.

22. Rimashevskaya N.M. O metodologii opredeleniya kachestvennogo sostoyaniya naseleniya [On the Methodology for Determining the Quality State of the Population]. *Demografiya i sotsiologiya* [Demography and Sociology], 1993, Issue 6.
23. Rutkevich M.N., Levashov V.K. O ponyatii intellektual'nogo potentsiala i sposobakh ego izmereniya [About the Concept of Intellectual Potential and Ways of its Assessment]. *Naukovedenie* [Science Studies], 2000, no. 1.
24. Sokhan' A.V. Intellektual'nyy potentsial lichnosti [Intellectual Potential of the Person]. *Sotsial'naya struktura sotsialisticheskogo obshchestva* [Social Structure of a Socialist Society]. Moscow: Nauka, 1983.
25. Subetto A.I. *Rossiya i chelovechestvo na "perevale" istorii v preddverii tret'ego tysyacheletiya* [Russia and Mankind on a "Crossover" of History on the Eve of the Third Millennium]. Saint Petersburg: PANIL, 1999.
26. Tatarkin A.I. Intellektual'nyy resurs obshchestva [Intellectual Resource of the Society]. *Vestnik Rossiyskoy akademii nauk* [Herald of the Russian Academy of Sciences], 2011, vol. 81, no. 8.
27. Ilyin V.A., Gulin K.A., Leonidova G.V., Davydova V.V. *Trudovoy potentsial regiona: sostoyanie i razvitie* [Labour Potential of the Region: State and Development]. Vologda: VNKTs TsEMI RAN, 2004.
28. Chebotarev N.F. Innovatsionnaya deyatel'nost' kak glavnyy istochnik povysheniya blagosostoyaniya i razvitiya chelovecheskogo kapitala [Innovation Activity as the Main Source of Enhancement of Wellbeing and Development of Human Capital]. *Audit i finansovyy analiz* [Audit and Financial Analysis], 2007, no.2.
29. Shakirova D.M. Kriterii otsenki intellektual'nogo i obrazovatel'nogo potentsialov v informatsionnom obshchestve [Criteria of Evaluation of Intellectual and Educational Potential in the Information Society]. *Obrazovatel'nye tekhnologii i obshchestvo* [Educational Technologies and Society], 2010, vol. 13, no.3.
30. Chardin P.T. *Fenomen cheloveka* [The Phenomenon of Man]. Moscow: Progress, 1987.
31. Yudina S., Sharifullina G. Otsenka intellektual'noy sostavlyayushchey natsional'nogo trudovogo potentsiala [Evaluation of the Intellectual Component of National Labour Potential]. *Chelovek i trud* [Man and Labor], 2010, no. 4.

BRANCH-WISE ECONOMY

UDC 338,12, 338012, LBC 65.3

Branch analysis in the context of evolutionary development of economic systems

Margarita Izraylevna
BERKOVICH
Doctor of Economics, Professor, Director of the Institute of Management, Economics and Finance, Kostroma State University of Technology (17, Dzerzhinsky Street, Kostroma, 156005, Russia, Bel_ka88@mail.ru)

Ekaterina Aleksandrovna
KOMAROVA
M.A. in Management, Teaching Assistant at the Department of Business Administration, Yaroslavl State Technical University (88, Moskovsky Avenue, Yaroslavl), Graduate Student at the Institute of Management, Economics and Finance, Kostroma State University of Technology (17, Dzerzhinsky Street, Kostroma, 156005, Russia, Bel_ka88@mail.ru)

Abstract. Upgrading of Russian economy claims special attention to long-term problems of its development in order to make it stable and purposeful. The necessity to improve social and economic parameters and comprehensive innovation development of territorial economic systems requires elaboration of sound policy and regions' strategies in relation to regional branches that form their potential. The article proposes an approach to reform national economic sectors on the basis of their life cycle analysis and allocation of functional features of a single mesoeconomic system. The research is aimed at selecting key parameters of sectors' development at the regional level. The evolutionary approach that serves as the basis for the methodology gives an opportunity to determine the factors that have the greatest impact on life cycle dynamics. The article singles out the following main groups of factors: resources, product, technology, market, banking sector, public policy. By analyzing life cycles of the Yaroslavl region's chemical industries (synthetic rubber and carbon black production) it is concluded that the only way to ensure sustainable development of branches lies in the continuous implementation of innovations, a process affected by cyclicity and determined by factors of exogenous and endogenous nature.

Key words: economic system; branch; life cycle of a branch; evolutionary development; cycle-formative factor; innovations.

The study of any system involves determining its overall tendencies, trends шгг its development. This approach is particularly relevant for economic systems which have recently become more dynamic.

A lack of interaction between fundamental economic science and business and its needs is believed to be one of the modern post-industrial society paradoxes; the practice of modern economic development has significantly surpassed the level of theoretical generalizations and recommendations [4, p. 8].

The disbalance between theory and practice presupposes deeper research into prerequisites for the development of economic systems of various levels including those on the basis of life cycle theories, as this would create the possibility of greater validity of necessary reforms. Nowadays, the concept of life cycles in economic science has a primarily descriptive character, so the life cycle model is rarely applied in practice.

The life cycle concept appeared at the end of the 19th century as a set of ideas including a study of the heredity and development patterns. In economic sciences the product's (good's) life cycle concept has become more widespread.

J.J. Lambin, a well-known expert in the field of marketing, describes the essence of this concept as follows: "The market potential determines the scale of the economic possibility that commodity market provides. This first quantitative measure of attractiveness must be supplemented with dynamic estimate characterizing its duration that is evolution of potential demand in time" [3].

Expanding the boundaries of the concept described by J.J. Lambin one can define a branch as some economic space where goods are not only sold but produced. While conducting the analysis, it is worthwhile to expand "market" parameters (market capacity, scale of competition, level of concentration) with dynamic characteristics, such as stages of the branch's life cycle, possible profit growth, rate of technological changes. This approach is also associated with the transformation of the very goal of the branch's analysis when not just only assessing the situation in a separate manufacture at the moment but making a forecast of its development on these data basis.

In fact the theory of the branch's life cycle is an extension of the idea of cyclical development of the economic situation described in the works of the classics – such as J.M. Keynes, N.D. Kondratiev, J. Schumpeter. Cyclicity is a natural way of economic development, a universal form of movement that reflects uneven flow of economic processes.

Already in the 19th century economical science differentiated a cycle of 7–12 years later being called after C. Juglar (1819–1905). The scientist made a great contribution to the study of industrial fluctuations nature in France, the United Kingdom and the USA based on the fundamental analysis of fluctuations in interest rates and prices. The research has showed that these fluctuations coincide with investment cycles which in turn result in changes of GDP, inflation and employment. In literature this cycle is also called as "business cycle", "production cycle", "average cycle".

Modern researchers, experts in strategic management pay particular attention to interaction of four development cycles: an economic cycle, a sectoral cycle, a cycle of the enterprise's (firm's) development and a product life cycle. According to them the cycles of a lower level are "embedded" in the cycles of a higher level as their components thus determining characteristics of the latter [7, p. 182]. Although, of course, the development cycle of a higher level determines a new system quality and it is not a simple sum of cycles of a lower level.

These provisions reveal the system approach to the study of economic phenomena, but in this case, the system is quite complicated and has some specific characteristics. First, the

influence of the cycles of one level on the cycles of other levels remains unconditional, but it is important to point out the possibility of multi-directional character of this influence. Indeed, the growth of national economy does not mean the increase in production volumes in all the branches of industry; on the other hand, expansion of the scope of individual, including basic, industries results in positive dynamics at the macroeconomic level.

Moreover, the response of individual industries to the changes in external environment may be different not only in size, but also in vector – one and the same impact from the outside can have completely opposite effects for different sectors. For example, if the increase in oil prices has a positive impact on the dynamics of extractive industries, then cargo transportation enterprises will experience difficulties due to the growth of prices for fuel, which is the end product of oil processing.

The fluctuations of different cycles are formed not only under the influence of external factors. The influence from the inside, the change in a certain part of economic system at a certain level may change the dynamics of the system, setting a different trajectory within the life cycle. These changes are usually based on innovations implementation processes

The most well-known analysis of the life cycle of the industry belongs to M. Porter, the founder of strategic positioning. Specifics of his research lies in the fact that he was first to examine in detail all the stages of life cycle from the position of competitive dynamics based on such structural characteristics as the number and size of firms, the level of technological and strategic uncertainty, costs, price, buyers, competitors and the intensity of competition.

According to M. Porter, despite the fact that the original structure, production potential and investment decisions of the firms are specific for each industry, one can generally distinguish the most important evolutionary processes. Each industry is experiencing some kinds of certain predictable (and interacting) dynamic processes, although their speed and direction vary depending on the industry [8, p. 217]. Such processes include long-term changes in growth rates, in the level of uncertainty, in the competitive situation, in the cost of original resources and exchange rates, and in the structural shifts in related industries.

The life cycle concept serves as a "simplified model", a fundamental principle for analyzing economic phenomena. The use of such theories, that are called models, is expedient insofar as it helps escape from unimportant details, and identify the principal economic ties in the evolution of economic system [5, p. 49].

Evolution as a focused irreversible change in any process, system, subject always happens in real (dynamic or historical) time. In a broader sense, the term "evolutionary" includes the research into the processes of long-term progressive changes [6, p. 28].

Scientific substantiation of development prospects for individual branches implies the allocation of specific factors in external environment that have the greatest influence on them, taking into account the specifics of the life cycle of given industries.

At the regional level economic branches are developed in comparable conditions and under the influence of similar factors of financial, institutional, and demographic nature. To determine the current stage of life cycle concerning the given economic branch and to identify what should be changed for avoiding a decline or preserving the stage of growth, it is necessary to conduct a detailed analysis of these factors.

For these purposes, the following groups of factors presented in table 1 were identified: resources; product; technologies; market; banking sector; state policy.

Since the cyclical character of economic development is conditioned by different

The major factors influencing the stage of the life cycle of economic branches

Group of factors	Factors
Resources	Raw materials (price for raw materials, availability of resources)
	Labour (availability of labor resources, average labour remuneration in the region)
	Capital (shortage of capital leads to a slowdown in growth rates)
	Information (demand, state of affairs in related branches, etc.)
Technologies	Rate of technological changes (rapid or slow change in production technologies)
	Qualification of personnel (demand of the branch in employees of a certain level of training)
	Easiness of entering and leaving the branch (barriers to entry and leaving)
Product	Directions and rates of product innovations
	Degree of product differentiation (highly specialized or multiproduct productions)
	Import substitution (singularity of a product in the global market, competition with foreign producers)
Market	Scope and growth rates of the market (porential scope of the market and its growth rates in the short-term, medium and long-term periods)
	Scale of competition and competitive situation (competition in the local, regional, global level; monopoly, oligopoly, etc.)
Banking sector (availability and cost of loan resources)	
Government policy (state support measures, import and export duties, tax concessions, etc.)	

factors, both endogenous and exogenous, there is the obvious need for a detailed research into the so-called cycle-forming factors. At that, it is important to assess not only the effect of individual factors, but also different options of the industry dynamics under the changes in individual factors (when the ratio of the impact of factors changes, the stage of life cycle shifts), as well as the overall synergy effect.

The traditional model of branch's lifecycle, proposed by the majority of researchers, includes four stages of development: a newly emerged industry, growing industry, mature industry and industry in decline or crisis; but, taking into account the influence of all the above factors on the evolution of an industry, this curve can vary considerably.

R. Grant, commenting on the traditional S-shaped curve of life cycle, explains that branches vary in development models. Branches that provide for basic needs – housing construction, food processing and making clothes, perhaps, will never enter the stage of recession, because such needs are unlikely to become obsolescent. Some branches may undergo rejuvenation in the process of life cycle (motorcycle industry). In addition, branches may be at different stages of their life cycle (e.g. automotive market) in different countries (or even in different regions) [1, p. 304].

To explore the life cycle, it is necessary to assess the scope of the term "branch". N.M. Rozanova defines the branch as a set of manufacturers of goods that differ in technological proximity of production (a structure from the point of view of supply), thus distinguishing it from the concept of market: the market is a set of sellers of substitute goods (a structure from the point of view of demand) [11, p. 29].

N.V. Pakhomova and K.K. Richter propose to use the term "branch" for naming a group of companies that produce and sell interchangeable (in manufacturing) products using similar technologies and equipment of the market of production factors [9, p. 149].

In practice, however, the term "branch" is now replaced by the concept "economic activity" that introduces an element of uncertainty in the conceptual framework. Although there is no definition of the word "branch" in statistical reports, but the terms "branch affiliation", "branch structure" are actively used in scientific publications and in practice.

A detailed study of the types of economic activity reveals that the individual productions within a single section of OKVED (All-Russian Classifier of Types of Economic Activity) vary significantly in their economic characteristics, level of competition and development prospects, and also in the pace of technological progress, the size of markets and other parameters; all this should be taken into account when elaborating the strategy for the development of the national economy branches, regions and enterprises.

In particular, if we analyze the TEA (type of economic activity) "chemical production" in the Yaroslavl Oblast, we can observe significant differences among such groups as the production of fertilizers and nitrogen compounds, manufacture of synthetic rubber, manufacture of paints and varnishes, manufacture of pharmaceutical products, etc. In order to trace the difference of life cycles on an example, let us consider two sectors: manufacture of synthetic rubber (OKVED code 24.17) and production of technical carbon (soot) (included in OKVED code 24.66 – production of other chemical products). These branches use raw materials that are similar in their origin (refinery waste), and they work, in fact, for one customer – automotive industry; and the only difference is that the synthetic rubber (SR) plant was shut down several years ago, and the technical carbon production plant is developing steadily at present.

Synthetic Rubber Plant No.1 (now the joint-stock company "SK Premier"), built in 1932, is the factory that produced the world's first synthetic rubber, which was necessary for manufacturing tires [12]. Later the best option for technological process was found, which led to a sharp increase in rubber production, and its prime cost reduced. In the post-war time the production was developed and improved. Along with the launch of the Yaroslavl oil refinery the plant SK-1 was reconstructed. The use of gases obtained during oil processing, made it possible to organize large-scale production of synthetic alcohol, methylstyrene and other kinds of raw material for chemical industry [10].

In the early 1970s the specialists at the plant worked out a process of obtaining one of the so-called "liquid" rubbers. The launch of large-scale production of isoprene rubber SKI-3 that is a full substitute for natural rubber can be considered a turning point in the history of the plant. The highly automated production of new raw materials for tire and other industries was launched in the shortest period. However, in 1993 the complex SKI-3 in Yaroslavl witnessed a shortage of raw materials. The whole industry in the country was sliding into recession, economic ties between producers and consumers in the former Soviet republics were breaking. By 1996, the non-payment and barter transactions in the country had reached their pinnacle. The new leadership decided to focus on the manufacture of adhesives and putties that had previously been auxiliary productions. This resulted in the fact that the more businesslike competitors ejected the Yaroslavl plant from the rubber and latex market. In 2001 the plant got a new investor – OJSC Alliance Group, specializing in crisis management. According to its managers, it was planned to reconstruct and upgrade the existing capacities and set up the production of new quality and range for entering the domestic and foreign market [13].

In Russia, as well as in leading foreign countries, synthetic rubbers are used mainly for manufacturing tires.

According to analysts, synthetic rubber production remains a very promising sphere for Russia, despite certain difficulties in the development and an ongoing redistribution of property. Russia's share in the global production of SR is 7%, which is significantly higher than the similar share of other polymers. A wealth of experience in this field and the great authority of the Russian synthetic rubber in the

global market suggest that it is enough to make relatively small effort to restore the Russian production of synthetic rubber to its leading position in the world [14].

Obviously, during the 1990s, all rubber plants in the country faced the lack of raw materials and required production upgrade. However, one cannot say definitely that synthetic rubber industry is in recession in the country as a whole. For example, at present, OJSC Voronezhsintezkauchuk, which is also one of the first producers of synthetic rubbers and latexes, has mastered the production of new grades of rubber under the program "Green tire". Serial production of styrene-butadiene thermoplastic elastomers launched at the plant in 1991 is currently the only one of its kind in the CIS nations, its production output is constantly growing, and export deliveries constitute about 50%.

The location of most of Russia's synthetic rubber plants in the remote regions of the country's European part, including in Central Russia, is disadvantageous; they experience difficulties not only with transportation of raw materials, but also with exporting the rubber itself. The rubber in South-East Asia is much more expensive than in Europe, but it is difficult to deliver it there. As for the enterprises in the Urals-Volga region that account for two-thirds of Russian rubber, the problem of export logistics is even more acute. In many respects, it is the logistics barrier that makes Russian exporters focus mainly on the European market rather than on a more attractive Asian market. Experts believe that if we had money and will, we could easily enhance ethylene production in Russia twice, up to four million tons even with the existing raw material base [15].

As for the plant SK-1 in Yaroslavl, in the 2000s it actually came under the control of Sibur Group that was going to establish full-cycle production. The far-reaching plans were not implemented, the plant turned out unnecessary in the production chain, therefore it was shut down.

Thus, despite its bright history, the life cycle of synthetic rubber industry in the Yaroslavl region came to its end, while in the whole country this industry is in the stage of maturity and has all the opportunities for growth. Continuous modernization of production, promising R&D and efficient management are the conditions for successful work.

The importance of complying with these conditions is confirmed by the pace of development of the technical carbon (soot) manufacturing industry that is represented in the region by the plant "Yaroslavsky Tekhnicheskiy Uglerod" (JSC YaTU) that holds leading positions in Russia and in the world market. The capacity of the enterprise is over 200 thousand tons of carbon black per year.

Carbon black is used as a reinforcing component in the production of rubber and other plastic materials. Demand for carbon black in Russia from 2007 to 2011 has grown by 25.7%. More than half of all produced carbon black is used in the production of tires and rubber technical goods. The Russian market of carbon black is export-oriented. In 2007–2011 on average more than 60% of the total demand accounted for export [16].

JSC YaTU exports over 80% of its production to Europe and America, Asia and Africa. Regular consumers of products of JSC Yaroslavsky Tekhnicheskiy Uglerod include well-known manufacturers of tires and rubber products like Goodyear, Michelin, Continental, Nokian, Trelleborg, Semperit. At present the company is among the five largest plants in the world that manufacture carbon black.

Construction of Novo-Yaroslavsky carbon black plant was launched in 1962. Originally it was constructed as carbon black production under Novo-Yaroslavsky oil refinery. From May 6, 1963, carbon black production was separated from the refinery and made independent enterprise. On December 3, 1974 it was renamed Novo-Yaroslavsky plant of carbon

black, since 1992 it is an open joint stock company Yaroslavsky Technicheskiy Uglerod [17].

By the end of the 1980s the plant had 12 technological flows producing up to 150 tons of carbon per year. In 1993 the enterprise was the first to introduce a system of closed-loop water supply by reconstructing treatment facilities and completely abandoning the discharge of water into nearby water bodies. Even in crisis conditions in 1994 the company was one of the first in Russia to launch the manufacture of carbon black grades according to ASTM classification. In 2000, the control of technological flows was fully computerized.

In 2001 the plant launches its own power station. All exhaust gas from the production of carbon black is burned in waste heat boilers, and the generated steam is recycled by the steam generators into electricity, and its amount covers the demand of the enterprise to the full [18].

The above data makes it clear that due to constant upgrading and modernization, the carbon black manufacturing industry in the Yaroslavl Oblast has long been at the stage of growth and, despite the existing problems similar to those of the synthetic rubber industry, it successfully has been operating and developing successfully.

In any case, there are many options which can be foreseen in the course of strategic and tactical planning for the successful functioning of enterprises in a particular industry. But the modern way of development of all the industries implies the only opportunity for stable growth – constant implementation of innovations.

Research into the dynamics of innovations implementation only confirms the adequacy of the cyclic approach. A number of works on innovation management study the interrelation of individual cycles of innovations development, the logic and dynamics of transition from one cycle to another. It is noted that a new cycle of product and process innovations, as in any cyclic model, can be initiated not only by internal industry factors of technological development (endogenous processes), but also factors that are external in relation to the industry, the "shakings of environment" that are not dependent on a specific sector (exogenous processes).

References

1. Grant R.M. *Modern Strategic Analysis*. 5th edition. Translated from English under the editorship of V.N. Funtov. Saint Petersburg: Piter, 2008. 560 p.
2. Gurova T., Ivanter A. Eti dvoe i ekonomicheskiy rost [These Two and Economic Growth]. *Ekspert* [Expert], 2013, no. 26 (857), pp. 14-18.
3. Lambin J.J. *Menedzhment, orientirovannyy na rynok* [Market-Driven Management]. Saint Petersburg: Piter, 2007. 800 p.
4. Lebedev O.T. *Ekonomika otraslevykh rynkov: uchebnoe posobie* [Economics of Branch-Wise Markets: Textbook]. Moscow: Boslen, 2008. 528 p.
5. Mankiw N.G. *Macroeconomics*. Translated from English. Moscow: Izd-vo MGU, 1994. 736 p.
6. Nelson R. R., Winter S.G. *An Evolutionary Theory of Economic Change*. Moscow: Delo, 2002. 536 p.
7. *Strategicheskiy menedzhment* [Strategic Management]. Ed. by A.N. Petrov. Saint Petersburg: Piter, 2005. 496 p.
8. Porter M. *Competitive Strategy*. 4th edition. Moscow: Al'pina Pablisher, 2011. 453 p.
9. Rozanova N.M. *Ekonomika otraslevykh rynkov: uchebnoe posobie* [Economics of Branch-Wise Markets: Textbook]. Moscow: Izdatel'stvo Yurayt, 2010. 906 p.
10. Ryazantsev N.P., Salova Yu.G. *Istoriya Yaroslavskogo kraya (1930–2005 gg.): uchebnoe posobie dlya uchashchikhsya srednikh obshcheobrazovatel'nykh uchebnykh zavedeniy* [The History of the Yaroslavl Region (1930–2005): Textbook for Secondary School Students].Yaroslavl, Rybinsk: B/i, Rybinskiy Dom pechati, 2005. 277 p.
11. Pakhomova N.V., Richter K.K. *Ekonomika otraslevykh rynkov i politika gosudarstva: uchebnik* [Economics of Branch-Wise Markets and Government Policy: Textbook]. Moscow: ZAO "Izdatel'stvo "Ekonomika", 2009. 815 p.

12. *Gosudarstvennyy arkhiv Yaroslavskoy oblasti* [The State Archive of the Yaroslavl Oblast]. Available at: http://www.yararchive.ru/funds/fund166680/
13. Solenikov A. Ispolnyaetsya 70 let so dnya puska [The 70th Anniversary of the Launch]. *Gazeta "Severnyy kray"* [Northern Area Newspaper], 2002, July 6. Available at: http://www.sevkray.ru/news/2/29005/
14. Glukhov V. Tumannye perspektivy perspektivnoy otrasli [Vague Prospects of a Promising Industry]. *Zhurnal "Rynok tsennykh bumag"* [Journal "Securities Market"], 2000, no.11. Available at: http://old.rcb.ru/archive/articles.asp?id=1234
15. Ryazanov V. Rossiyskaya promyshlennost' sinteticheskogo kauchuka: logistika, eksport i investitsii [Russian Synthetic Rubber Industry: Logistics, Export and Investment]. *Elektronnaya gazeta "Plastinfo"* [Online Newspaper "Plastinfo"], 2013. Available at: http://plastinfo.ru/information/articles/147/
16. *Analiz rynka tekhnicheskogo ugleroda v Rossii v 2007–2011 gg., prognoz na 2012–2016 gg. Otchet RBK* [Analysis of the Market of Carbon Black in Russia in 2007–2011, Forecast for 2012–2016. RBC Report]. Available at: http://marketing.rbc.ru/research/562949984655723.shtml
17. *Gosudarstvennyy arkhiv Yaroslavskoy oblasti* [The State Archive of the Yaroslavl Oblast]. Available at: http://www.yararchive.ru/funds/fund114052/
18. OAO "Yaroslavskiy tekhnicheskiy uglerod" ispolnilos' 50 let [The 50th Anniversary of JSC Yaroslavl Carbon Black]. *Internet portal Rosinvest.com, February 7, 2013.* Available at: http://rosinvest.com/novosti/1017795

UDC 338.2.(470.21)+(571), LBC 65.305.143.223(21)

Opportunities and prospects for the emergence of new refineries in Russia's Northern regions

Aleksandr Anatol'evich
BIEV
Ph.D. in Economics, Senior Research Associate, Federal State-Financed Scientific Institution G.P. Luzin Institute of Economic Problems of Kola Scientific Centre of the Russian Academy of Sciences (24A, Fersman Street, Apatity, Murmansk Oblast, 184209, Russia, biyev@mail.ru)

Alla Vladimirovna
SHPAK
Ph.D. in Economics, Associate Professor, Head of the Department for Economics and Organization of Product Distribution, Federal State-Financed Scientific Institution G.P. Luzin Institute of Economic Problems of Kola Scientific Centre of the Russian Academy of Sciences (24A, Fersman Street, Apatity, Murmansk Oblast, 184209, Russia, ashpak@ram)

Abstract. The article is devoted to the study of the issue concerning the improvement of the system of regional oil products supply of Russia's Northern territories. It considers the key issues of the formation of oil industry, the regional economic branch that is new for the Murmansk Oblast. The research information base consists of analytical and statistical materials of the regional authorities of Russian Northern subjects and of data presented in the electronic media. The paper is addressed to economists, specialists of regional and local authorities, representatives of oil enterprises, and to all those interested in the range of problems of fuel-and-energy development of our country's North.

Key words: Russia, Northern regions, Murmansk Oblast, oil processing.

Russia's Northern territories are traditionally the largest centers of not only the extraction, but also of the consumption of natural resources. High needs are observed in the sphere of fuel and energy resources – natural gas, coal, oil products. While the programs of reorientation of territorial energy complexes to the use of energy and gas sources, that are relatively cheaper than oil, and the energy efficiency of both Northern and non-Northern regions have been given rather increased attention in our country, the diversification of oil products supplies, the expansion of their local production in the Northern zone have not yet yielded any tangible results. Therefore, an acute shortage of petroleum refineries remains a permanent danger to the energy security of the Northern territories of the Russian Federation.

The aim of this article is to define some of the prospects of and the prerequisites to the emergence of new production facilities within the Northern zone of the Russian Federation. In view of this, the actions have been taken by regional authorities in cooperation with oil companies, in order to resolve the problems concerning oil products supply of the Northern regions of the Russian Federation. The article gives particular emphasis to the issue of launching oil products production in the territory of the Murmansk Oblast that is to be the basic region, serving the main cargo transportation along the Northern sea route.

In his report at the session of the Presidium of the State Council on April 28, 2004 Russian President V.V. Putin stressed the necessity of modernization and upgrade of the energy economy of the Northern territories as one of the main directions of the state policy in the spheres of economic and social development of Russia's Northern regions and Far East [3]. The issues concerning fuel supplies by particular subjects of the Russian Federation over the last decade have been repeatedly addressed not only at the highest governmental level, but also in social and scientific circles. The recognized national experts in this field participated in the discussion. Thus, for example, one of the most famous monographs "Economics and energy of the regions of the Russian Federation" (2001) highlighted the definition of the problem of fuel and energy supply of the regions provided with imported (particularly long-range) fuel [10].

Over the last 20 years only two large refining facilities have been built and commissioned in Russia – Nizhnekamsk and Antipinsky oil refineries (NPZ). There is no other such enterprise out of the 30 major domestic refineries directly in Russia's Arctic zone with access to the Northern sea route. The nearest sources of oil products supply for the Northern subjects of the Russian Federation are the following: LLC Production Association KINEF (Leningrad Oblast), JSC Lukoil-Ukhtaneftepererabotka (Komi Republic), Antipinsky oil refinery (Khanty–Mansi Autonomous Okrug, Khanty- Mansiysk), Surgut condensate stabilization plant (CSP), Purovsky condensate processing plant (CPP) (Yamalo-Nenets Autonomous Okrug (YNAO). Therefore, the idea of establishing a local oil refinery in the Subarctic in order to satisfy the region's domestic needs for petroleum products, to supply its products to other Northern regions under the "Severny Zavoz" (northern delivery) program, using the Northern sea route, and to participate simultaneously in export deliveries, started up relatively long ago. The plans providing for the establishment of large oil refineries in the Murmansk Oblast, the Sakha Republic (Yakutia) and the Sakhalin Oblast are the examples illustrating the elaboration of such projects.

The development of the project on the construction of an oil refinery in Murmansk was originally associated with the initiative to set up the Murmansk pipeline system (OAO LUKOIL, OJSC Yukos Oil Company, etc.) In 2000 the oil refinery project was most intensively developed by LUKOIL company.

The cooperation agreement, stipulating joint efforts ensuring oil products supply to Russia's Northern regions through the Murmansk Oblast oil tank farms, was signed between the company and the Murmansk Oblast administration on February 16, 1999 [15]. The enhanced interest in such production facility was expressed not only by the oblast government and the Ex-Governor of the Murmansk Oblast Yuri Evdokimov, but also by Russian President Vladimir Putin, who during his visit to the region stated to assist in solving the issue concerning the transfer of the oil base of the Northern Fleet from the Ministry of Defense to LUKOIL [7]. The oil base Mokhnatkina Pakhta, which is located in the area of the similarly named cape, near Severomorsk and has the entire infrastructure, required for the purpose, was proposed as the site of the future plant. The Pechenga Bay coast (the area of the Devkina Zavod' and Trifonov Ruchey) was considered as an alternative location [11].

According to the construction plan, the territory of the production site exceeded 100 ha (10 square km). In addition to the plant itself, the LUKOIL project also included the construction of oil terminal and transport system. The Neftchemproject institute (Rostov-on-Don) carried out initial calculations and prepared materials for the project. It was planned that the plant's production capacity would reach 3 million tons of oil per year, and its construction cost in the prices of that period would not exceed 200 million US dollars. The measures of project support from regional administration (jointly with the Murmansk city administration) would provide for authorizing long-term lease of land plots for constructing several (3 to 5) LUKOIL-Severo-Zapadnefteproduct petrol filling stations. In turn, the oil company would ensure oil product supplies to satisfy the needs of Murmansk. However, despite the signing of the preliminary agreement on the project implementation and support at the federal level, all the attempts to negotiate the allotting of the territory for the plant with the Ministry of Defense of the Russian Federation failed [2].

In 2005, the idea of constructing a large oil enterprise on the Kola Peninsula was again actively discussed in the regional administration, socio-political and business circles. The need for such construction was declared by the Presidential Plenipotentiary Envoy to the Northwestern Federal District Lyubov Sovershaeva at the 5th International Forum "Fuel and Energy Complex of Russia: regional aspects", held in St. Petersburg on April 4, 2005. According to her, "... this project is not interesting for oil companies in terms of the economy, however, when solving the issues concerning energy security of the country and regions, one shall be driven by national interests" [21]. The construction of an oil refinery is economically feasible for the state, as the enterprise "...will allow providing oil products to the Murmansk and Arkhangelsk oblasts, to unload Oktyabrski and Northern Railways" [ibid.].

The active discussion of the far-reaching possibilities for deploying local production in the region resulted in the initiative development of rather large oil refinery with the capacity up to 6 million tons of oil per year) by SINTEZ Group (JSC SINTEZ Petroleum). The main purpose of the future enterprise was to be the production and transportation of oil products to the countries of Northern Europe (straight-run gasoline and fuel oil), and partial coverage of the local regional needs in light petroleum products. Favorable oil market environment led to the SINTEZ attempt to diversify its own oil production and to establish a business structure with a complete production cycle, including production, processing and distribution network. A group of offshore fields (Medynsko-Varandeyskoye, Kolokolmorskoye, Admiralteyskoye and Pakhtusovskoye offshore areas), developed by

JSC Arktikshelfneftegaz and Sintezneftegaz, included in the SINTEZ Group was supposed to be the main source of raw materials for the refinery. Despite rather large balance reserves (more than 400 million tons of oil in 2007), companies, included in JSC SINTEZ Group, were forced to send produced oil for processing to the Republic of Bashkortostan, using the so-called job-processing contract. SINTEZ does not own a private refinery, therefore, the formation of processing assets would allow providing oil products to the network of filling stations functioning in Moscow, increasing independence from other participants in the domestic oil market. Moreover, the group companies were interested in the construction of the export terminal in the Kola Bay area for the export transfer of up to 25 million tons of oil jointly with other large companies (first of all, OJSC Rosneft) [16]. In the same way, in cooperation with other companies, selling crude oil for export through Murmansk Sea trading port, the future refinery was to be loaded with raw materials.

SINTEZ Group was ready to invest from 400 to 550 million US dollars in the implementation of these plans (depending on the terminal configuration) [1]. Despite the promise of such significant funds, as well as all kinds of support from the federal and local authorities (including the Prime Minister M. Fradkov and the Vice-Governor of the Murmansk Oblast A. Ruzankin), the practical implementation of these ambitious plans was considerably complicated. The site, selected for the construction of the refinery in the Western coast of the Kola Bay (area of the mouth of the Lavna River) was not linked with the region's electrical and transport networks [9]. In the end, the altered economic situation brought the project to a standstill at the earliest stage.

At the same time, Gamma Sever company, engaged in petroleum products wholesale and transportation in the Murmansk Oblast, expressed intentions to build an oil refinery with little production capacity (up to 100 thousand tons of hydrocarbons per year). Taibola railway station (Murmansk branch of the Oktyabrski railway, Kolsky District) was designated by the developer as the site for the construction of the enterprise. Stable gas condensate and fractional oil condensate, a by-product of oil crude production was expected to be the main raw material used by the company for the production of commodity products. The required volume of investments ranged from 120 to 150 million rubles. Small capacity of mini-refineries did not allow counting on the expansion of sales geography outside the Kolsky District municipalities and regional center. The project on the construction of a mini-refinery LLC Gamma Sever was considered at the session of the interdepartmental commission on the economics of location in June 2007 in the Murmansk Oblast Government. Members of the Commission criticized the economic justification and the environmental aspects of the project implementation. With regard to economic complications concerning the launching of production at the selected site of Taibola railway station, it was stated that currently it is not functioning, and the assumed costings for commissioning, and the developer's expenses for the operation and maintenance of the station, as well as other project indicators were not submitted for the Commission's discussion. The representative of the Oktyabrski railway suggested that the finished products would be most likely transported to the nearest Kola station instead of Taibola station that would adversely affect the pricing process [4]. In case the initial decision on the restoration of Taibola station is adopted, the increase in expenditure can make the project unprofitable at all. Members of the Commission called into question the environmental safety of the plant, as well. According to the Deputy of the regional committee on natural resources Aleksei Smirnov, the planner can not guarantee that the water area of the Kola River will be

protected from pollution. "The consequences can be extremely critical", Smirnov noted [ibid]. In further discussion all arguments of the Deputy Director of Gamma Sever Company V. Lisin about the existence of two alternative sites for the complex construction were neglected. Deputy Chairman of the Commission Aleksandr Makarov made a remark on the company's failure to submit the project documentation, which was one of the main reasons why the Commission rejected the possibility of further discussion concerning the construction of this modular oil refinery by LLC Gamma Sever.

The topic of Murmansk oil refinery was again actively discussed with the plans of CJSC Sevmorneftegaz (Gazprom Neft Shelf LLC, JSC Gazprom) being mostly supported by the regional authorities in 2010. The emergence of this project was directly related to the expected intensification of the activities concerning the development of raw hydrocarbon deposits in the Arctic shelf. This time the conversation again turned on the establishment of mega-plant capable to fundamentally change the fuel problem of the Northern region. However, the initiator explained at once that, despite the export production being the primary purpose of the facility, considerable part of oil products can be forwarded to the needs of the domestic market. Several variants of the refinery productivity were considered. According to Sevmorneftegaz General Director Aleksandr Mandel, the enterprise capacity was to be 5–10 million tons [20].

Depending on the volume of the refinery production output, the investments of JSC Gazprom could reach 7 billion US dollars [19]. The basic raw-material base for the project was expected to be the oil deliveries from Prirazlomnoye, Dolginskoye, Varandeyskoye, Medynskoye fields (Pechora sea), and perhaps, from Rostovtsevskoye and Novoportovskoye fields in Yamal. The basic stages concerning the preparation and realization of such huge and tremendous plans envisaged the completion of the elaboration of technological and economic substantiation of investments into the project by the end of 2010. Following the adoption of the decision in principle concerning the construction of the facility, the term of construction stage was to make up to 5 years. The launching of the refinery was to coincide with the achievement of peak oil production at Prirazlomnoye field. By this time, according to the then available plans, the first oil production had to be started in Dolginskoye field. The refinery was to be located at the production site near the village Mezhduretchie.

Plans to build a refinery were intertwined with the other project of JSC Gazprom in the village of Teriberka,where JSC Gazprom planned to construct the plant for liquefying natural gas using Shtokman gas condensate field as the source of raw materials. Therefore, in addition to the plans of oil processing, oil refineries could have been used for processing gas condensate from the Shtokman field in the amount of up to 600 thousand tons per year. According to Gazprom plans, about 1.5 million tons of produced oil products were to meet the concern's own needs in the region, a total of up to 4 million tons were to satisfy the needs of the Murmansk and Arkhangelsk oblasts. Thus, the total volume of deliveries outside the region and for export would have not exceeded 4.5 million tons.

In 2011 the construction project of Gazprom refinery in the Kola Peninsula was adjusted, however, a fundamental decision to start the construction was never adopted. After that the Western shore of the Kola Bay "...near the projected construction of a new Murmansk sea trading port district" was named as the potential deployment of the facility [18]. 12 possible options were initially considered in the process of choosing the most suitable area for locating the refinery. Gazprom VNIIGAZ LLC was mentioned as the leading project organization [12]. The commodity

nomenclature of refinery production had been expanding and included, besides oil, high value added products – petrochemical commodities. Diesel fuel, motor gasoline (AI-92/95), marine fuel, jet fuel and petrochemical materials were to be the major plant products. Preliminary characteristics of the future enterprise and the upcoming construction were voiced by Deputy Chairman of the State Duma of the Russian Federation, President of the Russian gas society Valery Yazev, who visited the Murmansk Oblast in early November 2011. The required capital investments, according to the adjusted estimates, increased and made up about 250 billion rubles. According to the new project, more than 1.800 jobs were planned to be created. The planned production capacity was to reach 16 million tons per year. It was assumed that the production territory of the refinery will amount to 12-18 square kilometres. Along with the plant, the whole complex infrastructure was planned to be constructed "from scratch": branch railway, mooring facilities, harbour vessels, cumulative base of finished products, terminal raw pipeline, feed pipeline, etc.

During the meeting between the members of the Murmansk Oblast Government (Chairman of the Committee of Industrial Development, Nature and Environment Oleg Krapivin, Economic Development Minister Sergei Agarkov) and the representatives of JSC Gazprom at the end of July 2011, the latter submitted for consideration the Declaration of Intent with regard to the future plant-siting that provided for the 9-year implementation period of the refinery construction phase – 2011–2020 [17]. The total lifetime of the facility made up 25 years. By the end of the year the company decided that in case of a positive outcome of those preliminary public hearings and agreements, the construction would not start earlier than in 2016. Some additional characteristics of the enterprise concerning the environmental and economic aspects of its activities were declared in December, 2011 during the public hearings for the substantiation of investments in the construction of an oil refinery held in Polyarnyy town (Closed Administrative-Territorial Unit Aleksandrovsk) and the village of Mezhduretchie (Kolsky District of the Murmansk Oblast). Head of the Department of Industrial and Ecological Safety of JSC Scientific-production firm Diem (the developer of the project concerning the environmental impact assessment) Aleksandr Fedorenko noted that "...the functioning of the complex will result in 29 types of waste with total amount of more than 23 000 tons per year. The largest part of them (95.6%) is hazard class III waste – the so-called oil-slime. Up to 97% of oil sludge will be processed at the enterprise and will be subject to disposal at the landfill of solid domestic waste. The location of the landfill has not been yet determined: it may be on the territory of the oil refinery complex itself, outside companies may be invited thereto" [8]. As a result, the total number of jobs that were to be created in the region's economy increased from 1816 to 4025 [13]. The volume of tax payments to the regional budget for the whole running time of the plant was expected to make up 278 billion rubles. The assessment with regard to the number of specialists and workers, required for construction and installation activities on the territory of the village, reached 8000 people (the number of the village Mezhduretchie residents – 975). Additional generation of about 200 megawatt electrical would have been required for the power supply of the plant in the Kolsky District by 2020. Despite the fact that the first public hearings were successful and environmental aspects of the future refinery activities were not sharply criticized by professional attendees, subsequently, the environmental risk of the project was the main reason for the suspension. In September 2012, the Federal Supervisory Natural Resources Management Service (Rosprirodnadzor) has completed government expert review of the documentation "Feasibility

study of the oil refinery construction in the Murmansk area". The expert commission stated the incompliance of the submitted documents with the legislative requirements in the field of environmental protection. Conclusion of the government expert review, presented by the expert commission was approved by Rosprirodnadzor Order No.524 as of September 28, 2012 [5]. Thus, despite the increased public attention and "green corridor" for Gazprom plans, provided by regional administration, Murmansk oil refinery project was frozen again at the stage of preliminary agreements with the federal regulatory authorities.

Until the middle of 2012, the prospects for constructing major refinery in the region, though already rather vague, were associated with OAO LUKOIL that yet in May 2000, planned to start implementing the project concerning the construction of an enterprise with the production capacity of 3 million tons of oil products per year. In July 2012, the Governor of the Murmansk Oblast Maria Kovtun delivered a workshop with the General Director of OOO LUKOIL-Severo-Zapadnefteproduct Maxim Khitrov and the General Director of OOO LUKOIL-Rezervnefteprodukt Vladimir Ukhnev, during which the question concerning the prospects for the construction of OAO LUKOIL oil refinery in the region was raised again. According to the new regional head, "... it will allow reducing the transport component in the structure of fuel prices and will have a macroeconomic effect on the social and production activities of the region" [14]. On the part of the Murmansk Oblast administration, the measures to support the company's activities in the region stipulated the possibility of constructing 5 petrol filling stations of OOO LUKOIL-Severo-Zapadnefteproduct, as it was in 2000. However, LUKOIL company treated the development of new scale projects with an abundance of caution, taking into account its quite unsatisfactory experience in implementing such plans in the Murmansk Oblast. At present, "the revival" of LUKOIL oil refinery project in the Murmansk Oblast, suggested by Maria Kovtun, has been once again indefinitely postponed. There are other projects of processing enterprises, capable of becoming the basis for "Severny Zavoz" system. The initiatives of the governments of the Sakhalin Oblast and the Sakha Republic (Yakutia) are distinguished among others.

The project concerning the Sakhalin oil refinery had been worked out for over 5 years, but the final technical-economical and investment solution was not taken either. The enterprise capacity was expected to make up from 4 to 10 million tons per year, which would be sufficient for satisfying the needs of Kamchatka Krai, the Chukchi Peninsula, the Magadan Oblast, along with the Sakhalin Oblast. The production surplus was planned to be exported to the countries of the South Asian region. JSC Gazprom was to be the main planner and the owner of the new enterprise. Another potential participant OJSC NK Rosneft withdrew from the project straightaway at an early stage of the development, referring to the insufficient level of domestic regional demand and low economic efficiency of the project [6]. Out of oil refining facilities, only a modular miniplant of Petrosakh company in Pobedino with the capacity of 200 thousand tons is functioning in Sakhalin at present, but oil refining makes up about 36 thousand tons, and will be reducing in the future.

The government of the Sakha Republic initiated plans for the construction of the plant producing synthetic motor fuels on the basis of gas processing, in order to cover part of the domestic demand, as well as to participate in supplying the border territories of the Republic. The expected emergence of such enterprise in the area of Aldan town would provide the southern and central regions of the Sakha Republic (Yakutia) with light oil products.

Previously, in 2007 ALROSA company gave up on the construction of an oil refinery in the Sakha Republic, after preliminary calculations and initial evaluation of the enterprise economic efficiency. The capacity of the refinery was expected to exceed 250 thousand tons of oil products per year. The main reason of the investor's decision to withdraw from the project on the construction of the oil refinery is the same as in the Sakhalin Oblast: insufficient attractiveness of the local market, difficult economic conditions and, as a consequence of all the above, low overall effectiveness of the implementation of the social project per se. Nevertheless, several alternatives of the construction of new energy facilities were considered in February 2010 within the framework of the Comprehensive plan of South Yakutia development. A new gas-chemical plant was to be additionally constructed in Aldan, or in Lensk. JSC Gazprom acted as the design contractor.

In addition to rather large-scale construction projects, pivotal for "Severny Zavoz" program of oil-refining enterprises, the plans to deploy small modular refineries have been actively developed, in order to meet the local needs of customers, remote from the centralized systems of petroleum products supply. The available experience in implementing similar projects in the economic conditions of the Northern territories is rather successful. For example, the program on the reconstruction and modernization of Evenkiya housing and public services (the northern district of Krasnoyarsk Krai) envisages the construction of mini-refineries in Baykit and Vanavar. Low-capacity oil refinery on the development of diesel fuel for domestic consumption was launched in 2009 in Vankor, making it possible to get rid of the need to import petroleum products for internal requirements of local communities. More than 20 oil refining units have been functioning in the field areas of Khanty–Mansi Autonomous Okrug. The network of small oil refineries has been deployed in Yakutia, as well. Three companies

The assessment of economic impact of local oil refineries and the reduction in transportation costs of oil products delivery in the Murmansk and Sakhalin oblasts, the Sakha Republic

Region	Volume of oil products consumption in the region, thousand tons per year	Overall transportation costs of oil products delivery to the region (main means of transport, excluding transshipment cost), thousand rubles per year	Average cost of oil products delivery to the region's territory, thousand rubles per year	The projected effect from the reduction in transportation costs of oil products delivery to the region, thousand rubles per year
Murmansk Oblast*	MF 300 DF 500 FO 1800	600537 1052500 3388338	232317 404455 1284876	368220 648045 2103462
Sakhalin Oblast**	MF 24.2 DF 37.2	69304 105053	35090 66001	34214 39052
Sakha Republic (Yakutia)***	MF 258 DF 528 FO 10.5	969945 2037552 37254	830631 1722864 13482	139314 314688 23772
Total	-	8260483	4589716	3670767

Type codes: MF – motor fuel; DF – diesel fuel; FO – fuel oil.
Initial calculation data:
* Riccom company web-page, calculation of railway tariffs on oil products transportation. Available at: http://www.riccom.ru, (retrieved from: July 20, 2012).
** Information about the tariffs on sea ferry transportation of OAO Sakhmortech oil products (Vanino – Kholmsk. Available a: http://www.sakhmortek.ru\tariff\ (retrieved from: July 10, 2012).
*** Information of OAO Sakhaneftegazsbyt about the structure of the company's retail prices, the share of transportation costs. Available at: http://www.sngs.ykt.ru/node/1 (retrieved from: July 15, 2012).

(OAO Sakhaneftegaz, CJSC Irelyakhneft and TAAS-Yuriakh Neftegazodobycha LLC) were engaged in the building of compact oil refinery complexes for satisfying internal fuel needs, but all of them for one reason or another were forced to halt construction in 2002. The construction of one of the projects (Vitim small oil refinery complex with the capacity of 50 thousand tons of products per year, customer – OAO Sakhaneftegaz) as of January 1, 2012 was 98% complete.

When making a comparison between the northern regions traditionally considered problem in the context of oil products supply, such as the Sakha Republic (Yakutia), Murmansk and Sakhalin oblasts, for example, from the viewpoint of potential transportation cost savings of regional consumers, an oil refinery in the Murmansk Oblast is more in demand. The table presents calculation data determining the estimated impact of the construction of an oil refinery, fully or partially satisfying the regional needs for the main types of energy resources in the territory of the federal subject, on the regional economy (oil product consumers). The overall effect of the reduction in the cost of oil products transportation from other regions on the regional economy is calculated as the difference between the cost of oil products transportation from outside to the regional oil bases and transportation costs within the territorial boundaries of the region from the location of a local oil refinery.

The obtained results indicate that in case the plans concerning the construction of oil refineries in the territory of all three federal subjects are implemented, the cumulative annual effect may exceed 3.5 billion rubles. The highest assessment of the expected impact of the local production deployment in the Murmansk Oblast (about 3.1 billion rubles per year). The lowest assessment – in the Sakhalin Oblast – is stipulated by the insufficient completeness of regional consumption recording in the official statistics that resulted in the significant reduction of the last column index in summary settlements. Total common costs of regular delivery of energy resources that are attributable to the use of the main transportation means are estimated to be over 8.26 billion rubles for the three federal subjects under review. The presented results show that the deployment of regional production of oil products in these regions will allow decreasing costs in the sphere of oil products regional supply by 44.4% – up to 4.6 billion rubles along, due to the reduction of the transport component. Being aware of this, regional authorities actively support further promotion of the initiatives of both large federal and local companies involved in the development and implementation of projects regarding local production of energy resources and their rational use (energy-efficiency).

Thus, despite ongoing efforts on the optimization of the existing procurement scheme in the regions of the North and Far East in general, as well as in the Murmansk Oblast in particular, it is possible to say that the basic needs for motor fuel and light petroleum products have been satisfied on the basis of the deliveries from multiple centers of Russia's oil and gas industry. Therefore, the network expansion of small and modular oil refineries, established in the areas of intensive exploitation of hydrocarbon deposits, as well as the enhancement of transport and energy networks in Russia's North should be considered as the most likely directions of further modernization of the fuel and energy sphere of the Northern territories in the near future.

References

1. Bekker A.S. Port kak zona [Port as a Zone]. *Vedomosti* [Bulletin], 2006, March 28. Available at: http://www.portmurmansk.ru/index.phtml?1223
2. Lukoyl ne puskayut v Mokhnatkinu Pakhtu [LUKOIL Is Kept Out of Mokhnatkina Pakhta]. *Kommersant* [Businessman], 2000, no. 24 (1909), February 15. Available at: http://www.kommersant.ru/doc/140146

3. *Doklad Prezidenta RF V.V. Putina "Ob osnovakh gosudarstvennoy politiki Rossiyskoy Federatsii v rayonakh Severa" na zasedanii prezidiuma Gossoveta ot 28 aprelya 2004 g. №36* [The Report of Russian President V.V. Putin "On the Fundamentals of Russia's State Policy in the Regions of the North" at the Session of the Presidium of the State Council on April 28, 2004 No.36]. Available at: http://archive.kremlin.ru/text/appears2/2004/04/28/97302.shtml
4. Komissiya po razmeshcheniyu proizvoditel'nykh sil nashla mnogo minusov v predlozhenii stroitel'stva mini-NPZ v Murmanskoy oblasti. 20 iyunya 2007 goda [Commission on the Distribution of Productive Forces Has Found a Lot of Shortcomings in the Proposal for the Construction of a Mini-Refinery in the Murmansk Oblast. June 20, 2007]. *IA "Bi-port"*. Available at: http://www.b-port.com
5. Zavershena ekologicheskaya ekspertiza dokumentatsii po stroitel'stvu neftepererabatyvayushchego zavoda v rayone Murmanska. 30 oktyabrya 2012 g. [Environmental Expert Review of the Documentation on the Oil Refinery Construction in the Murmansk Area Has Been Completed. October 30, 2012]. *IA "Bi-port"*. Available at: http://www.b-port.com/news/item/90737.html
6. Vlasti Sakhalinskoy oblasti pytayutsya reanimirovat' ideyu sozdaniya NPZ. 29 sentyabrya 2011 g. [The Authorities of the Sakhalin Oblast are Trying to Revive the Idea of Creating a Refinery. September 29, 2011]. *Publishing House "Kommersant"*. Available at: http://www.kommersant.ru/
7. Murmansk rasschityvaet na zavod. 12 aprelya 2000 g. [Murmansk Counts on the Plant]. *Internet portal "Delovoy Peterburg"*. Available at: http://www.dp.ru/Pages/ArticleDetail.aspx?ArticleID=23369be9-fc41-4ade-92b2-9039d6775b35
8. Kireeva A. Stroitel'stvo NPZ vkhodit v prakticheskuyu ploskost' [Construction of Oil Refinery Is Included in Practice]. *Website of the Non-Profit Public Organization "Bellona"*. December 7, 2011. Available at: http://www.bellona.ru/articles_ru/articles_2011/1323269037.15
9. Kolesnik E. Sintezu nuzhen NPZ [SINTEZ Needs an Oil Refinery]. *"RBC Daily"*, 2007, February 8. Available at: http://www.rbcdaily.ru/
10. Mastepanov A.M., Saenko V.V., Ryl'skiy V.A., Shafranik Yu.K. *Ekonomika i energetika regionov Rossiyskoy Federatsii* [Economy and Energy in the Regions of the Russian Federation]. Moscow: ZAO "Izd-vo "Ekonomika", 2001. 467 p.
11. "Nebo v almazakh" nad Kol'skim Severom ["Jewelled Sky" over the Kola North]. *Neft' Rossii: informatsionno-analiticheskiy zhurnal* [Oil of Russia: Information and Analytical Journal], 2001, no. 12. December. Available at: http://www.oilru.com/nr/93/1209/oilru.com
12. V g. Polyarnyy (ZATO Aleksandrovsk) i p. Mezhdurech'e proshli obshchestvennye slushaniya po obosnovaniyu investitsiy stroitel'stva neftepererabatyvayushchego zavoda (NPZ) v rayone Murmanska. 13 dekabrya 2011 g. [Public Hearings for the Substantiation of Investments in the Construction of an Oil Refinery in the Murmansk Area Were Held in the Town of Polyarnyy (Closed Administrative-Territorial Unit Aleksandrovsk) and the village of Mezhduretchie. December 13, 2011]. *Ofitsial'nyy portal Pravitel'stva Murmanskoy oblasti* [Official Portal of the Murmansk Oblast Government]. Available at: http://nature.gov-murman.ru/news/?date_time=13-12-2011_09:23
13. Perspektivy razvitiya est' [Development Prospects Exist]. *Kol'skoe slovo: gazeta Kol'skogo rayona Murmanskoy oblasti* [Kolskoye Slovo: Newspaper of the Kola District of the Murmansk Oblast], 2011, December 16. Available at: http://kolskoeslovo.ru/news/2011-12-20/1056/
14. *Press-reliz Upravleniya informatsionnoy politiki i vzaimodeystviya so SMI Apparata Pravitel'stva Murmanskoy oblasti. 300 mln. rubley "Lukoyl" napravit na stroitel'stvo novykh AZS v Murmanskoy oblasti. 12 iyulya 2012 g.* [Press Release of the Administration for Information Policy and Media Relations of the Murmansk Oblast Government Office. LUKOIL Will Assign 300 Million Rubles for the Construction of New Petrol Stations in the Murmansk Oblast. July 12, 2012]. Available at: http://www.gov-murman.ru/press/?d=13-07-2012_12:04
15. Press-reliz "OAO "Lukoyl razvivaet sotrudnichestvo s Murmanskoy oblast'yu". 16 marta 1999 g. [Press-Release "OAO LUKOIL Promotes Cooperation with the Murmansk Oblast". March 16, 1999]. *Press-sluzhba OAO "Lukoyl"* [OAO LUKOIL Press Service]. Available at: http://www.lukoil.ru/press.asp?div_id=1&id=171&year=1999
16. Sintez postroit terminal v Murmanske. 1 sentyabrya 2012 g. [SINTEZ Is to Build a Terminal in Murmansk. September 1, 2012]. *IA "InfraNews"*. Available at: http://infranews.ru/logistika/more/8952-sintez-postroit-terminal-v-murmanske/
17. Murmansk v ozhidanii NPZ. 23 avgusta 2011 g. [Murmansk Is in Expectation of an Oil Refinery. August 23, 2011]. *IA "Nordnews"*. Available at: http://www.nord-news.ru/topic/?mtopicid=295

18. Neftepererabatyvayushchiy zavod v Murmanskoy oblasti neobkhodim. 1 noyabrya 2011 g. [Oil Refinery Is Needed in the Murmansk Oblast. November 1, 2011]. *IA "Nordnews".* Available at: http://www.nord-news.ru/murman_news/2011/11/01/?newsid=21720
19. "Gazprom" vlozhit v stroitel'stvo NPZ v Murmanskoy oblasti ot trekh do semi mlrd. dollarov SShA. 14 sentyabrya 2011 g. [Gazprom Will Invest from 3 to 7 Billion US Dollars in the Construction of an Oil Refinery in the Murmansk Oblast. September 14, 2011]. *IA "OilCapital".* Available at: http://www.oilcapital.ru/industry/35427.html
20. "Gazprom" planiruet do kontsa 2010 goda zavershit' podgotovku obosnovaniya investitsiy proekta NPZ v Murmanskoy oblasti. 3 fevralya 2010 g. [Gazprom Plans to Complete the Feasibility Study of the Project of Oil Refinery in the Murmansk Oblast before the End of 2010. February 3, 2010]. *IA "Portnews".* Available at: http://portnews.ru/
21. Severo-Zapadnoe polpredstvo schitaet nuzhnym stroit' NPZ na Kol'skom poluostrove. 4 aprelya 2005 g. [Northwestern Plenipotentiary Representative Considers It Necessary to Build an Oil Refinery in the Kola Peninsula. April 4, 2005]. *IA "REGNUM".* Available at: http://www.murmannews.ru/allnews/432288/

UDC 630.90, LBC 65.341

Regulatory framework and development perspectives of the mechanism of public participation in the management of Russia's forests

Nikolay Mikhaylovich
SHMATKOV
Research Associate, the Russian World Wild Fund for Nature, (19, Nikoloyamskaya Street, Building 3, Moscow, 109240, Russia, P.O.B. 3, nshmatkov@wwf.ru)

Antonina Alekseevna
KULYASOVA
Ph.D. in Economics, Research Associate, Autonomous Non-commercial Organization the Centre for Independent Social Research (Saint Petersburg, 191040, Russia, P.O.B. 193, Antonina-kulyasova@yandex.ru)

Sergey Anatol'evich
KORCHAGOV
Doctor of Agricultural Sciences, Professor, Associate Professor at the Forestry Department, Federal State-Financed Educational Institution of Higher Professional Education the Vologda State Dairy Farming Academy Named after N.V. Vereshchagin (2, Schmidt Street, Molochnoye, Vologda, 160555, Russia, Kors45@yandex.ru)

Abstract. The article dwells on the current state of the regulatory framework of the Russian Federation and the mechanism of public participation in forest management. The examples of addressing the problems of public participation in forest management in individual regions are disclosed. The article deals with the issues concerning the provision of in-interests of the local population through the voluntary forest certification system under the FSC scheme. Recommendations on improving the mechanism of public participation in solving the forest management issues are suggested.

Key words: sustainable forest management, public participation in forest management, information sharing, transparency, Forest Stewardship Council, FSC.

The issue concerning public participation in forest management has always been inseparably connected with the interests and possibilities of people to use various forest-granted goods. Forests, available for multipurpose forest exploitation and used by locals for centuries, have been rapidly disappearing in the past decades due to commercial cuttings. At present there has been a fierce competition for the felling of economically available forests between timber industrialists, who are given, in particular, the right to cut forests, traditionally used for the needs of the locals. Furthermore, in the vast majority of cases, the population has no impact on the decisions concerning forest use. Does the population have the right and opportunity to participate in forest management at present?

Part 1 Article 9 of the Constitution of the Russian Federation [2] stipulates the following: "Land and other natural resources shall be utilized and protected in the Russian Federation as the basis of life and activity of the people living in the corresponding territories". According to the article 42 of the RF Constitution, "Everyone shall have the right to favorable environment, reliable information about its state and for a restitution of damage inflicted on his health and property by ecological transgressions".

The Constitution provides the basis for obtaining reliable information about the status of forest resources and realizing the rights of local communities to use the resources for their own development. Full implementation of rights is possible only if the population is involved in management decision-making in the sphere of forest exploitation. Therefore, a regulatory mechanism, securing this right in practice is required.

At present, the Forest Code of the Russian Federation is the main document, specifying the forest legal relations [3]. According to Part 7 Article 1 of the Russian Federation Forest Code, the basic principle of the forest legislation provides that participation of citizens and civil society associations in decision-making, which may affect forests when they are used, protected and renewed, with procedures for and forms of such participation is to be compliant with the legislation of the Russian Federation.

Another fundamental principle of forest legislation, stipulated by Part 2 Article 1 of the Russian Federation Forest Code, is maintenance of habitat-forming, water-conservation, protection, sanitation, recreation and other beneficial functions of forests, to ensure that each person could exercise the right for a healthy environment. Protection forests (e.g.: green belts, forest parks, urban forests, forests in water-conservation zones, etc.), fulfilling environmental and social functions, are assigned and preserved for this purpose, hence, ensuring the constitutional right of citizens to a favorable environment.

Article 11 of the Russian Federation Forest Code "Stay of Citizens in Forests" is of special interest in terms of the realization of public interests, as it confirms the human right to use forest resources in their lives. Part 1 Article 11 stipulates the following: "Citizens shall have the right to stay in forests freely and gratis and to harvest and collect, wild fruit, berries, nuts, mushrooms, other edible forest resources (food forest resources), and non-timber forest resources, for their subsistence needs". Unfortunately, this requirement is rather often not applied in practice.

At present, the main statutory form of public participation in forest management, including the resolution of socially significant issues regulated by the Constitution and the Forest Code of the Russian Federation is public debate over laws, which is understood as a set of activities aimed at raising public awareness of the planned economic and other activities and their possible effect on the environment, in order to identify and to consider public preferences in the impact assessment process.

Public debates over draft laws are conducted in accordance with the RF Government Decree No.159 of February 22, 2012, "On approving the rules concerning public discussion of drafts of federal constitutional laws and federal laws" [4]. They apply to the federal laws regulating the forest area (RF Forest Code, the Water Code of the Russian Federation, the Law on Special Protected Nature Areas, etc.) , subordinate regulatory acts (forest plans of the subjects of the Federation, forestry regulations of forest districts, etc.), long-term and short-term planning programs (e.g. forest exploitation projects).

Until recently public participation in the discussions of a number of documents was guaranteed by subordinate acts. Thus, Paragraph 6 of "Regulations on the preparation of the forest plan of the subjects of the Russian Federation" introduced the RF Government Decree No. 246 of April 24, 2007 [5], in accordance with Article 86 of the Russian Federation Forest Code of the RF, proclaims: "State government authorities of the subjects of the Russian Federation familiarize the parties concerned with the draft of the forest plan to, by publishing it on the official website of the supreme government body of a constituent entity of the Russian Federation for at least 30 days online. As the term expires, state government authorities of the subjects of the Russian Federation improve the draft of the forest plan within 30 days, considering the suggestions and remarks made by the parties concerned, and then submit it to the Ministry of Natural Resources of the Russian Federation". The position of the lost effect according to the Decree of the Russian Government dated 28 December 2011 No.1183 [6]. The regulations expired pursuant to the RF Government Decree No.1183 of December 28, 2011 [6].

Such procedure was stipulated by Paragraph 12 of the Order of the Ministry of Natural Resources of the Russian Federation No. 106 of April 19, 2007 "On approval of the forest management procedure content, their development guidelines, validity and introduction of changes"[9], issued in accordance with Article 87 of the Forest Code of the Russian Federation. The Order obliged central and local authorities to familiarize the parties concerned with the forestry regulations draft, to improve it, considering the proposals and remarks made, and to adopt the draft. The Order expired pursuant to the Order of the Ministry of Natural Resources of the Russian Federation No. 87 of April 2, 2012 [10].

The Order of the Ministry of Natural Resources of the Russian Federation No.125 of May 14, 2007 "On approval of the order of state or municipal expertise of the forest development plan" [11], issued in accordance with Article 89 of the Forest Code of the Russian Federation "State or municipal expertise of the forest development plan" requires conducting a public discussion of forest development plans. Public discussion was a mandatory procedure, when preparing for the state environmental expertise. The proceedings of public hearings were included in the standard package of documents, submitted to the expertise. The Order expired pursuant to the Order of the Ministry of Natural Resources of the Russian Federation No.33 of February 10, 2012 [12].

The mechanism of public participation in decision-making has been revealed in the Articles 19, 20–25 of the Federal Law No.174 of November 23, 1995 "On ecological expertise" [14] and Paragraph 4 of "Regulations on environmental impact assessment of planned economic and other activities on the environment in the Russian Federation" [13], approved by the Decree of the State Environmental Committee No. 372 of the Russian Federation of May 16, 2000. However, in accordance with Articles 11 and 12 of the Federal Law No. 174 of November 23, 1995 [14] forest development plans are not subjects of the state ecological expertise.

A number of subjects under expertise (specially protected nature areas, solid domestic waste landfills, etc.), may cover forest areas. In this case, public discussion of drafts on such subjects will be connected with forest issues.

Let us disclose the provisions of the "Law on ecological expertise", ensuring public participation. Article 3 proclaims the following principles of expertise: transparency, participation of public organizations (associations), taking account of public opinion; organization of public discussions, opinion polls, referendums with regard to the planned economic and other activities subject to environmental impact assessment. Article 9 determines the powers of local authorities in the field of environmental expertise and gives them the right to conduct public environmental expertise on request of the population. Article 14 specifies the order of conducting the state ecological expertise, indicating that the materials concerning the subject of the state environmental expertise discussed with citizens and public organizations (associations), organized by local authorities, are an obligatory part of documentation submitted to expertise. Chapter 4 of the Law is devoted to the public ecological expertise, which can be conducted along with the state expertise. However, according to Part 2 Article 25, the results of the expertise become legally binding only when approved by the federal executive body in the field of environmental assessment. In practice, it is rather difficult to carry out the public environmental expertise, as the initiator of the economic activity, as a rule, drags out the process of submitting the documentation to public experts for assessment, seeking to receive, on a priority basis, the report prepared by the state ecological expertise.

As forest development plans are no longer subject to the state ecological expertise, public discussion is not actually essential for adopting the major documents regulating forest exploitation, despite the fact that the Forest code of the Russian Federation postulates public participation in forest management. Decisions made during public hearings and public suggestions are not obligatory and may only be taken into consideration. The process concerning discussion of the Forest Code, forest plans of the subjects of the Russian Federation showed that, the adoption of specific proposals, suggested "from below", was rather an exception, causing a lot of difficulties, in spite of a very high activity level of citizens, public organizations, representatives of logging companies and forest management authorities.

In accordance with the Federal Law No.59 of May 2, 2006 "On procedures for examining petitions from citizens of the Russian Federation" [15], citizens have the right to address forest management authorities and other state agencies related to forestry. As follows from the Law, a citizen's appeal on any issue is to be considered within a fixed timeframe. Experience confirms that citizens' petitions concerning forest management issues are not numerous, and are often decided not in favor of the citizens themselves. The low level of ecological education and passive attitude of population, in particular rural residents, to current events is one of the reasons of such situation.

Some opportunities of public participation in forest management, reflected in the Town-Planning Code of the Russian Federation, are worth mentioning. In accordance with Chapter 3 of the Code, state government bodies of the Russian Federation, public authorities of the subjects of the Russian Federation, local authorities, concerned individuals and legal entities have the right to submit proposals on the alteration of the territorial planning scheme of the Russian Federation. These changes only partially relate to forest management with regard to the planning of new specially protected nature areas. There are significant examples of the practical application of the law.

Thus, the regional public organization SPOK in the Republic of Karelia managed to introduce their proposals on specially protected nature areas into the territorial planning scheme. The proposals made by the World Wildlife Fund (WWF) in the Arkhangelsk Oblast were accepted partially.

Federal Law No.131 of October 6, 2003 "On general principles of the organization of local self-government in the Russian Federation" [16] also stipulates some opportunities for public participation in forest management, which is, however, limited to forests located on settlement lands.

A crucial gap in the Russian legislation is that the population, local and district administrations are not able to participate in the process of allocation and assignment of forest land for any type of use. Timely coordination of prospective plans on allocation of the lands for use with municipal officials and community leaders will allow preserving socially significant forest areas.

Public availability of information on forests is essential to public involvement in forest management [19]. Russia has the legislative framework required for ensuring this condition. As has been stated before, Article 42 of the Constitution of the Russian Federation proclaims the following: "Everyone shall have the right to a favorable environment, reliable information about its condition...". Paragraph 2 Article 24 specifies that the bodies of state authority and the bodies of local self-government and the officials thereof shall provide to each citizen access to any documents and materials directly affecting his/her rights and liberties. The bodies of state power and bodies of local self-government, their officials are obliged to provide access to documents and materials directly affecting his rights and freedoms. Article 29 determines that everyone shall have the right to seek, get, transfer, produce and disseminate information by any lawful means.

Providing citizens with reliable and complete information on the state of forests, on the activities of state government and management bodies by the Internet is not just the mood of the times, but a legislative requirement as well.

The website for the forest management agency of the subject of the Russian Federation is not just a "unique style" or a representation on the Internet, but also an important mechanism for informing and involving the citizens in forest management. Federal Law of the Russian Federation No.80 of February 9, 2009 "On providing access to information about activity of state bodies and bodies of local self-government" [17] discloses these provisions of the Constitution of the Russian Federation in detail. In particular, Paragraph 1 of Article 10 stipulates that government bodies and bodies of local self-government post information on their activities on the Internet, where they create official websites, stating e-mail addresses to which information users can forward requests and the requested information can be received.

However, the information posted on the websites of forest management agencies with regard to the state of forests, the activities of forest users and forest management agencies leaves much to be desired. In 2010–2011 the environmental organizations, included into the Public Environmental Council under the Federal Forestry Agency took notice of websites of state forest management agencies of the RF subjects and the quality of the websites content. This topic has been repeatedly discussed at the council meetings, during one of which it was recommended to include the quality indicators of websites in an independent rating of state forest management, held by the World Wildlife Fund – Russia in 2010–2011 [1].

WWF rating showed that only a few subjects make full use of the Internet. The web-site content of many forest management agencies

of the regional level does not meet the modern requirements concerning completeness and actuality of information on forests and the agencies' activities on the use, conservation and protection of forests. The opportunities of informational work raising population awareness of forest fire prevention and clarifying the acting regional normative legal documents are not fully used.

Regional regulations are adopted in all regions. However, the documents are submitted for online review at the official websites of forest management agencies in less than half of the RF subjects. Therefore, it is rather complicated to call for the fulfillment of laws and regulations, when it is difficult even to review their content.

All regions reported on the development and approval of forest plans and forest management regulations. But in at least half of cases the population and other parties concerned are able to review the documents online. Map documents, which are of most interest to the public and other parties concerned for the monitoring (e.g.: control over the legality of forest exploitation) have been placed online only in a few cases.

The rating indicates that by many indicators the publicly available statistical information, provided by regions, is unreliable. This undoubtedly hampers public participation in forest management and the adoption of scientifically-based management decisions by forest management agencies that have to manage forests practically "blindfold".

Moreover, public forest (environmental) councils under the regional forest management agencies occasionally have been efficiently acting in the RF subjects. Public environmental Council of the Federal Forestry Agency has been steadily operating since 2005. The work of the Council is probably far from ideal, nevertheless, at the Council meetings the representatives of public organizations and Federal Forestry Agency regularly discuss the most important and urgent issues that interest the public.

A certain experience of public involvement in forest management can be observed at the regional level.

For example, in the result of the activities of Komi Regional Foundation "Silver Taiga" and the model forest "Priluzie", public hearings have been determined as an abiding procedure when leasing forest lands in the Komi Republic. This experience had both pros and cons. The main drawback is the advisory status of the decisions made at the public hearings and the unwillingness of the locals to participate in the procedure. Provided that the resolutions of the hearings are binding, the local residents will express greater interest in them, consequently, the mechanism affecting the adopted decisions will start operating. Unfortunately, the attempts to involve the local population in the solution of the issues concerning the assignment of forest lands for use are rare and do not produce proper social effect.

Certain efforts, aimed at increasing the role of society in solving the forest management issues, have been made in the Vologda Oblast. Thus, the Public Council under the Forest Department has been formed, in compliance with the Oblast Government Decree No. 1691 of December 27, 2011 "On the concept promoting the development of civil society institutions in the Vologda Oblast" [7], the Resolution of the Governor of the Oblast No.686 of 24, 2012 "On the formation procedure of public councils under the oblast executive bodies" [8]. The aim of the Council is to promote coherence of socially significant interests of the Russian Federation citizens, foreign citizens staying in the territory of the Russian Federation, stateless citizens, as well as civil society institutions and Forest Department of the Vologda Oblast. Raising public awareness of the main directions of the activities of the Vologda Oblast

Forest Department is one of the tasks of the Council. The establishment and development of the councils in the regions (in forest areas) will facilitate the role of society in the development of forest relations.

The international voluntary forest certification system under the Forest Stewardship Council (FSC) scheme plays an important role in the development of socially-oriented forest management in Russia. The introduction of the scheme into the management system of a logging enterprise assumes active engagement of all the parties concerned, including indigenous peoples (principle 3), local residents and employees (principle 4) in the process of forest management.

Further development of forest certification will promote the role of society in forest management. Nevertheless, efficient implementation of the FSC approaches directly depends on the population awareness of the opportunities in the framework of the given mechanism and its procedures, and, primarily, on the activity of the local residents and public organizations. Unfortunately, the FSC mechanisms for the protection of the interests of the local population by no means always prove to be fully activated in the certified territories.

In the process of implementing the FSC forest certification the interests of local and indigenous peoples are primarily taken into account with regard to the possibility of preserving high conservation value forests (HCVF) of 5 and 6 types (in the FSC terminology), or so-called "social forests", from logging. Such forests are necessary for the economic survival of the population, important in terms of traditional multipurpose forest exploitation, socially significant (including their cultural, religious, recreational, etc. value)

Social forests are the forests necessary for the existence of the local (rural, indigenous, urban) population, particularly significant as the source of life, health, material and spiritual resources. Such forests shall not be used for industrial purposes, so that their social potential is preserved and developed.

Accordingly, the introduction of the social forests category is to be accompanied by a legislative package, stipulating public participation in the management of this category of forests that should be based on traditional forms of public management, characteristic of various territories. The mechanisms, forms of social forests control and use should be discussed at the level of rural settlements, and then approved by appropriate acts at the district and regional level. It should be noted that the forms of social forest management may vary depending on regional and local conditions and traditions. Without this the introduction of the new category will not be adequately effective.

At present, the established and operating specially protected nature areas (SPNA) may become first grounds for implementing the concept of social forests. In order to realize this idea, it is necessary to make appropriate amendments to section 4 of the "Law on SPNA" with regard to nature parks [18], to supplement Article 18 of the Law with the regulations on the purposes of establishing nature parks as the territories required for maintaining natural and cultural landscapes and traditional sustainable nature management. Moreover, it is advisable to expand Article 20 on the legal regime of nature parks, prescribing the possibility of public control along with the state one.

Summarizing all the above-mentioned information, the authors note that in spite of individual positive aspects, Russia lacks applicable statutory mechanism of public participation in forest management and exploitation. The main reasons of the current situation are the following:

– absence of appropriate regulatory framework;

– advisory character of prior decisions and proposals;

– absence of heavy and address information on the possibilities of public discussion

concerning forest plans, forest management regulations, forest development plans and other documents provided to potentially interested parties;

– public's lack of knowledge and skills appropriate for discussing and amending the documents of consideration;

– disinterest of logging companies and forest management authorities, representing forest development projects, forest plans and forest management regulations, in conducting actual discussions and hearings

The mechanism really facilitating public participation in the process of forest management should include the following:

– legislative consolidation of state environmental expertise concerning the documents of forest planning, including forest plans of the subjects of the Russian Federation, forestry regulations of forest districts and forest exploitation plans;

– elaboration and consolidation of the public hearings procedure, assuming complete openness of forest planning documents to all the parties concerned, targeted informing of the participants, the possibility of free participation in the discussion of all the parties concerned , clear and fair scheme for making proposals;

– development and introduction of the procedure coordinating perspective plans concerning the assignment of forest lands for use with municipal officials and the public;

– establishment and development of forest public councils in the regions (forest districts), enhancing the role of society in the development of forest relations;

– raising population awareness of the issues concerning public participation in forest management and exploitation;

– free access to all forest planning documents (primarily logging plans), including map documents, posted at the websites of forest management agencies;

– large-scale implementation of the voluntary forest certification system, enhancing social role of forests;

– extension of the list of forest categories by adding the "social forest" category.

Active public participation, when elaborating and adopting decisions at all management levels, is one of the most important tools to achieve balance between all the parties concerned with regard to forest exploitation and is the basis for democratic development of the state and civil society.

Referenses

1. Grigor'ev A.Yu., Pakhorukova K.A., Shmatkov N.M. *Reyting WWF "Informatsionnoe soderzhanie internet-saytov organov gosudarstvennogo upravleniya lesami sub"ektov Rossiyskoy Federatsii" 2011 goda* [WWF Rating "The Information Content of Websites of the State Forest Management Bodies of the Subjects of the Russian Federation in 2011]. Under general editorship of N.M. Shmatkov; Vsemirnyy fond dikoy prirody (WWF) [World Wide Fund for Nature (WWF)]. Moscow, 2012.
2. *Konstitutsiya RF 1993 g.* [The Constitution of the Russian Federation, 1993].
3. *Lesnoy kodeks RF: utv. FZ ot 4 dekabrya 2006 g. №200* [The Forest Code of the Russian Federation: Approved by the Federal Law of December 4, 2006 No.200].
4. *Postanovlenie Pravitel'stva RF "Ob utverzhdenii Pravil provedeniya obshchestvennogo obsuzhdeniya proektov federal'nykh konstitutsionnykh zakonov i federal'nykh zakonov" ot 22 fevralya 2012 g. №159* [RF Government Resolution "On the Approval of the Rules for Holding Public Discussions of Draft Federal Constitutional Laws and Federal Laws" of February 22, 2012 No.159].
5. *Postanovlenie Pravitel'stva RF "Polozhenie o podgotovke lesnogo plana sub"ekta Rossiyskoy Federatsii" ot 24 aprelya 2007 g. №246* [RF Government Resolution "Regulations on the Preparation of the Forest Plan of the Subject of the Russian Federation" of April 24, 2007 No.246].

6. *Postanovlenie Pravitel'stva RF "O priznanii utrativshimi silu postanovleniy Pravitel'stva Rossiyskoy Federatsii ot 24 aprelya 2007 g. №246 i ot 17 noyabrya 2007 g. №782" ot 28 dekabrya 2011 g. №1183* [RF Government Decree "On the Invalidation of the Resolutions of the Russian Federation Government of April 24, 2007 No.246 and of November 17, 2007 No.782" of December 28, 2011 No. 1183.].
7. *Postanovlenie Pravitel'stva Vologodskoy oblasti "O Kontseptsii sodeystviya razvitiyu institutov grazhdanskogo obshchestva v Vologodskoy oblasti" ot 27 dekabrya 2011 g. №1691* [Resolution of the Vologda Oblast Government "On the Concept for Promoting the Development of Civil Society Institutions in the Vologda Oblast" of December 27, 2011 No.1691].
8. *Postanovlenie Gubernatora Vologodskoy oblasti "O poryadke obrazovaniya obshchestvennykh sovetov pri organakh ispolnitel'noy gosudarstvennoy vlasti oblasti" ot 24 dekabrya 2012 g. №686* [Decree of the Vologda Oblast Governor "On the Order of Formation of Public Councils under the Executive Power of the Oblast" of December 24, 2012 No.686].
9. *Prikaz MPR Rossii "Ob utverzhdenii sostava lesokhozyaystvennykh reglamentov, poryadka ikh razrabotki, srokov ikh deystviya i poryadka vneseniya v nikh izmeneniy" ot 19 aprelya 2007 g. №106* [The Order of the Ministry of Natural Resources and Environment of the Russian Federation "On the Approval of Forestry Regulations, the Procedure for Their Preparation, the Period of Their Validity and the Order of Introducing Amendments in Them" of April 19, 2007 No.106].
10. *Prikaz MPR Rossii "O priznanii utrativshim silu prikaza MPR Rossii ot 19 aprelya 2007 g. №106" ot 2 aprelya 2012 g. №87* [The Order of the Ministry of Natural Resources and Environment of the Russian Federation "On the Invalidation of the Order of the Ministry of Natural Resources and Environment of the Russian Federation of April 19, 2007 No.106" of April 2, 2012 No. 87].
11. *Prikaz MPR Rossii "Ob utverzhdenii poryadka gosudarstvennoy ili munitsipal'noy ekspertizy proekta osvoeniya lesov" ot 14 maya 2007 g. №125* [The Order of the MNR of Russia "On the Approval of the State or Municipal Examination of the Forest Development Project" of May 14, 2007 No.125].
12. *Prikaz MPR Rossii "O priznanii utrativshim silu prikaza MPR Rossii ot 14 maya 2007 g. №125" ot 10 fevralya 2012 g. №33* [The Order of the MNR of Russia "On the Invalidation of the Order of the MNR of Russia of May 14, 2007 No.125" of February 10, 2012 No.33].
13. *Prikaz Goskomekologii RF "Polozhenie ob otsenke vozdeystviya namechaemoy khozyaystvennoy i inoy deyatel'nosti na okruzhayushchuyu sredu v Rossiyskoy Federatsii" ot 16 maya 2000 g. №372* [The Order of the State Committee on Environmental Protection "Regulation on the Assessment of Impact of Planned Economic and Other Activity on Environment in the Russian Federation" of May 16, 2000 No.372].
14. *Federal'nyy zakon "Ob ekologicheskoy ekspertize" ot 23 noyabrya 1995 g. №174* [Federal Law "On Ecological Expert Examination" of November 23, 1995 No.174)].
15. *Federal'nyy zakon "O poryadke rassmotreniya obrashcheniy grazhdan Rossiyskoy Federatsii" ot 2 maya 2006 g. №59* [Federal Law "On the Order of Consideration of Appeals of the Russian Federation Citizens" of May 02, 2006 No.59].
16. *Federal'nyy zakon "Ob obshchikh printsipakh organizatsii mestnogo samoupravleniya v Rossiyskoy Federatsii" ot 6 oktyabrya 2003 g. №131* [Federal Law "On General Principles of Organization of Local Government in the Russian Federation" of October 06, 2003 No.131].
17. *Federal'nyy zakon "Ob obespechenii dostupa k informatsii o deyatel'nosti gosudarstvennykh organov i organov mestnogo samoupravleniya" ot 9 fevralya 2009 g. №80* [Federal Law "On the Provision of Access to Information about the Activity of State Bodies and Local Government Bodies" of February 09, 2009 No.80].
18. *Federal'nyy zakon "Ob osobo okhranyaemykh prirodnykh territoriyakh" ot 14 marta 1995 g. №33* [Federal Law "On Specially Protected Natural Areas" of March 14, 1995, No.33].
19. Shmatkov N.M. Vovlechenie obshchestvennosti v upravlenie lesami v SShA i Rossii: problemy i perspektivy [Public Involvement in Forest Management in the USA and Russia: Problems and Prospects]. *Ustoychivoe lesopol'zovanie* [Sustainable Forest Management], 2011, no.2(27), pp. 2-14.

UDC 316.422, LBC 60.524.122.115

Regional social capital and multiple modernization in Russia. On defining the problem *

Lyudmila Aleksandrovna BELYAEVA
Doctor of Sociology, Leading Research Associate at the RAS Centre for the Study of Social and Cultural Change, Federal State-Financed Scientific Institution the Institute of Philosophy of the Russian Academy of Sciences (14, Volkhonka Street, Moscow, 119991, Russia)

Abstract. The article raises the issues of relationship between multiple modernization and social capital in Russia's regions. Social capital is considered as a factor that determines the specifics and pace of modernization. The article also shows the ways to measure social capital and the necessity to develop the indicators for making socio-cultural portraits of the regions with regard to Russia's conditions.

Keywords: modernization, social capital, measurement of social capital.

Ideas concerning the multiple nature of modernization in the world, as well as in Russia, have been increasingly developing in the current political and sociological discourse. These ideas are especially relevant with regard to the Russian society, because it is marked by great variation in economic conditions, social and cultural experience, traditions, customs, multiple cultures and multiple confessions, value systems and political projects. This article focuses on the multiplicity of modernization as a derivative from the state of social capital in the region. Now it becomes more and more clear that economic growth is provided not only by material, financial, human, cultural resources; and not all contemporary development institutes take root in society, and especially in all the regions of the country, and not all of these institutes exert desired influence on development. There is *something* that hampers successful modernization. This *something* revives over and over again, when administrative influence and control weakens. The situation in Russia's regions is a telling example. In the Soviet period the development levels of human and cultural capital in the regions were aligned considerably: similar indicators were observed in education, qualification, professional and social structure of population; there was no unemployment, or it was insignificant (at least the obvious unemployment), there existed a system of public institutions that were similar in their functions. Planned economic policy, and the leading role of the state contributed to

* The article was prepared under the RHSF project no. 14-03-00338a.

the gradual equalization of the levels of regions' development, the planned modernization of regions and territories that fall behind in their development is carried out, though even in the Soviet period there were more developed and less developed ones among them. Besides, in the past, relationships in the society were based on a common ideological scale, which linked the subjects of economic relations, dictated the standards of conduct, instilled the system of values that corresponded to the principles of collectivism, suppression of individuality and personal interests in favor of public ones. Even if we take into account the fact that the influence of ideological propaganda and control in recent years was formal and superficial, we can say that the level of trust between people and the level of trust in social institutions were quite high; which played its role in the execution of economic plans.

With the transition to market economy, big hopes were pinned on developing creativity, disclosing individuality through the realization of private interest. Indeed, entrepreneurship and self-employment are based on these principles, but along with the realization of individual, private interest, the values of social interaction and trust between people and social groups, as well as trust in social institutions were brought down to a minimum level in our country. Market or pseudo-market relations have obliterated all the motives of relationships in the economy except for economic interest.

And this is what makes an important part of *social capital*. One can assert a priori, that the specifics and pace of modernization in Russia and in the regions are determined by the nature and specifics of social capital created in the last two decades. Monomodernization as a project of democratic and liberal development with regard to all the regions of Russia can not be successful, also due to the specifics of social capital in these regions.

Why is it, that social capital has such multiple impact on modernization? We can answer this question, if we understand what social capital is. The simplest definition of social capital is as follows: it is a system of relations between people, groups, organizations, institutions that gives the benefits from cooperation, increases the effectiveness of exerted efforts. Economists, sociologists and political scientists have been actively discussing the issues of social capital over the past 15 years. This concept is in demand in interdisciplinary research. Domestic publications focus mainly on interpretations of works by foreign experts and make some attempts to trace the existence and influence of social capital on local spheres of society.

Let us present the main viewpoints concerning this issue that are based on the ideas of those scientists, who laid the foundat-ion for its development. These include, primarily, the works of P. Bourdieu, P. Putnam, J. Coleman, F. Fukuyama and some other scholars. Their approaches have certain differences, and there is no common opinion on the interpretation of the concept "social capital", or on methods of its measurement and assessment of its impact on the development of society. The views of researchers are similar in one point: exclusion of state institutions from social capital. But public institutions, institutions of civil society are its integral part; moreover, the accumulation of social capital creates prerequisites for the formation and development of civil society. The World Bank, which conducts research into social capital issues in individual countries, defines social capital as "the institutions, relationships and norms that shape the quality and quantity of social interaction in society". The World Bank launched this project in 1996, and now it has already conducted several regional studies in different countries of the world and, what is most important, an international comparative project in most countries of the world is being carried out. In Russia this project is not institutionalized.

Pierre Bourdieu was one of the first to define the concept "social capital", he notes that social capital is the resources based on family relations and relations in a membership group. Social capital gives advantages and benefits to group members, and it forms the basis of group solidarities [1, p. 21]. Social capital is embodied in social networks, social norms of behavior, mutual support and cooperatives for the sake of mutual benefit. Bourdieu shows that social capital can be used to produce and reproduce inequality through access to a higher place in the hierarchy through the use of social relations.

James Coleman was the first to make conceptual research into the notion of "social capital", he notes that "unlike other forms of capital, social capital is typical of the structure of relations between actors and among them. Organizations pursuing certain goals, can be actors (the so-called corporate actor), as well as the individual. Relations within corporate actors can also create social capital for them" [2, p. 124]. Coleman defined the nature of social capital, distinguishing it from other forms of capital, as the ability to create a public good, because the actor or actors that create social capital usually receive only a small part of it. This explains the reluctance with which investments in social capital are made. According to Coleman, social capital is only the *potential* of mutual trust and mutual support, formed purposefully and rationally in interpersonal relationships: *obligations and expectations*, which depend on the reliability of social environment, *information channels* of social structure and their ability to transfer information and *social norms*, the violation of which is accompanied by sanctions. Social capital is something that facilitates individual or collective action, generates networks of relationships, reciprocity, trust and social norms [2, p. 138].

Social capital as a characteristic of relations between individuals, other actors, is rather difficult to assess and measure, because, as will be shown below, it has a complex structure and, consequently, different effectiveness; in addition, it functions in different social contexts. And yet, social capital affects economic development, which has been demonstrated by cross-country and regional studies. One such study was conducted in Italy by *R. Putnam*. He defines social capital as "centuries-old traditions of social interaction, involving the norms of reciprocity and trust between people, the wide distribution of various kinds of voluntary associations and involvement of citizens in politics for the solution of the problems that the community is facing" [3, p. 124]. R. Putnam studies social capital and horizontal relations between people and organizations mainly in a positive sense – both as incentives and as conditions for the approval of democracy, considering that they are the measure of public health. He links economic development with the presence of different amounts of social capital.

R. Putnam developed a three-factor model of social capital: *the norms of reciprocity, trust and social networks*, which can be used for measuring social capital with the help of individual indicators. Group indicators or territorial indicators are obtained through the aggregation of these indicators. There emerged such a concept as "Putnam groups", i.e. the groups that are working to improve the lives of other people and the whole society. In contrast to these groups, there are Olson groups [4], they pursue their own goals and compete with other groups to possess scarce resources, using their social capital for rent-seeking, but not for common development. And this hinders economic growth.

Francis Fukuyama defines social capital as a set of informal norms of interaction that promote collaboration between two or more persons [5]. These norms exist implicitly in relations between all people, but they emerge full blown only in actual human relations. Fukuyama, arguing with Putnam, draws

attention to the fact that external influence of the social capital of the group may be both positive and negative. He brings forward the example of the Ku Klux Klan or the mafia structures. Such groups also have certain norms and networks that enable them to achieve their collective goals; in this sense, they also possess social capital. But their impact on the larger society is negative. "Social capital, this materialized trust that plays a fundamental role in creating a healthy economy, has cultural roots. Since culture is something absolutely irrational in its essence and in its existence, the claim that it influences economic effectiveness may seem paradoxical at first glance. Indeed, as a subject of scientific research, it always shows its subtlety" [6, p. 65].

Ethical principles in the formation of social capital become especially important in contemporary Russia after the change of social landmarks and loosening of ideological ties in public life. Integrity, honesty, sincerity, truthfulness – these are the ethical rules that contribute to the growth of social capital. On the contrary, lies, pretense, deceit destroy social capital.

Virtually all scientists, who study social capital, point out its triple structure: norms, trust, networks. All these elements are linked to each other: networks are essential for the transmission of information and establishing contacts, they contribute to the dissemination of interaction norms; norms and trust strengthen and promote the expansion of networks and contacts and contribute to the reduction in transaction costs in interaction.

We can distinguish three levels of social capital. The first level is private social capital that an individual possesses on the fact of his/her birth, family relations, ethnic community, "small motherland", association of fellow countrymen, or membership in some small group, etc.; the second level is enterprises, organizations, corporations; the third level is public organizations, professional associations, international communities and other non-governmental organizations.

Social capital can be regarded at least in the two measurable dimensions. The first is the capital of communities that affect the gaining of benefits outside themselves; they give impulses to the improvement of various aspects of life in the closest or remote environment. We can assume that the capital of communities has "big circles" of influence, contributing to the formation of the system of civil institutions, norms, values for the entire society. The second dimension is the social capital of small, usually closed, communities, which include family, ethnic community, clan, association of fellow countrymen, enterprise, corporation, etc. This capital is formed inside the community, but it used for adaptation and success in the outside world. This capital has small circles of influence, but it contributes to the survival of the group, mobilizes resources for collective protection and development. For modernization it is important to study such variety of this capital as the capital of traditional communities, particularly in the South of Russia. It focuses on the reproduction of accumulated historical and domestic experience, customs, traditions, technologies of life support and social activity. Traditional capital is based on the authority of ethnic norms, largely explains the low level of general socio-cultural development, poverty, small urbanization, weakness of modern industry. This region is characterized by a multiplicity of informal networks that permeate the economic life of local ethnic communities, which partly serves as a factor in stabilization and survival [7, p. 109-117]. At the same time, the importance of informal networks in the social capital of this region creates significant difficulties for its modernization.

The role of social capital in dealing with the issues of society modernization cannot be overestimated, it also cannot be neglected. When solving the tasks of modernization one can rely on the implementation of instituti-

onal reforms; furthermore, the activity of state bodies can be enhanced. But in modern Russia, where civil society is absent or weak, state institutions cannot perform their functions effectively, since they are not controlled by society and do not adjust their activities in accordance with public needs due to the lack of feedback. The control "from above" is customary, but it is also ineffective, if there is no control "from below". A strong state is not necessarily an effective state.

Differences in the volumes, structure and quality of social capital should be considered when developing a strategy for modernization of each region. Different level of the regions' readiness to democracy and self-government is the starting point in building social capital in accordance with traditions and experience of social interaction. Those regions, in which "Putnam groups" that work for the common good are absent or weak, can be dominated by "Olson groups", working for internal interests of the groups. These latter groups often have criminal or anti-social character. They undermine state management functions, because they are influenced by private or group interests.

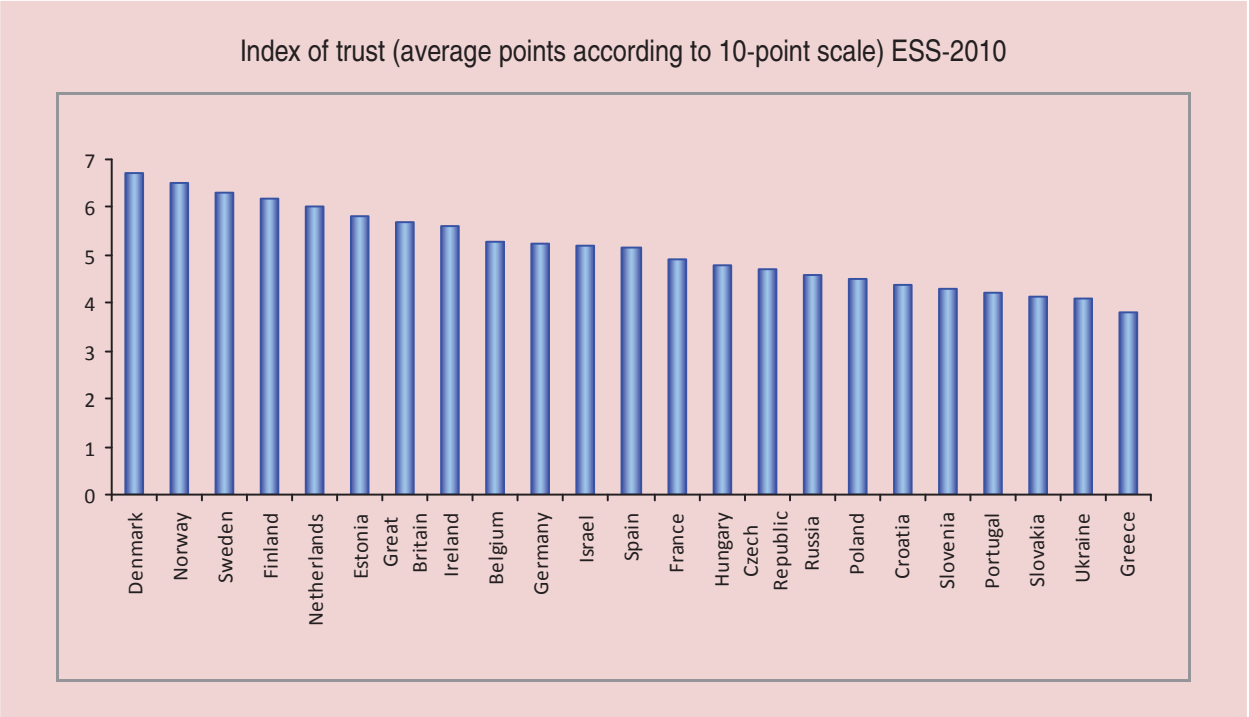
Social capital exists in two forms: institutional – such as public associations, organizations, self- government bodies, and cognitive – such as rules of conduct, norms, values, trust between individuals and institut-ions. Social capital increases when it is used, and, on the contrary, it reduces if it is not used. It can be lost completely under certain circumstances, for example, associated with loss of trust in the subject of relations. But even in those territories and in the regions, where social capital is weak and underdeveloped, it can be enhanced and cultivated by supporting public associations, organizing a productive dialogue with them; in contrast, even its weak sprouts can be destroyed by creating unbearable conditions for them, by resorting to blackmail, closing financing sources of livelihood and other forms of repression. The process of modernization as a multiple modernization, or, to use a term of Zygmunt Bauman, "liquid" or "fluid" modernization, depends on the state of the social capital in the country and regions.

Measuring social capital

For the measurement of social capital, one should have its quantitative indicators, but they are rather difficult to determine, since here we speak about intangible characteristics that are not always available for direct observation. That is why, as a rule, sociologists use verbal testimony of the presence of social capital. For example, there exists a system of indicators, developed in the World Bank study.

Some of the material for comparative analysis of social capital in Russia can be provided by the European Social Survey (ESS) [8], first of all, on the issues of trust in society. Trust is the core of social capital. Three questions in the questionnaire offer to rate trust between people on a 10-point scale. The index is formed by the author of the present article as a simple average of these estimates *(figure)*. As we can see, Russia ranks 16th with the index 4.47, ahead of only seven countries out of 23. Most of the countries with higher levels of modernization are ahead of Russia. The maximum level of trust is observed in Denmark – 6.45.

Interesting observations characterizing the circles of close communication in the family, with friends, with colleagues, in Russia and other countries participating in ESS, can be obtained when studying the answers to the question: *How often do you spend time with friends, family or colleagues just for the sake of it?* It turned out that the most sociable people live in highly developed, modernized countries: 91% of the inhabitants of Switzerland, more than 70% of residents in Belgium, Denmark, the Netherlands, Norway, Sweden have such meetings once a week and more often. The Portuguese (79%), Israeli (77%) and Spanish (74%) also often meet informally, which is explained by traditionally close relationships in the southern regions.



But as for the residents of other countries, they take part in such meetings significantly less likely. According to this indicator Russia ranks second to last, with 46%, that exceeds the level of communication in only one country – Hungary (32%). Disunity and atomization of Russia's society has reached a high level: 30–60% of respondents in different regions do not find understanding even in their own family.

We can say with confidence that societies with developed social capital, including the high level of trust, civic identity, positive social ties and relations, have more favorable opportunities for modernization, especially for the current – secondary modernization.

References

1. Bourdieu P. The Forms of Capital. *Handbook of Theory and Research for Sociology of Education*. Ed. by J. Richardson. New York: Greenwood Press, 1986. P. 21.
2. Koleman J. Kapital sotsial'nyy i chelovecheskiy [Social and Human Capital]. *Obshchestvennye nauki i sovremennost'* [Social Sciences and Modernity], 2001, no. 3, p. 124.
3. Putnam R. *Making Democracy Work: Civic Traditions in Modern Italy*. 1996. P. 224.
4. Olson M. *The Logic of Collective Action: Public Goods and the Theory of Groups*. Cambridge, MA: Harvard University Press, 1965.
5. Fykuyama F. *Social Capital and Civil Society*. Prepared for delivery at the IMF Conference on Second generation reforms. Available at: http://www.imf.org/external/pubs/ft/seminar/1999/reforms/fukuyama.htm
6. Fukuyama F. *Trust: The Social Virtues and The Creation of Prosperity* [Doverie: sotsial'nye dobrodeteli i put' k protsvetaniyu]. Translated from English. Moscow: OOO "Izdatel'stvo ACT": ZAO NPP "Ermak", 2004. P. 65.
7. Lebedeva N.N., Lomontseva O.A. Sotsial'nyy kapital i modernizatsiya etnoekonomiki Yuga Rossii [Social Capital and Modernization of Etnoeconomy in the North of Russia]. *Obshchestvennye nauki i sovremennost'* [Social Sciences and Modernity], 2006, no.2.
8. *Rossiya v Evrope: po materialam mezhdunarodnogo proekta "Evropeyskoe sotsial'noe issledovanie"* [Russia in Europe: on the Materials of the International Project "European Social Survey"]. Under general editorship of A.V. Andreenkova and L.A. Belyaeva. Moscow, 2009.

UDC 314.6 (332.146), LBC 60.8

Economic behavior: analysis and prospects*

Lyudmila Alekseevna
MIGRANOVA
Ph.D. in Economics, Head of the Laboratory for the Study of the Quality of Life of Population, Federal State-Financed Scientific Institution the Institute of Social and Economic Studies of Population, the Russian Academy of Sciences (32, Nakhimov Avenue, Moscow, 117218, Russia, info@isesp-ras.ru, lmigranova@mail.ru)

Vladimir Borisovich
TOREEV
Doctor of Economics, Head of the Laboratory for the Issues of Economic Behavior and Mobility of Population, Federal State-Financed Scientific Institution the Institute of Social and Economic Studies of Population, the Russian Academy of Sciences (32, Nakhimov Avenue, Moscow, 117218, Russia, info@isesp-ras.ru, v.toreyev@gmail.com)

Aziza Viktorovna
YARASHEVA
Doctor of Economics, Professor, Chief Research Associate at the Laboratory for the Issues of Economic Behavior and Mobility of Population, Federal State-Financed Scientific Institution the Institute of Social and Economic Studies of Population, the Russian Academy of Sciences (32, Nakhimov Avenue, Moscow, 117218, Russia, info@isesp-ras.ru, nasimy@yandex.ru, baktriana@rambler.ru)

Abstract. Efficient social policy should be based on the understanding of strategies which Russian families use for adaptation to a difficult economic situation in the country. This understanding is promoted by regular research into people's consumer behaviour and by sociological surveys of savings strategies. Scientists are studying the investment behaviour of population. Consumer behaviour, savings behaviour and investment behaviour are the elements of economic behaviour of population. The integrated research into these components gives the greatest effect for enhancing the efficiency of social policy. The "Taganrog" Project is one of such integrated studies. This project has been implemented within forty years; its main purpose is to study various aspects of life of households in this southern city that used to be an industrial city.

Key words: economic behaviour, household, savings strategy, sociological research.

* The article was prepared under the RFBR grant No.13-06-00273.

Russian statistics and science pay much attention to the study of economic behavior. For instance, Rosstat carries out regular sample surveys of household budgets, as part of state statistic observation of the people's standard of living. Sociological services, for instance, WCIOM (Russian Public Opinion Research Center)[1] and the Levada-Center[2] carry out regular polls for assessing the financial situation of families and their financial behavior; Romir Holding[3] carries out the analysis of consumer markets and consumer preferences; there also exist other research centers and companies. However, a comprehensive analysis of economic behavior of the population in our country has not been conducted so far.

We define the population's economic behavior as a certain rational choice from the available alternatives to minimize costs and maximize the benefits; this choice is used by population as a mechanism of adaptation to the changing external environment. Economic behavior is influenced directly by the type of social and income groups that an individual belongs to; these groups define the level of accumulation and consumption for certain population groups; they also set out socio-demographic characteristics of the family: number of dependants, number of children, number of pensioners and disabled persons, age, health status and education level of family members.

Economic behavior is also influenced by social groups that an individual belongs to. Reference groups can include family, colleagues, neighbors, etc. However, the affiliation group and the reference group may not coincide, and they may have a multidirectional impact on the individual. Reference groups form the norms and values that determine the prospect of thinking and behavior of the person. In this regard, particular attention should be given to the influence of family and way of life. The family has the most powerful adaptive capacity in economically difficult situations.

The research conducted in the framework of the "Taganrog" Project, supervised by RAS Corresponding Member N.M. Rimashevskaya, came most closely to the complex analysis of people's economic behavior. The purpose of the research was "to reveal the essence of ongoing changes in Russia through the prism of living conditions, the status and behavior of the population; to reveal their nature, specifics, factors and dynamics". The fundamental issue addressed by the project consists in "finding essential changes in the reproduction and quality of life of Russia's population under the transition to market economy, in consideration of the mechanisms determining social processes; and also, if we speak about practical use of the obtained results, in the development of measures and proposals for the formation of social policy" [1, p 10]. Five stages of the project have been implemented: "Taganrog I" (1968–1969), "Taganrog II" (1978–1979), "Taganrog III" (1988–1989). The first three stages were conducted every ten years. In five years after the third stage, the research "Taganrog 3" was carried out. Accordingly, the fourth stage received a one-half index. Finally, the fifth stage "Taganrog V" was implemented in 1998–2000.

The first three stages were implemented under the planned economy, when economic behavior was reduced to consumer behavior, i.e. the distribution of income (mainly salaries). Savings strategies at that time were limited to the opportunities provided by Sberbank (branches of savings bank), i.e. to the earning of interest on the account balance. The economic reform opened new opportunities in this respect. But it took twenty years for the population to accumulate savings, which need to be preserved, multiplied and invested in various projects, i.e. to carry out savings and investment behavior.

[1] WCIOM. http://wciom.ru
[2] Levada-Center. http://www.levada.ru
[3] Romir Research Holding. http://romir.ru

Consumer behavior of households with different socio-economic status was the subject of a detailed study at almost all the stages of the "Taganrog" research. The main feature of the consumer market in the pre-reform period consisted in the imbalance of demand and supply of goods and services, which was increasing over the years. However, the shortage of food and industrial goods did not mean that Taganrog residents were starving. Nearly a quarter of urban families partially compensated for food shortage by production of foodstuffs in household plots and dachas. The residents purchased non-food products as well, but at speculative prices. The market of paid services was underdeveloped, and it was reduced mainly to personal services (barber's and hairdresser's, public bath houses, dry cleaning, catering, etc.). Socially important services (medical, educational, cultural, recreational, housing and utilities) were provided by the state free of charge or at a nominal fee, which ensured equal access to them for all citizens, regardless of their financial situation.

Opinion polls conducted in Taganrog in the period of transition to market relations (1993–1994) and in later years (1998–2000), showed significant changes in the residents' consumer behavior, as evidenced by the changes in the structure of consumer spending – the increase in the share of money spent on foodstuffs (the indicator proving the reduction in the standard of living) and paid services. At that, the share of households that had private subsidiary plots and produced agricultural goods increased in the early 1990s to almost 40%. Despite the fact that in this period the state retained control over tariffs on housing and utilities services, the expenditures on their payment were growing rather quickly due to higher growth rates of prices for services as compared to goods, and also due to the fact that free services were becoming paid services for the population. In 1998, almost half (48.1 percent) of families in Taganrog had to stint themselves on purchasing food, and it accounted for more than 60% of all the expenses. At the same time there was no deficit of any goods any more – the fact was that the population did not have enough money to satisfy basic needs.

The typological study carried out in the framework of the "Taganrog II" Project (1978) in the conditions of the low differentiation of the people's incomes, identified eight types of families with different consumer behavior. In these families, depending on socio-demographic indicators and the specifics of living conditions, the structure of needs, consumption and orientations of the population proved to be very different [2].

Twenty years later, the typological research used a slightly different model that made it possible to identify four stable groups of consumers, despite growing income inequalities, lack of commodity deficit and the expansion of the market of paid services.

The first group represents the type of consumption, characteristic of low-income households in Taganrog, the per capita income of which did not exceed the subsistence level (SL) in the Rostov Oblast. These are mainly intact families with one or two children. Their type of consumption can be called "extreme" or "consumption for survival". The second group of consumers, according to researchers, comprises households with middle income that is above the subsistence level, but below the value of 2.5 SL. These are small intact families, mainly without children or with one child. The consumer style of these households differs from that of the first type by the higher characteristics of consumption, more diverse and rational structure of consumption of both foodstuffs and non-food goods and services. The third group is represented by the most well-off households with incomes higher than 2.5 SL. These are mainly intact families without children (only one third of them are families with one child) that belong to medium and high social statuses. The representatives of this group

are characterized by a different quantitative and qualitative level of consumption. In general, however, their consumer behavior can be called "conservative-consumer" because it is focuses on the preservation and maintenance of the previously formed consumer way of life. The fourth group of consumers is pensioner households. Due to the absence of dependant burden, these households, despite the low level of pensions, enjoy a favorable financial situation (compared with pensioners that live in the same quarters with their relatives). This group takes an intermediate position between the first and the second groups; however, it has its own specific features. This concerns, primarily, the purchase of food and medicines. Consumers in this group have to rely only on their own financial opportunities; therefore, they rarely borrow money. The researchers named the fourth group "ascetic", due to the observed maximum austerity.

The further changes in the social structure of the city population under the influence of the local labor market situation that is not changing dramatically, no doubt, changed the distribution of the population by types of consumer behavior, but the very number of types is unlikely to have increased. In the late 1980s – early 1990s already, Taganrog began to fall behind both the national average and the regional average by the level of wages and monetary incomes of the population, while the scale of poverty and the number of needy households were growing faster [3].

According to Rosstat, the volume of real consumption of paid services per capita in the Rostov Oblast for the last 11 years has increased in 1.55 times against 1.47 times for Russia as a whole; the real per capita retail trade turnover in the oblast also increased at a faster pace and was equal to 2.8-fold. However, both these indicators remained below the national average (73% and 95% respectively). But Taganrog is not the Rostov Oblast, where the majority of retail turnover and paid services is effected directly in Rostov-on-Don. In this regard, we can assume that the consumption of goods and services in Taganrog apparently increased during this period, but to a much lesser extent than the oblast average, and the gap between this indicator and the national average indicators has somewhat increased.

Opinion polls give an opportunity to look into the financial situation of families in Russia from the viewpoint of self-esteem. Considering the dynamics of financial situation in a sufficient period of time, we can note that the number of families that assess it positively, is increasing gradually *(tab. 1)*. If the number of families without financial difficulties, remains unchanged: about 1%, during the whole period of observation, then the number of families that are limited in purchasing of only expensive things, is constantly increasing (from 7% in 2001 to 16% in 2010). It should be noted that the low-income groups are experiencing a gradual improvement of the situation. For example, the number of the poorest families reduced from 22% to 9%, while there has been a redistribution in other groups: in 2001 the group of families, which had enough money only to buy food, was 44%, but in 2010 it reduced by 27%; and the group of families that had enough money only for durable goods, on the contrary, increased from 27% to 48%.

The improvements in financial situation promote the formation of savings. *Table 2* presents the dynamics of savings capacity of Russian families.

The table shows that the 2008 economic crisis has strongly affected the level of people's savings; however, by 2010 the situation has changed to what it was in the smooth pre-crisis period. Anyway, we can state that about a quarter of Russia's population have savings, i.e. they can carry out not only the consumer behavior, but also the savings behavior and investment behavior.

The formation of market relations in the Russian economy was accompanied by the

Table 1. Which population group would you refer your family to, most likely?*
(as a percentage of the number of respondents)

Answer option	11.2001	11.2003	11.2005	11.2007	06.2008	10.2009	08.2010
There is not enough money even to buy food	22	15	15	14	12	13	9
There is enough money to buy food, but the purchase of clothing is a major problem	44	45	37	33	29	29	27
There is enough money to buy food and clothing, but the purchase of durable goods is a problem for us	27	31	37	37	42	47	48
We can easily buy durable goods, but we have problems with purchasing really expensive things	7	9	10	15	17	12	16
We can afford very expensive purchases like car, apartment, dacha and many other things	<1	1	<1	1	1	1	1

* Hereinafter: results of the Levada-Center opinion polls. Sample before 2009 – 2100 respondents, after 2009 – 1600 respondents. http://www.levada.ru/category/rubrikator-oprosov/uroven-zhizni-naseleniya-rossii/lichnye-denezhnye-sberezheniya

Table 2. Do you, does your family currently have any savings?
(as a percentage of the number of respondents)

Answer option	07.2002	07.2003	07.2005	07.2007	12.2008	10.2009	10.2010
Yes	26	24	21	22	18	22	26
No	68	69	70	66	75	73	69
I do not know / Refusal to answer	6	7	9	13	7	5	5

emergence of two basic types of people's economic behavior: pre-market behavior and market behavior. People with pre-market type of behavior are characterized by the rejection of the market or a cautious attitude toward it, the low estimate of their opportunities for adaptation to market economy, a high level of social and psychological tension of a person being under the strong influence of social stereotypes, developed during the Soviet years. The market type of behavior involves a high degree of economic activity of an individual, the understanding of the opportunities that the market provides for the growth of welfare in accordance with applied efforts, knowledge, skills.

At that, different savings strategies are used. People with the pre-market type of economic behavior prefer to keep their savings in cash (what is called "in a money box"), or in a savings bank; as for the adherents of market behavior, they use more diverse strategies: investing in stocks, bonds, investment in business, purchase of real estate and so on. *Table 3* presents the savings strategies of the population. As can be seen, the most reliable way to save money, according to the population, is to keep them in Sberank, despite huge losses of savings due to inflation after the 1992 economic reforms and the lack of interest accrual on the deposit balance, as it was in the Soviet times[4]. For ten years the share of people who chose Sberbank to keep their savings, has increased by 17%. More than half of the respondents prefer to keep their savings in Sberbank. The image of the state bank, which was formed in the Soviet times and which is supported after the reforms, allows Russia's population to consider it the most reliable form of saving money.

[4] The RF Savings Bank accrues interest on the deposit balance only for pension deposits.

Table 3. How do you keep savings?
(as a percentage of the number of respondents)

Answer option	09.2002	09.2005	09.2007	10.2009	10.2010
In the Savings Bank	41	44	50	53	58
In a commercial bank	4	5	6	6	9
In public bonds, other state securities	2	2	2	1	1
In funded insurance policies	1	1	1	1	1
In shares and other securities of joint-stock companies, investment funds, banks, etc.	3	5	5	3	3
In cash	20	24	29	*	*
In hard currency	40	24	16	*	*
In rubles (cash)	*	*	*	29	29
In U.S. dollars (cash)	*	*	*	8	8
In Euros (cash)	*	*	*	17	10
In articles made from precious metals, in antiques, in paintings	8	6	6	8	5
In other form	2	2	2	3	1
It is difficult to answer	17	20	20	16	16

Table 4. For what purpose are you making savings now, or would make savings, if you had an opportunity? (as a percentage of the number of respondents)

Answer option	09.2002	09.2005	09.2007	10.2009	10.2010
Purchase of expensive articles	14	13	11	11	13
Purchase of an apartment, a detached house	20	21	21	22	22
Education	22	20	19	18	14
Treatment	27	24	19	24	26
Recreation, entertainment, travelling	12	13	12	19	21
One's own business, purchase of shares	4	4	4	6	5
Purchase of a land plot, a dacha, an allotment cottage	3	3	2	6	6
Purchase of a car	9	10	10	13	14
Just in case, as a reserve	35	36	33	41	42
Other purposes	6	5	7	4	6
I would not make savings for any purposes	9	7	10	11	11
It is difficult to answer	8	9	10	5	6

Savings in cash is the second most popular way of saving money. The scandals connected with the American economy, and rumours about the devaluation of the U.S. dollar have undermined the trust of the Russians in this currency that was popular in the 1990s. People prefer to keep cash in rubles or the European currency (Euro). Thus, the Russian population saves money in the forms, characteristic for the pre-market type of economic behavior.

Very few of the respondents use modern and often more profitable saving options (securities, shares, bonds, etc.). This can be explained by the fact that securities market in Russia is still underdeveloped, and there is virtually no public information on the possibilities of its using. It is especially difficult to use these savings technologies for those, who live in remote areas, far from large cities. Even educated young people, well adapted to the conditions of market economy, often have to use the more available saving options, such as deposits in Sberbank and cash; using these options is typical of the older generation with the pre-market type of economic behavior.

We consider it mportant to clarify the goals that people pursue when making savings. *Table 4* shows the answers of the respondents

to the questions about the purpose of savings. They most common reason is the uncertainty about the future (the answer "just in case, as a reserve"), the desire to be able to survive in the next crisis. Due to the series of economic shocks in the 1990s and the crisis of 2008–2009 the people have accustomed themselves to the thought that anything in our economy can go wrong at any moment, and they need to be prepared for that.

The next purpose of savings, according to the number of answers, is for treatment, and it also concerns the provision of normal life in the future. The transition from the fully free to the partly free medical care spawned the need to have money in case of a serious illness. We should also point out the ageing of the Russian population, and with age comes disease.

The majority of Russian families can afford to buy a house or an apartment only after they have accumulated a certain amount of money. Even when they use a mortgage loan, it is necessary to make a down payment, which can reach 30% of the apartment's price.

The decrease in expenditure on education can indicate first, the general ageing of the population, and, respectively, the reduction in the number of young people who need education; second, the disappointment in education as a means of social mobility, necessary to make a career. There has been an almost twofold increase in the number of families that save money for recreation and traveling.

The consideration of only a few components of the people's economic behavior proves a strong correlation between the family composition, way of life, level of wages, consumer and savings behavior. Each family member, which is a potential consumer, has his/her psychological characteristics, type of character and temperament, and, accordingly, his/her own consumer motivation, which should be taken into account, because it is the driving force that activates behavior and defines the purpose and direction of this activity. In this regard, we can point out that it is only comprehensive research that can provide a full picture of the population's economic behavior.

Thirteen years have passed since the latest socio-economic survey of the population in Taganrog. Russia's economy has not only made a complete transition to market relations, it has also become part of the global world. The illusion that the market will decide if not all, but at least the majority of our problems has vanished, and even the leadership of the country has recovered from it. Economic and financial crises come and go with increasing frequency and affect all the layers of the population. Therefore one of the goals of a new population survey in Taganrog that will be carried out by the scientists of the RAS Institute of Social and Economic Studies of Population (ISESP RAS), is to identify the dynamics in economic behavior, assess the risks of underconsumption for households with unfavorable socio-economic situation in the cities and towns with the medium number of population and once-developed industry.

Summing up, we can state that consumer behavior is an economically difficult process of generalization and analysis of potential needs and habits, which, in one way or another, form the amount of demanded and have a significant impact on the structure of supply in the consumer market. The research into the mechanisms of influence of modern social factors of everyday life on the consumer activity of an individual remains a relevant scientific issue.

Profound differentiation in the standard of living among the Russian population in the regional context influences in its own way the formation of the models of economic behavior, especially savings and investment behavior. The main task with regard to households is to establish favorable economic conditions for reproduction of human potential of family members.

The demand of Russia's population for the civilized forms of economic behavior should largely contribute to the investment of significant funds in the real sector of economy and, hence, to the sustainable growth of the country's economic potential and welfare in the society. A shortage of modern comprehensive theoretical and methodological developments in the field of economic behavior can lead to the fact that the planning and the course of further socio-economic reforms may overlook the social values and attitudes that define the structure of economic and financial culture of the population.

References

1. *Zhenshchina, muzhchina, sem'ya v Rossii: poslednyaya tret' XX veka. Proekt "Taganrog"* [Woman, Man, Family in Russia: the Last Third of the 20th Century. "Taganrog" Project]. Ed. by N.M. Rimashevskaya. Moscow: ISEPN RAN Publ., 2001.
2. Ovsyannikov A.A., Pettay I.I., Rimashevskaya N.M. *Tipologiya potrebitel'skogo povedeniya* [Typology of Consumer Behaviour]. Moscow: Nauka, 1989.
3. *Semeynoe blagosostoyanie i zdorov'e. Proekt "Taganrog-tri s polovinoy"* [Family Well-Being and Health. Project "Taganrog Three and a Half"]. Vol. 1. Moscow, 1997.

UDC 314.15, LBC 60.74

Evaluation of efficiency of the public demographic initiatives*

Larisa Alekseevna
POPOVA
Doctor of Economics, Associate Professor, Deputy Director for Science, the Institute of Socio-Economic and Energy Problems of the North Komi Scientific Centre, Ural Branch of the Russian Academy of Sciences (26, Kommunisticheskaya Street, Syktyvkar, 167982, Russia, popova@iespn.komisc.ru)

Abstract. The article reveals how the demographic processes in Russia are influenced by federal and regional demographic policy measures of 2006–2011 and by the national project "Health" and health care modernization programmes for 2011–2012. The author dwells upon the modern trends in the birth rate of Russia's population, upon the changes in its structure by the age and marital status of mother. The article evaluates which actual generations have received the maximum reproductive benefit from pronatalist demographic policies, and what are the prospects concerning fertility. The article considers the dynamics of life expectancy of Russia's population and the changes in the structure of mortality by causes.

Keywords: Russia, demographic policy, national projects, health of the population, fertility, mortality, life expectancy.

In 2010–2011 the influence of the structural factor in enhancing the level of fertility in Russia came to an end: the number of women of the main childbearing age (up to 35 years) began to reduce[1] because the small generations of the 1990s reached their fertile age. In these conditions birth rate can be maintained at a relatively high level only by enhancing its intensity. Therefore, issues related to the possibility of influencing birth rate intensity, the assessment of the effects of the state demographic policy of recent years and expected birth rate prospects, are of considerable interest.

As is known, birth rate indicators in Russia began to increase in 2000, after a 12-year period of fertility decline, during which the annual

* The work has been carried out in the framework of the project of the Ural RAS Department contest programs for interregional and interdepartmental research "Demographic development of Russia's northern regions in the conditions of socio-economic transformation" (registration number 12-S-7-1009).

[1] Zakharov S. Kakoy budet rozhdaemost' v Rossii [What the Birth Rate in Russia Will Be]. *Demoskop Weekly* [Demoscope Weekly], no. 495–496, January 23 – February 5, 2012. Available at: http://demoscope.ru/weekly/2012/0495/tema01.php (accessed June 20, 2013).

number of births in the country decreased more than twice (from 2500 thousand in 1987 to 1215 thousand in 1999). 1896.3 thousand children were born in 2012[2], that is by 56.1% more than it was in 1999. Birth rate was increasing while the number of population was decreasing, therefore, the value of the overall coefficient increased more significantly during this time: by 60.2% (from 8.3 births per 1.000 population in 1999 up to 13.3 births in 2012).

The birth rate increase occurred largely due to the structural factor: until the end of the last decade Russia witnessed the improvement in the age structure of reproductive contingents, since the relatively numerous generations born in the early- and mid-1980s were reaching the active childbearing age. However, the birth rate intensity has also increased quite noticeably, as evidenced by the dynamics of the total fertility rate *(tab. 1)*, which increased from 1.16 children in 1999 up to 1.58 children in 2011 (by 36.2%).

In the first years, in the conditions of economic stabilization, the birth rate increase was determined by the increase in the number of newborns, whose birth had been "postponed" by their parents due to the then unfavorable economic situation. The growth is reflected in the dynamics of age-specific fertility rates. The increase in the indicators was observed solely in the age groups of 25 to 44 years *(tab. 1* and *2)* in 2000. And further, up to 2004, these very ages made the main contribution to the enhancement of the overall fertility level.

Unfortunately, this conclusion cannot be supported using the dynamics of fertility structure by birth order, because, according to the Federal Law No. 143-FL "On civil status acts" dated November 15, 1997[3], since 1999 the information about birth order has been excluded from birth registration records. In the first half of the 2000s, the share of births with unstated birth order was very significant even in those RF subjects, where such statistics were maintained on the basis of medical birth certificates (about 60 regions out of 80).

Table 1. Age-specific fertility rates in the Russian Federation in 2000–2011

Year	Average annual number of births per 1000 women aged, years								Total fertility rate
	15–19	20–24	25–29	30–34	35–39	40–44	45–49	15–49	
2000	27.4	93.6	67.3	35.2	11.8	2.4	0.1	32.1	1.195
2001	27.3	93.1	70.2	38.0	12.9	2.4	0.1	33.1	1.223
2002	27.4	95.7	75.1	41.7	14.7	2.6	0.1	35.2	1.286
2003	27.6	95.3	78.3	44.0	16.0	2.7	0.1	36.5	1.320
2004	28.2	94.2	80.1	45.8	17.6	2.9	0.1	37.7	1.344
2005	27.4	88.4	77.8	45.3	17.8	3.0	0.2	36.9	1.294
2006	28.2	87.8	78.4	46.6	18.6	3.1	0.1	37.7	1.305
2007	28.3	89.5	86.9	54.1	22.7	3.9	0.2	41.4	1.416
2008	29.3	91.2	92.4	60.0	25.8	4.6	0.2	44.6	1.502
2009	28.7	90.5	95.9	63.6	27.6	5.2	0.2	46.4	1.542
2010	27.0	87.5	99.2	67.3	30.0	5.9	0.3	47.8	1.567
2011	26.7	87.5	99.8	68.2	31.4	6.3	0.3	48.8	1.582

Source: Russian statistical yearbook – 2012. Available at: http://www.gks.ru/bgd/regl/b12_13/Main.htm (date of access: June 20, 2013).

[2] Shcherbakova E. Demograficheskie itogi 2012 g. (Chast' I) [Demographic Results of 2012 (Part 1)]. *Demoskop Weekly* [Demoscope Weekly], no.541–542, February 4–17, 2013. Available at: http://demoscope.ru/weekly/2013/0541/barom03.php (accessed June 20, 2013).

[3] Ob aktakh grazhdanskogo sostoyaniya: Federal'nyy zakon №143 ot 15 noyabrya 1997 g. [Federal Law "On Civil Status Acts" No.143 of November 15, 1997]. *Rossiyskaya gazeta* [The Russian Newspaper], 1997, no.224, November 20.

Table 2. Rates of increase in fertility indicators in the Russian Federation in 2000–2011, %*

Period	Average annual number of births per 1000 women aged, years								Total fertility rate
	15–19	20–24	25–29	30–34	35–39	40–44	45–49	15–49	
2000–2001	-0.4	-0.5	4.3	8.0	9.3	0.0	0.0	3.1	2.3
2001–2002	0.4	2.8	7.0	9.7	14.0	8.3	0.0	6.3	5.2
2002–2003	0.7	-0.4	4.3	5.5	8.8	3.8	0.0	3.7	2.6
2003–2004	2.2	-1.2	2.3	4.1	10.0	7.4	0.0	3.3	1.8
2004–2005	-2.8	-6.2	-2.9	-1.1	1.1	3.4	100.0	-2.1	-3.7
2005–2006	2.9	-0.7	0.8	2.9	4.5	3.3	-50.0	2.2	0.9
2006–2007	0.4	1.9	10.8	16.1	22.0	25.8	100.0	9.8	8.5
2007–2008	3.5	1.9	6.3	10.9	13.7	17.9	0.0	7.7	6.1
2008–2009	-2.0	-0.8	3.8	6.0	7.0	13.0	0.0	4.0	2.7
2009–2010	-5.9	-3.3	3.4	5.8	8.7	13.5	50.0	3.0	1.6
2010–2011	-1.1	0.0	0.6	1.3	4.7	6.8	0.0	2.1	1.0
Total for 2000–2011	-2.6	-6.5	48.3	93.8	166.1	162.5	200.0	52.0	32.4

* Calculated according to Russian statistical yearbook – 2012. Available at: http://www.gks.ru/bgd/regl/b12_13/Main.htm (date of access: June 20, 2013).

For example, in the Komi Republic in 1999 birth order was not specified in 4.3% of cases, and in 2000 this figure reached 52.4%. In 2001, the statistics did not include birth order in 17.6% of cases, in 2002 – in 16.5% of cases, in 2004 – in 6.6% of cases.

In 2005, Russia experienced a decrease in fertility. Although, we should emphasize that the structural factor at that time played an important part in the increase of its level. Obviously, the stage of spontaneous realization of "postponed" births, which required no incentive measures, almost came to an end by this time. In the stated year the improvement in the performance of indicators was observed only in the oldest groups of reproductive age: apparently, the planned births of high order were realized among the representatives of generations born in 1956–1970, who in the beginning of the decade realized the previous "postponed" births.

In these circumstances, we should consider it very timely that the 2006 Presidential Address to the Federal Assembly singled out demographic issues as the key and most acute problems of modern Russia. The legislative and executive authorities were given the task to launch the active demographic policy aimed at birth rate stimulation, and its implementation was to begin no later than January 1, 2007. The execution of the "Consolidated plan of actions on the implementation of the main provisions of the 2006 Address of the President of the Russian Federation to the Federal Assembly of the Russian Federation" resulted in the adoption of several Federal Laws in November – December 2006 ("On the introduction of amendments to certain legislative acts of the Russian Federation on the provision of state support to the citizens with children", dated December 5, 2006 No. 207-FL[4], "On the provision of temporary disability allowances, maternity allowances to the citizens subject to compulsory social insurance" dated December 29, 2006 No. 255-FL[5], "On additional measures of state support

[4] O vnesenii izmeneniy v otdel'nye zakonodatel'nye akty Rossiyskoy Federatsii v chasti gosudarstvennoy podderzhki grazhdan, imeyushchikh detey: Federal'nyy zakon ot 5 dekabrya 2006 g. №207 [Federal Law "On the Introduction of Amendments to Certain Legislative Acts of the Russian Federation on the Provision of State Support to the Citizens with Children" No.207-FL of December 5, 2006]. *Rossiyskaya gazeta* [The Russian Newspaper], 2006, no.279, December 12.

[5] Ob obespechenii posobiyami po vremennoy netrudosposobnosti, po beremennosti i rodam grazhdan, podlezhashchikh obyazatel'nomu sotsial'nomu strakhovaniyu: Federal'nyy zakon ot 29 dekabrya 2006 g. №255 [Federal Law "On the Provision of Temporary Disability Allowances, Maternity Allowances to the Citizens Subject to Compulsory Social Insurance" No.255-FL of December 29, 2006]. *Ibidem*.

to families with children", dated December 29, 2006 № 256-FL[6]; according to this law, the state certificate on maternity (family) capital was introduced on January 1, 2007); and in the elaboration of the "Concept for demographic policy of the Russian Federation for the period up to 2025" approved by the Presidential Decree dated October 9, 2007No. 1351[7].

At that, it is necessary to highlight the differentiated approach to promoting births of different order, which was proclaimed after a long break. The second child, who is often very wanted, was considered a priority (according to the VTSIOM (All-Russian Center for the Study of Public Opinion) annual representative surveys, even in the 1990s, except for 1992 and 1994, the average desired number of children and the average ideal number of children in the family were higher than two[8]), but there are too many impeding factors for the birth of the second child in families that consciously plan their life.

The Address to the Federal Assembly played a certain, purely psychological, role even before the launch of the new demographic policy, because the Address set out the official government policy that consistently continued a new social policy of the state, the policy expressed in the national priority projects that had been launched in the beginning of the year. Most age groups (except for those aged 20–24 and 45–49) experienced some increase in fertility intensity in 2006 already, which determined the growth of the total fertility rate in that year in general.

In 2007–2008, when the increase in the total fertility rate was maximum (by 8.5% and 6.1%, respectively), the increase in the intensity of fertility was observed in all age groups, with the increase of growth rates among the people of older age. As a result, the increase in birth rate in 2008 shifted from the group of people aged 20–24 to those aged 25–29. However, the most significant increase was observed among people aged over 35. It is obvious that it was the period when the "postponed" children were born; it required a certain impetus, which means that they would not have happened without the appropriate demographic policy.

If we turn our attention from the age-specific coefficients for relative generations to actual cohorts of women, for which these coefficients are characteristic in a given year of observation, we can observe what generations have received the maximum "reproductive benefit" from the new demographic initiatives of the government *(tab. 3)*. Most of all they contributed to the realization of final fecundity of generations born in 1963–1973: in 2007–2008 age-specific birth intensity of these generations increased by 14–26%. The generations born in 1973–1983 also got a significant impetus to the fulfillment of their reproductive plans: they experienced the 6–16% increase in birth rate intensity. In addition, the measures to boost fertility in the first two years after their adoption partly stimulated the cohorts born in 1983–1993 to implement their fertility earlier.

Already in 2009–2011, fertility growth rates decreased significantly. And the groups aged up to 24 once again witnessed a reduction in age-specific rates. It is necessary to note that the 2000s, in general, are characterized by the decrease in the intensity of fertility in the two youngest age groups. At the same time, the group aged 30–34 almost doubled the age-

[6] O dopolnitel'nykh merakh gosudarstvennoy podderzhki semey, imeyushchikh detey: Federal'nyy zakon №256 [Federal Law "On Additional Measures of State Support to Families with Children" No.256-FL of December 29, 2006]. *Ibidem*.

[7] *Ob utverzhdenii Kontseptsii demograficheskoy politiki Rossiyskoy Federatsii na period do 2025 goda: Ukaz Prezidenta Rossiyskoy Federatsii ot 09.10.2007 g. №1351* [Decree of the President of the Russian Federation "On the Approval of the Concept for Demographic Policy of the Russian Federation for the Period up to 2025" No.1351 of October 9, 2007]. Available at: http://document.kremlin.ru/doc.asp?ID=041941 (accessed June 20, 2013).

[8] Bodrova V. Skol'ko detey khotyat imet' rossiyane? [How Many Children Do the Russians Want to Have?]. *Demoskop Weekly* [Demoscope Weekly], no.81–82, September 23 – October 6, 2002. Available at: http:// demoscope.ru/weekly/2002/081/tema01.php (accessed June 20, 2013).

Table 3. Actual generations that facilitated the growth of the total fertility rate in 2007–2011, by years of birth (growth rate, %)

Year	Age groups, years					
	15–19	20–24	25–29	30–34	35–39	40–44
2007	1988–1992 (0.4%)	1983–1987 (1.9%)	1978–1982 (10.8%)	1973–1977 (16.1%)	1968–1972 (22.0%)	1963–1967 (25.8%)
2008	1989–1993 (3.5%)	1984–1988 (1.9%)	1979–1983 (6.3%)	1974–1978 (10.9%)	1969–1973 (13.7%)	1964–1968 (17.9%)
2009			1980–1984 (3.8%)	1975–1979 (6.0%)	1970–1974 (7.0%)	1965–1969 (13.0%)
2010			1981–1985 (3.4%)	1976–1980 (5.8%)	1971–1975 (8.7%)	1966–1970 (13.5%)
2011			1982–1986 (0.6%)	1977–1981 (1.3%)	1972–1976 (4.7%)	1967–1971 (6.8%)

specific birth rate in 2000–2011; the groups aged 35–39 and 40–44 increased their birth rate by 2.6 times. In other words, the past decade witnessed a major shift in the age-specific fertility model of the Russian population. This shift, in our opinion, is very positive, it indicates the strengthening of the consciousness related to fertility.

The maximum increase in birth rate intensity in 2009–2011 is characteristic of actual generations born in 1966–1980. The generations born in 1981–1986 also contributed to the increase in the total fertility rate in these years. Consequently, the demographic initiatives of 2006–2007 played a positive and stimulating role for all the older generations of women born before the mid-1980s inclusive. At the same time, the generations born in 1987–1996 have not experienced any significant stimulating effects of demographic policy on the intensity of fertility.

The governmental demographic initiatives of 2006–2007 helped the older generations to realize their reproductive plans, which had been postponed year upon year; the initiatives also contributed to the increase in the population's reproductive expectations. According to the sampling survey "Family and fertility"[9] conducted by Rosstat (Federal State Statistics Service) in September–October 2009, in 30 constituent entities of the Russian Federation, the average expected number of children for women is 1.72, for men – 1.90, the average desired number of children for women is 2.28, for men – 2.38, which is considerably higher than the reproductive expectations of the Russians identified in the VTSIOM surveys in 1991–2000[10].

The share of children born in wedlock has also increased; no doubt, it is a positive result of the 2006–2007 demographic policy. After two odd decades of growth, the level of illegitimate birth rate in Russia declined from 30% in 2005 to 24.6% in 2011[11].

On the other hand, the 2006–2007 demographic policy led to the compression of birth timing and an early realization of repro-ductive plans of the generations that at the time, when the new measures were being introduced, were in the most active fertile age. And at present these generations are, in fact, the most numerous generations that were born in the early- and mid-1980s.

[9] *Kratkie itogi vyborochnogo obsledovaniya "Sem'ya i rozhdaemost'"* [Brief Results of the Sample Survey "Family and Fertility"]. Available at: http://www.gks.ru/free_doc/2010/family.htm (accessed June 20, 2013).

[10] Bodrova V. Skol'ko detey khotyat imet' rossiyane? [How Many Children Do the Russians Want to Have?]. *Demoskop Weekly* [Demoscope Weekly], no.81–82, September 23 – October 6, 2002. Available at: http:// demoscope.ru/weekly/2002/081/tema01.php (accessed June 20, 2013).

[11] *Rossiyskiy statisticheskiy ezhegodnik – 2012 g.* [Russian Statistical Yearbook – 2012]. Available at: http://www.gks.ru/bgd/regl/b12_13/Main.htm (accessed June 20, 2013).

Accordingly, the forthcoming structural reduction in the level of fertility that will last for at least two decades will be reinforced by the reduction of the intensity of fertility as a result of the reverse timing processes.

In addition, according to the results of our 2008–2009 survey[12], the demographic policy exerted a maximum positive effect on the level of reproductive expectations among the cohorts born in the second half of the 1980s. The policy had virtually no impact on the reproductive attitudes of the generations born in the 1990s: their expected child birth rate is the same as of those born in the late 1970s – early 1980s. It means that the forthcoming structural reduction in the level of fertility can turn out to be increased by the anticipated early depletion of the final fertility rate of the generations born in the 1980s, and also by the reduced reproductive activity of the generations born in the 1990s.

Under these circumstances, undoubtedly, it is necessary to boost the demographic policy. The first step was made in the 2010 Presidential Address to the Federal Assembly, in which the President suggested that the Government together with the regions work out the procedure of the one-time provision of a land plot on a free-of-charge basis for the purpose of building a dwelling house or a dacha house to the families at the birth of the third (or subsequent) child. In accordance with this, in 2011 some of Russia's constituent entities elaborated certain regional laws on the provision of land plots to large families free of charge.

Many regions in 2011 adopted laws on the regional maternity capital for the third and subsequent child. For example, in the Republic of Komi, the Republican Law "On additional measures of providing social support to families with children, on the territory of the Republic of Komi" dated April 29, 2011[13] No. 45 entered into force on July 1, 2011. The amount of the regional family capital is 150 thousand rubles, it can be disposed of after the expiration of six months from the day of birth of the third child or subsequent children born in the period from January 1, 2011 to December 31, 2016. The money can be used for improving the housing conditions, for covering the expenses on education of the child (children), for providing the child (children) with paid medical services. In addition, this law provides for an annual lump-sum payment at the expense of the regional family capital in the amount of 25 thousand rubles, which can be used to pay the family's housing and utilities bills, taxes; to pay for the children's preschool education, family property insurance, child's (children's) life insurance. In 2011, the total fertility rate in the Komi Republic amounted to 13.1‰ against 12.9‰ in 2010. At that, 1363 children of the third order were born, which is 7.5% more than in 2010. The share of high-order births in 2011 amounted to 11.7% in comparison with 10.9% in 2010.

However, the measures aimed to promote the birth of the third child, were, in fact, addressed to the same generations that previously responded to the promotion of the second birth. This means they also contribute to the compression of birth timing and a more complete exhaustion of the final childbearing in relation to numerous cohorts born in the 1980s. Accordingly, in the coming years, these generations will contribute virtually nothing to birth rate, and it will be determined mostly by the reproductive behavior of small cohorts born in the 1990s. In other words, what we currently need is not just another demographic

[12] Popova L.A., Butrim N.A. Sovremennye standarty reproduktivnogo povedeniya naseleniya i zadachi prosemeynoy demograficheskoy politiki [Modern Standards of Reproductive Behavior of the Population and the Objectives of Pro-Family Population Policy]. *Ekonomicheskie i sotsial'nye peremeny: fakty, tendentsii, prognoz* [Economic and Social Changes: Facts, Trends, Forecast], 2011, no.2(14), pp. 73-85.

[13] O dopolnitel'nykh merakh sotsial'noy podderzhki semey, imeyushchikh detey, na territorii Respubliki Komi: Zakon Respubliki Komi ot 29.04.2011 g. №45 [Law of the Republic of Komi "On Additional Measures of Providing Social Support to Families with Children, on the Territory of the Republic of Komi" No.45 of April 29, 2011]. *Respublika* [Republic], 2011, no.98, May 12.

policy impetus. The policy should be focused on these very generations, since neither the federal initiatives in demographic sphere in 2006–2007, nor the regional laws of 2011 have had any noticeable positive influence on the models of their reproductive behavior.

Thus, the federal activities of demographic policy of 2006–2007 extended the positive tendencies in birth rate in the beginning of the 2000s that showed signs of stagnation in 2005–2006. This can be seen in the dynamics of all the fertility indicators. Regional measures slightly improved the birth rate increase in 2012, which reduced significantly in the 2009–2011 period. That is, under the worsening of the age structure of reproductive contingents in Russia, there remains a positive trend in fertility. At the same time, the increase in the total fertility rate results largely from the changes in birth timing. The level of the indicator in 1999 clearly points out the postponement of births by the population throughout the 1990s, which manifested itself rather notably after the 1998 crisis. The level of the total fertility rate in the recent years is determined more and more by the implementation of "postponed" births by older generations and the compression of birth timing of the younger cohorts of population under the influence of federal and regional demographic initiatives.

The negative impact of the age structure of fertile cohorts, which began in 2010–2011, will cause the reduction in the level of fertility in the near future. The structural decrease may be enhanced by the fact that the generations born in the 1980s will have early exhausted their final fertility, and also by the insufficient reproductive activity of the generations born in the 1990s. Russia is to undergo a long period of the birth rate decline, even if the demographic policy is further intensified. Therefore, when developing some new measures of demogra-phic policy, one should focus more on improving the quality structure of fertility, on strengthening the family institution, on the revival and enhancement of spiritual and moral traditions of family relations. We should note that the most efficient measure of the family-oriented demographic policy can be found in considering the second births a priority, because they are the most family-oriented ones. In our opinion, at present, it is necessary to focus the demographic policy on the second births. Especially since these measures will affect the generations born in the 1990s, whose reproductive behavior should be facilitated in order to meet the long-term objectives of Russia's demographic development.

The success of the 2000s in the field of reducing mortality is also very impressive. Since 2004 Russia has witnessed a downward trend in the level of mortality. The decline has not been completely consistent: there was some increase in the total mortality in 2005 and 2010; but in general in the 2003–2012 period its value decreased from 16.4 deaths per 1.000 population to 13.3‰[14] (18.9%). Life expectancy of the Russian population increased from 64.8 years in 2003 to 69.8 in 2011 (in men – from 58.5 to 64 years, in women – from 71.9 to 75.6 years) *(tab. 4)*.

As is known, since 2006 the Russian Federation has been implementing health care reforms. On January 1, 2006 the national project "Health" was launched. It provides for the activities aimed at the development of primary health care, enhancement of disease prevention, improvement of the availability and quality of specialized, including high-tech, medical care, improvement of medical care provided to mothers and children, promotion of the population's healthy lifestyle.

Taking into account the specifics of mortality in Russia, it is, of course, necessary to point out the federal target program "Enhancement of traffic safety in 2006–2012" (in the framework

[14] *Demoskop Weekly №543–544, 18 fevralya – 3 marta 2013 g.* [Demoscope Weekly, no.543–544, February 18 – March 3, 2013]. Available at: http://demoscope.ru/weekly/2013/0543/barom01.php. (accessed June 20, 2013).

Table 4. Life expectancy at birth among the population of the Russian Federation, years

Year	Both sexes	Men	Women	Year	Both sexes	Men	Women
1959	67.9	63.0	71.5	1999	65.9	59.9	72.4
1970	68.9	63.2	73.6	2000	65.0	58.9	72.4
1979	67.6	61.5	73.1	2001	65.2	58.9	72.2
1987	70.1	64.9	74.6	2002	65.0	58.7	71.9
1989	69.6	64.2	74.5	2003	64.8	58.5	71.9
1990	69.2	63.7	74.3	2004	65.3	58.9	72.3
1991	69.0	63.5	74.3	2005	65.3	58.9	72.4
1992	67.9	62.0	73.8	2006	66.7	60.4	73.3
1993	65.1	58.9	71.9	2007	67.6	61.5	74.0
1994	64.0	57.6	71.2	2008	68.0	61.9	74.3
1995	64.6	58.2	71.7	2009	68.8	62.9	74.8
1996	65.8	59.6	72.4	2010	68.9	63.1	74.9
1997	66.6	60.8	72.9	2011	69.8	64.0	75.6
1998	67.0	61.3	72.9				

Sources: Demographic yearbook of the Russian Federation: statistical digest. Moscow, 2000. P. 105; Russian statistical yearbook – 2012. Available at: http://www.gks.ru/bgd/regl/b12_13/IssWWW.exe/Stg/d1/04-01.htm (accessed: June 20, 2013).

of the RF Government Resolution of the dated February 20, 2006 No. 100) and "Prevention and treatment of socially significant diseases (2007–2012)" (in the framework of the RF Government Resolution dated May 10, 2007 No. 280).

The "Concept for demographic policy of the Russian Federation for the period up to 2025" approved in October 2007 sets out definite quantitative targets with regard to Russia's population and its life expectancy: stabilization of the number of population by 2015 at the level of 142–143 million people and establishment of conditions for its growth up to 145 million people by 2025, as well as the enhancement of the quality of life and increase in life expectancy up to 70 years by 2015, and up to 75 years by 2025[15].

It is completely reasonable that the tasks concerning mortality occupy the first place in the list of the main tasks of Russia's demographic policy. Emphasis is placed on the following activities: reduction of mortality rate from external causes primarily among the working-age population; reduction of maternal and infant mortality; enhancement of reproductive health of the population, the health of children and adolescents; preservation and enhancement of the population's health; increase in active life expectancy; creation of conditions and formation of motivation to lead a healthy life; substantial decrease in the incidence of socially significant diseases and diseases that constitute a danger to others; improvement of the quality of life of patients with chronic illnesses or disabilities.

The measures in the framework of the priority national project "Health" were continued in the regional programs for modernization of health care for 2011–2012; the programs were funded mainly through the subsidies allocated by the Federal Compulsory Medical Insurance Fund (and also

[15] *Ob utverzhdenii Kontseptsii demograficheskoy politiki Rossiyskoy Federatsii na period do 2025 goda: Ukaz Prezidenta Rossiyskoy Federatsii ot 09.10.2007 g. №1351* [Decree of the President of the Russian Federation "On the Approval of the Concept for Demographic Policy of the Russian Federation for the Period up to 2025" No.1351 of October 9, 2007]. Available at: http://document.kremlin.ru/doc.asp?ID=041941 (accessed June 20, 2013).

by regional budgets and regional health insurance funds). Each region works out these programs on its own in accordance with the guidelines that are determined by the Ministry of Health and that will receive federal funding: improvement of facilities and infrastructure, introduction of modern information systems and uniform standards of medical care.

The first guideline is aimed at aligning the regional health care systems and creating conditions for the introduction of standards. The purpose of informatization is to improve the quality and availability of medical services and the transparency of funding. The third component (introduction of standards) consists in defining the set of medical services that should be provided for treating a certain illness. The cost of the standard (it is assumed there will be 1190 standards all in all) includes everything: medicines, consumables, salaries of medical staff, patients' nutrition[16]. When developing the programs, regional authorities themselves determined which medical institutions were in a greater need of funding, and which are ready for the introduction of the standards, etc. The programs were approved in 2011 in each Russian region and were to have been implemented before the end of 2012; however, they have been extended for the current year.

So, what are the results of these activities? First, it is necessary to point out the duration of the period of decline in mortality observed in Russia for nine years already, i.e. it is quite stable (we have already noted small deviations of 2005 and 2010). In other words, now it cannot be assessed as a short reduction of compensatory type occurring after several years of supermortality, leading to the "improvement of the population's health"; in this way it is possible to estimate, for example, the reduction in mortality among Russia's population in the 1995–1998 period.

Secondly, we should point out the achieved level of life expectancy. As is known, the maximum life expectancy of Russia's population was recorded in the mid-1960s and late 1980s. In the mid-1960s life expectancy in men reached 64.6 years (in 1964–1965) and 73.54 years in women (in 1967–1968); after that the stagnation and decline in its value have been observed for almost two decades. As for the life expectancy indicators of 1986–1987 that were 70.13 years for the entire population 64.91 years in men and 74.55 years in women[17], are the highest for the entire history of Russia. In 2011, after eight years of reduction in mortality, life expectancy for both sexes, which amounted to 69.8 years (64 years in men and 75.6 years in women) [18], almost reached the record level of 1986–1989.

At that, the maximum value in women was exceeded in 2009; and the value of the indicator in men has not reached even the maximum of the mid-1960s. However, as we can see, in 2011 we have almost reached the level that is to be achieved by 2015 according to the "Concept for demographic policy up to 2025".

The third result is the achieved rate of decline in mortality by causes. In general for 2003–2011 there has been the most significant decrease in mortality rates from external causes (accidents, poisoning, traumas, homicide, suicide): by 40.5% in men, by 38.9% in women[19]. It is followed by the reduction of

[16] Belousov A. Reanimatsiya bespolezna [Resuscitation Is Useless]. *Ekspert-Ural* [Expert-Ural], no.28–31(519), July 16 – August 12. Available at: http://expert.ru/ural/2012/31/reanimatsiya-bespolezna/ (accessed June 20, 2013).

[17] *Demograficheskiy ezhegodnik Rossiyskoy Federatsii. 1993: stat. sb.* [Demographic Yearbook of the Russian Federation. 1993: Statistical Digest]. Moscow, 1994.

[18] *Rossiyskiy statisticheskiy ezhegodnik – 2012 g.* [Russian Statistical Yearbook – 2012]. Available at: http://www.gks.ru/bgd/regl/b12_13/Main.htm (accessed June 20, 2013).

[19] *Sayt Federal'noy sluzhby gosudarstvennoy statistiki* [Federal State Statistics Service Website]. Available at: http://www.gks.ru/wps/wcm/connect/rosstat_main/rosstat/ru/statistics/population/demography/# (accessed June 20, 2013).

mortality from respiratory diseases, which ranks second. The mortality from this group of causes declined by 27.9% in men, and by 21.6% in women. Diseases of the circulatory system occupy the third place in men (reduction by 19.4%). Mortality from certain infectious and parasitic diseases decreased a bit more significantly in women (by 19.1%), while the decline in mortality from circulatory diseases was 18.3%. The reduction in mortality from infectious and parasitic diseases in men (15.6%) is on the fourth place.

If we look at the period when the government initiatives aimed at reducing mortality have already been put into action, we will see that in 2006–2011 mortality from circulatory diseases ranks second by the rates of decline after the mortality from external causes. And in 2011, when Russia launched regional programs for modernization of health care, the rate of decline in mortality from cardiovascular diseases and external causes are already comparable: 6.3% and 8.2%, respectively, in men; 6.9% and 8% in women.

Fourth, the insufficient growth in life expectancy in the regions with a significant share of deaths from external causes indicates that the reduction in mortality of Russia's population in the 2000s depends to a great extent on the activities related to the modernization of health care. We consider it as a hypothesis in the case of the Republic of Komi. In the 1994–1998 period, when the country was experiencing a decrease in mortality of compensatory type, the life expectancy of the Komi Republic population came very close to that of Russia as a whole: the difference reduced from three years to nearly zero. In the 2000s, under a more prolonged period of decline in mortality, the difference between the life expectancy in the Komi Republic and that in Russia in general was still about two years.

In conclusion, we would like to point out that in 2012 as a result of counter trends in fertility and mortality, the number of births in Russia as a whole almost matched the number of deaths: the ratio of the number of deaths to the number of births amounted to 100.1%, it was 107.3% in 2011[20]. Life expectancy in Russia has virtually reached 70 years. But this is only half the battle: this figure in Russia was registered a quarter of a century ago, and this is almost 10 years later than in the EU countries. It is necessary to carry out more comprehensive activities connected with health care modernization: the acceleration of Russia's population ageing makes this issue very acute. In addition, Russia still has a very large potential for increasing life expectancy, associated with the population's adverse way of life. And the nature of the problem is not medical but social. The current level of fertility places Russia on the brink of another structural reduction. In these circumstances, the priority should be placed on the task of enhancing the reproductive attitudes of small generations born in the 1990s and the degree of their implementation, i.e. the task of focusing the demographic policy measures on these generations.

References

1. Bodrova V. Skol'ko detey khotyat imet' rossiyane? [How Many Children Do the Russians Want to Have?]. *Demoskop Weekly* [Demoscope Weekly], no.81–82, September 23 – October 6, 2002. Available at: http://demoscope.ru/weekly/2002/081/tema01.php (accessed June 20, 2013).
2. *Demograficheskiy ezhegodnik Rossiyskoy Federatsii. 1993: stat. sb.* [Demographic Yearbook of the Russian Federation. 1993: Statistical Digest]. Moscow, 1994.

[20] *Demoskop Weekly №543–544, 18 fevralya – 3 marta 2013 g.* [Demoscope Weekly, no.543–544, February 18 – March 3, 2013]. Available at: http://demoscope.ru/weekly/2013/0543/barom01.php. (accessed June 20, 2013).

3. *Demoskop Weekly №543–544, 18 fevralya – 3 marta 2013 g.* [Demoscope Weekly, no.543–544, February 18 – March 3, 2013]. Available at: http://demoscope.ru/weekly/2013/0543/barom01.php. (accessed June 20, 2013).
4. Zakharov S. Kakoy budet rozhdaemost' v Rossii [What the Birth Rate in Russia Will Be]. *Demoskop Weekly* [Demoscope Weekly], no. 495–496, January 23 –February 5, 2012. Available at: http://demoscope.ru/weekly/2012/0495/tema01.php (accessed June 20, 2013).
5. *Kratkie itogi vyborochnogo obsledovaniya "Sem'ya i rozhdaemost'"* [Brief Results of the Sample Survey "Family and Fertility"]. Available at: http://www.gks.ru/free_doc/2010/family.htm (accessed June 20, 2013).
6. Ob aktakh grazhdanskogo sostoyaniya: Federal'nyy zakon №143 ot 15 noyabrya 1997 g. [Federal Law "On Civil Status Acts" No.143 of November 15, 1997]. *Rossiyskaya gazeta* [The Russian Newspaper], 1997, no.224, November 20.
7. Ob obespechenii posobiyami po vremennoy netrudosposobnosti, po beremennosti i rodam grazhdan, podlezhashchikh obyazatel'nomu sotsial'nomu strakhovaniyu: Federal'nyy zakon ot 29 dekabrya 2006 g. №255 [Federal Law "On the Provision of Temporary Disability Allowances, Maternity Allowances to the Citizens Subject to Compulsory Social Insurance" No.255-FL of December 29, 2006]. *Rossiyskaya gazeta* [The Russian Newspaper], 2006, no.279, December 12.
8. *Ob utverzhdenii Kontseptsii demograficheskoy politiki Rossiyskoy Federatsii na period do 2025 goda: Ukaz Prezidenta Rossiyskoy Federatsii ot 09.10.2007 g. №1351* [Decree of the President of the Russian Federation "On the Approval of the Concept for Demographic Policy of the Russian Federation for the Period up to 2025" No.1351 of October 9, 2007]. Available at: http://document.kremlin.ru/doc.asp?ID=041941 (accessed June 20, 2013).
9. O vnesenii izmeneniy v otdel'nye zakonodatel'nye akty Rossiyskoy Federatsii v chasti gosudarstvennoy podderzhki grazhdan, imeyushchikh detey: Federal'nyy zakon ot 5 dekabrya 2006 g. №207 [Federal Law "On the Introduction of Amendments to Certain Legislative Acts of the Russian Federation on the Provision of State Support to the Citizens with Children" No.207-FL of December 5, 2006]. *Rossiyskaya gazeta* [The Russian Newspaper], 2006, no.279, December 12.
10. O dopolnitel'nykh merakh sotsial'noy podderzhki semey, imeyushchikh detey, na territorii Respubliki Komi: Zakon Respubliki Komi ot 29.04.2011 g. №45 [Law of the Republic of Komi "On Additional Measures of Providing Social Support to Families with Children, on the Territory of the Republic of Komi" No.45 of April 29, 2011]. *Respublika* [Republic], 2011, no.98, May 12.
11. O dopolnitel'nykh merakh gosudarstvennoy podderzhki semey, imeyushchikh detey: Federal'nyy zakon №256 [Federal Law "On Additional Measures of State Support to Families with Children" No.256-FL of December 29, 2006]. *Rossiyskaya gazeta* [The Russian Newspaper], 2006, no.279, December 12.
12. Popova L.A., Butrim N.A. Sovremennye standarty reproduktivnogo povedeniya naseleniya i zadachi prosemeynoy demograficheskoy politiki [Modern Standards of Reproductive Behavior of the Population and the Objectives of Pro-Family Population Policy]. *Ekonomicheskie i sotsial'nye peremeny: fakty, tendentsii, prognoz* [Economic and Social Changes: Facts, Trends, Forecast], 2011, no.2(14), pp. 73-85.
13. *Rossiyskiy statisticheskiy ezhegodnik – 2012 g.* [Russian Statistical Yearbook – 2012]. Available at: http://www.gks.ru/bgd/regl/b12_13/Main.htm (accessed June 20, 2013).
14. *Sayt Federal'noy sluzhby gosudarstvennoy statistiki* [Federal State Statistics Service Website]. Available at: http://www.gks.ru/wps/wcm/connect/rosstat_main/rosstat/ru/statistics/population/demography/# (accessed June 20, 2013).
15. Belousov A. Reanimatsiya bespolezna [Resuscitation Is Useless]. *Ekspert-Ural* [Expert-Ural], no.28–31(519), July 16 – August 12. Available at: http://expert.ru/ural/2012/31/reanimatsiya-bespolezna/ (accessed June 20, 2013).

UDC 330.59, LBC 60.526.1

About middle class theory: history and modern times

Boris Vasil'evich
KOVRIGIN
Doctor of Philosophy, Professor of the Philosophy Faculty, Federal State-Financed Educational Institution of Higher Professional Education the Vologda State Pedagogical University (6, Orlov Street, Vologda, 160000, Russia, Kovriginbv@rambler.ru)

Tat'yana Ivanovna
SINITSYNA
Ph.D.in Philosophy, Associate Professor of the Faculty of Philosophy and Socio-Economic Disciplines, North-Western Institute (branch) of the Federal State-Financed Educational Institution of Higher Professional Education O.Ye. Kutafin Moscow State Law University (MSLU) (32, Mira Street, Vologda, 160000, Russia, tisinicina@yandex.ru)

Abstract. The article analyses the problem of the middle class that had been denoted in the works of Aristotle as far back as in ancient society and that was of interest to social thinkers during the Renaissance and Modern Age periods. At present this issue has been actively discussed both in foreign and in the Russian press. The authors of the article show the reasons for frequent contradictions between the assessments concerning the size of the middle class in Russian society (including the Vologda Oblast) and the prospect for the increase in the share of middle stratum.

Keywords: Middle class, stratification, modernization, differentiation, status, self-identification, standard of living, estrangement.

The problems frequently associated with uncertainty and all sorts of risks, including the project risk of disaster scenarios based on actual events, arise at the modern stage of society development. The nonlinear properties of the environment, increasing the complexity of event space and resulting in the higher realization probability of even improbable events that is characteristic of nonlinear systems, have been displayed to an increasing degree.

Modern public life actualizes the issue of social development modernization. Most countries have to develop their national resource, to improve the ability to social transformations, to be able to protect their interests, competitiveness in the world economy

and to adequately respond to the challenges of nature, technogenic and sociogenic threats. In this difficult situation it is necessary to determine correctly the driving forces of social modernization. According to modern researchers, "the main and direct factor changing everyday social practices" [5, p. 4] is the activities of not so much the elite and the upper stratum, but of secondary, basic and lower strata underlying the bulk of society. Bridging the gap between the rich and the poor, increasing the number of the middle class also contributes to the sustainability of public development, overcoming of alienation between people.

Modern opinion about the role of the middle class in social development is based on the ideas formulated in the antiquity. The theme of the middle class was clearly defined in Aristotle's "Politics". Having analyzed the existing form of government, the philosopher gave preference to polity as a mixed form of government. "The types of state structure that deviate more towards oligarchy, are called aristocracies, and those that tend in the direction of democracy – polities" [1, p. 540].

Aristotle argued that moderation and the mean is the best of all good things, so it is best to have average income. He based this conclusion on the idea that having average income, it is easier to obey reason, to believe in equality and equal rights as "state, comprising the middle people, will have the best political system. If one owns too many, while the other has nothing, there is either extreme democracy, or oligarchy, or pure tyranny" [ibid., p. 507]. Thus, Aristotle directly linked the sustainabi-lity of the state with the presence and predominance of the middle class.

The middle class is the best, since under its living conditions it is willing to follow reasonable statute, law and justice to a greater extent, while the rich and the poor are not inclined to follow these principles.

Almost two thousand years later, the Renaissance thinker Niccolo Machiavelli expressed similar thoughts in his main work "The Prince". Recognizing the presence of the rich and the poor in the state, he considered it pointless to trust the governance to neither.

The philosophers of later period (T. Hobbes, D. Locke, J.-J. Rousseau) quite clearly realized the existence of social classes and strata, not equal in its essence, which entailed various types of social cataclysms and problems. Systematic theoretical base has not yet been formulated; however, the preconditions for developing the theory of classes and stratification were already established. Subsequently, the ideas of classes, social inequality and class struggle were analyzed and set forth by historians, economists and philosophers of the 18th – early 19th century (A. Smith, E. Condillac, K. Saint-Simon, F. Guizot, A. Mignet, etc.). K. Marx founded his theory of classes mainly upon these works.

The idea of the middle class becomes the most common in the Western sociology in the second half of the 20th century. As a result of the development of research-and-technological revolution, the diffusion of ownership in the course of the reforms in the USA and other advanced capitalist countries, the share of the poor has been decreasing. Comparable income level becomes characteristic of the bulk of the population.

Modern social studies serve as the basis for the conclusion that the middle class becomes a mass phenomenon in the period of society transition to the industrial, and, particularly, to the post-industrial stage of development. "The development of technologies and the tertiary sector of the economy, as well as a special type of state ("social state" and "Welfare State") contributed to its expansion and formation" [8, p. 26].

Another emerging trend of modern society development is connected with the increasing differentiation among the middle class. As a result, the research focus is shifted on separate constituent groups. The attention of researchers focuses on the "new" middle class, at first,

then on the "professionals" –the owners of the unique human capital, and in recent years on the so-called "information workers". Since 1980s, the middle class is considered as "the totality of qualitatively different social groups" [ibid], making a stabilizing impact on the society.

Meanwhile, there is an alternative point of view, the main idea of which is that "the middle class is a new (for us) social myth" [7, p. 16]. In the view of the concept representatives, the middle class is "a very complicated mythologem" associated with the transference to the Russian reality of external value-conscious images of its potential future, formed by overseeing someone else's future" [ibid., p. 17].

Multivariate stratification, proposed by M. Weber, P. A. Sorokin and other sociologists is regarded as the most adequate criteria for identifying classes, layers, and strata. Thus, M. Weber considered power, property and prestige as three interacting factors which, in his opinion, underlie the hierarchical structure of any society. According to him, the possession of power, i.e. the possibility of influencing others, runs through all spheres of social life. Property differences generate economic classes; in turn, the economic situation gives an opportunity of (or prevents from) disposing of the goods and the skills for the purpose of income generation within a particular economic system. Differences in attitudes to the authorities give rise to large groups of people, referred to as the parties, and the prestigious differences form groups of people by status [3].

Recognizing the heterogeneity of the phenomenon of "middle class" modern researchers suggest applying the method of cluster analysis of the society and its major groups. The variables that characterize the economic resource, including the income from own business, property; power resource – the ability to affect the decision-making within a specific social organization; qualification resource – level of education, qualifications, commitment to its improvement; cultural resource as a characteristic of the primary socialization environment, are introduced to identify the main groups within the middle class.

In Russia the problems of the middle class are mainly studied by the sociologists and economists (T.I. Zaslavskaya, A.G. Zdravomyslov, V.V. Radaev, O.I.Shkaratan, N.Ye. Tikhonova, S.V. Goryunova, A.A. Shabu-nova, etc.). The same criteria for the middle class as in the West are applied in modern Russian society, such as: a) medium (for a certain country) level of welfare and permanent income sources; b) high level of education and professional qualification; c) high level of mobility (including within the middle class); d) desire for social stability (the mentality of this social stratum assumes reformism, individualism, support of the existing regime) [see, for example, 6].

According to T.I. Zaslavskaya, the middle class can be rightfully interpreted as performing an interactive function of "social mediator", because of its intermediate position between the upper and lower strata of society; serving as a social stabilizer, due to the relatively high level of material security; acting as the main agent of technological and socioeconomic progress, due to high intellectual qualifications; carrying public interests and national culture [5, p. 4]. That is what makes the middle class relatively self-sufficient and independent part of the population, which is a sort of "buffer" between the two main poles of the poorest and the richest social strata. Therefore, the thinner the middle stratum, the more likely the confrontation between these two antagonistic groups.

The development of industry, science, education and services contributes to the increasing quantity and quality of the middle class. In industrialized countries the middle class comprises, as a rule, the majority of the population (60 to 70%).

The role of the middle class is that it acts as the main social base of civil society, is an opponent of the big bourgeoisie, high officials

and extremely hostile part of the lowest social strata. In addition, the middle class is the main co-component of productive social forces, capable of working hard, acquiring new skills, being creative, raising a new generation, etc.

The middle class is interested in maintaining the social system, which will provide (create) conditions for successful development. The extreme social strata (the excessively rich and the poor) rightly belong to instability factors.

The monitoring, conducted in 2010 in order to create the strategy of the regions' modernization, makes it possible to describe the state of the social structure of the Russian adult population and separate regions, social wellbeing and the attitude of the population to public institutions, to assess the living stan-dards of different social groups and to highlight some of the general and regional problems facing the country that is trying to carry out modernization.

In accordance with the standard UN methodology, the middle class is distinguished on the basis of several criteria: level of education, financial status and identity.

The statistical data along with the population opinion about their living standards lead to the conclusion that "the number of the poor in the first decade of the 21st century stabilized at the level of one-third of the country's adult population, and along with those, who consider themselves needy, the number makes up 50%" [2, p. 9-10]. These monitoring data are comparable with the results of the European social survey, according to which in 2010, 55% of Russians believed it was difficult or very difficult to live on the income they earn. The "excessive stratification" of citizens by living standards was officially recorded: 10% of the best-to-do Russians get income that is 15-17 times higher than the income of the poorest 10% (according to Rosstat). V.V. Putin, in one of his preelection articles in 2012 subsumed 20-25% of the Russian population to the middle class.

Analysis of the population assessments with regard to their financial situation, held in the Vologda Oblast, showed that 9% of residents fell under the group of "the wealthy" and "the rich" in 2010. For the 2008–2009 crisis period the population share of the lowest strata increased in the region –"the needy" and "the indigent" (from 29% to 33%) and "the needy" (from 22%to 26%). Thus, the share of the "well-to-do" accounted for about 32%. A sharp decrease in the social status was observed in 15% of the region's population [9, p. 21].

Head of Rosgosstrakh Centre of Strategic Studies A. Zubets gives the following middle class financial criteria: lower threshold starts at 50 thousand dollars per year, or 46.3 thousand rubles per family member (of 3 people) per month, almost twice the average annual salary in Russia; upper limit – 300 thousand dollars a year for a family, or 277.8 thousand rubles per family member per month [newspaper "Trud", August 2, 2013].

The level of average monthly wages, according to Rosstat data, for the last year (from July, 2012 to July, 2013) indicates the insufficient role of the education factor when defining the middle class: doctors – 38.7 thousand rubles; teachers – 28.9 thousand rubles; kindergarten teachers, cultural workers and social workers – 22.2, 17.9 and 13.2 thousand rubles, respectively [newspaper "Arguments and Facts", No. 333, August 28 – September 3, 2013]. The salaries of University professors with scientific degrees and titles differ just a little from the salaries of doctors and teachers.

However, the subjective assessments of the financial status of a considerable part of the Russians are over estimated (not by income, but by "feeling"). According to "Philosophical encyclopedia", 80% of the Russians (2000) considered themselves well-to-do [6], indicating that the citizens are willing to embellish their situation, to raise a bit their social status.

According to the authors, the considerable discrepancies in assessing the size of the middle class are due to the fact that: a) in some cases, only the income of the family head is taken into

account, while in most of the studies (which is right) the total family income is evenly divided by the number of all family members; b) pensioners constitute about 30% of the population and their allowances amount to 38% of the average gross payroll (according to the 2013 data), so 22% of Russians, living on welfare, have to work; c) the number of mid-dle class in Russia fells heavily at least twice: during default in 1998, and in the 2008–2009 period of crisis.

The peculiarity of the real social strata, defined as the middle class, is that it is an open, complex, unbalanced system, comprising various public groups, experiencing pressure and lower layers and large owners of various administrative structures. One component of this system is the cognitariat – "highly educated employees in the sphere of business, science, culture and other areas of human activities, based on special knowledge and information and applying information technologies" [4, p. 4].

The cognitariat can be identified as creative, intellectual component of the middle class, which forms and can become the core of the middle class in the post-industrial society, to express the interests of the mentally developed representatives of intellectual and manual workers. It has special movable communications to joint and fight for its own interests – social networks.

The representative of the cognitariat is not a "one dimensional man" of consumer society (H. Marcuse), his actions cannot be strictly predicted. Even small, scientifically unreasonable actions of the authorities or of capital may lead to a sharp structuring of social layer, denoted as "middle class" that is still loose. Openness, nonlinearity of the dynamic system of the modern middle class can lead to the formation of special critical states of society, bifurcation points, beyond which it is difficult to predict the direction and nature of social changes.

All in all, the majority of domestic researchers agree that the middle class is just being formed in Russia, but in the near future it has the prospect of extending at least up to 35-40% of the active population. But only having reached the 60-70% level, it can become the basis of social stability, as its representatives will have something to lose, they will be interested not in unrest and cataclysms, but in the peaceful, sustainable development of the state, and society as a whole.

References

1. Aristotle. *Politika: soch.: v 4-kh t.* [Politics: Complete Works: in 4 Volumes]. Moscow, 1983.
2. Belyaeva L.A. Sotsiokul'turnye aspekty modernizatsii regionov [Socio-Cultural Aspects of Regions' Modernization]. *Filosofskie naukii* [Philosophical Sciences], 2012, no.7.
3. Weber M. Osnovnye ponyatiya stratifikatsii [Basic Concepts of Stratification]. *Sotsiologicheskie issledovaniya* [Sociological Studies], 1994, no.5.
4. Vil'khovchenko E.D. *"Lyudi znaniya" – novaya rabochaya sila pozdnekapitalisticheskikh obshchestv i ee mesto v tsivilizatsionnykh protsessakh* ["People of Knowledge" – New Workforce of Late-Capitalist Societies and Its Role in Civilization Processes]. Moscow: IMEMO RAN, 2010.
5. Zaslavskaya T.I., Yadov V.A. Sotsial'nye transformatsii v Rossii [Social Transformations in Russia]. *Sotsiologicheskiy zhurnal* [Sociological Journal], 2008, no.4.
6. Zdravomyslov A.G. Sredniy klass [Middle Class]. *Novaya filosofskaya entsiklopediya* [New Encyclopedia of Philosophy]. Moscow, 2000.
7. Avraamova E.M. et al. *Srednie klassy v Rossii: ekonomicheskie i sotsial'nye strategii* [Middle Classes in Russia: Economic and Social Strategies]. Ed. by T. Maleeva; Carnegie Moscow Centre. Moscow: Gondal'f, 2003.
8. Tikhonova N.E., Mareeva S.E. *Sredniy klass: teoriya i real'nost'* [Middle Class: Theory and Reality]. Moscow: Al'fa, 2009.
9. Shabunova A.A., Lastochkina M.A. Cherez krizis k modernizatsii [Through Crisis to Modernization]. *Filosofskie nauki* [Philosophical Sciences], 2012, no.7.

UDC 336.143(470.12), LBC 65.261.32-18(2Rus-4Vol)

Budgetary prospects in the region in 2014–2016: implementation of the President's social decrees or avoidance of default risks?

Mariya Aleksandrovna PECHENSKAYA
Junior Research Associate, Federal State-Financed Scientific Institution the Institute of Socio-Economic Development of Territories of the Russian Academy of Sciences (56A, Gorky Sreet, Vologda, Russia, 160014, marileen@bk.ru)

Abstract. According to the Budget Code the budget process in the Russian Federation includes the following stages: drafting of a budget project; consideration and approval of the budget; budget execution; preparation of a report on the budget execution and its approval. The given stages are carried out in a strict sequence and are closely interlinked. The approved budget is in force during the budget period, which in the Russian Federation lasts 12 months from January 1 to December 31. The budget is adopted for the medium-term period of three years. On December 11, 2013 the Vologda Oblast Legislative Assembly members adopted the oblast budget for 2014 and for the planned period of 2015 and 2016 in the final reading. According to the Chairman of the Budget and Taxation Committee of the Vologda Oblast Legislative Assembly A.V. Kanaev, the project of the oblast budget is drafted in difficult economic conditions due to a negative impact of a significant public debt, a need to implement the May Decrees of the President and provision of local budgets balance. The article analyses the Vologda Oblast budget prospects for a three-year period. It is indicated that the regional budget for the upcoming budget cycle differs from the budgets of the previous years, since it is set in the program structure of expenses on the basis of 21 state programs approved by the Oblast Government. Budget execution is to reveal advantages and disadvantages of this innovation. The article states that the most significant risk for the regional budget system is a 2014 expected excess of the threshold limit of the state debt by 2% regarding to their own revenues volume. All the described above is to happen against the background of tensed inter-budgetary relations with the Federal Centre, caused by the decrease in revenue (in relation to gross domestic product) and the federal budget deficit rise. The article singles out key qualitative and quantitative properties of the budget cycle, which the region has entered since 2014. The complex of measures to increase the regional budget revenue base is suggested. It is calculated that the proposed measures implementation is to attract 9.5–13.6 billion rubles a year in the budget system of the Vologda Oblast. Such an increase in the own revenues of the budget is to cover 44% of social overhead costs.

Key words: regional budget, inter-budgetary fiscal relations, regional debt, Presidential Decrees, deficit, transfers, programme budget.

Government regulation carried out within the state economic policy plays the leading role in formation and development of the economic structure of any modern society. One of the most important mechanisms of economic and social regulation is a financial mechanism in the financial system. Its main element is a state budget, with the help of which the state sets up centralized monetary funds and affects formation of decentralized funds, thus providing the opportunity to perform the functions assigned to the state bodies. The certain budget impact on the territory's development is determined by the fact that the budget is the largest monetary fund, allocations of which crucially influence development directions and economic sustainability.

Recently there has been a regionalization of economic processes, developing in the transfer of the federal regulatory functions to the territorial level. This fact testifies expanding the use of regional budgets and strengthening their significance. The regional budget is an intermediate level of the budgetary system. Therefore, on the one hand, it has independent sources of revenues and areas of spending, and, on the other hand, receives financial assistance from the federal budget and allocates it to local budgets.

In accordance with the Budget Code of the Russian Federation, one of the principles of the budgetary system is budget independence which can be ensured only if the territory has its own revenue sources and the right to determine the direction of their usage and spending. That is why the budgeting issue and the budget process management on a regional level are very relevant.

For the last years the consolidated budgets of Russian regions have been forming under conditions of the crisis and post crisis consequences. In this regard, the provision of financial stability and a stable budget income base, enhancement and expansion of tax potential, optimization of budget expenditures are key tasks for the regional authorities.

To ensure the sustainability of the Vologda Oblast budget system in 2014–2016 the regional budget is based on the conservative scenario of socio-economic development. However, it promises a deceleration of economic growth under conditions of stagnating industrial production, weak growth in the population's cash income, and consequently, consumer demand, as well as decline in investment activity (*tab. 1*).

This economic base is not able to boost the budget's own revenues noticeably, that's why again the upcoming budget cycle expects deficit budget execution which is forecasted to drop by 2.3 times for 3 years and make 3.6% to the amount of own incomes (*tab.2*).

And although the predictive values of total and own revenues in current prices are to exceed the pre-crisis level, it can be noted that it will not be possible to reach the pre-crisis level (40.8 billion rubles in 2016 against 55.9 billion rubles in 2008; *fig. 1*) with current inflation.

It should be noted that on the basis of the new regional budget the income tax will not be able to regain leadership in the tax revenues structure (only 16% in 2014 against 60.5% in 2008). Moreover, the Oblast Government forecasts zero revenues of income tax from the enterprises of metallurgy and an agrochemical holding. On this background the value of individual income tax (38.5% of their revenues) and a property tax (26% of own revenues) rises. However there expected a slowdown of growth rates of individual income tax from 15.4% in 2014 to 9.9% in 2016 (against 20–26% in the pre-crisis period; *tab. 3*).

Due to the reasons stated above the backlog of the Vologda Oblast in the level of wages in comparison with the country in general is to increase from 5 thousand rubles in 2013 to 8.7 thousand rubles in 2016 (*tab. 4*).

Table 1. Key macroeconomic indicators for budgeting of the Vologda Oblast in 2014–2016

Key indicator	Fact					2013, estimate	Forecast		
	2008	2009	2010	2011	2012		2014	2015	2016
GRP*	6.7	87.1	105.7	05.8	102.0	100.0*	102.7	102.0	103.5
Industrial production index*	95.3	90.5	111.1	104.8	100.5	101.5	102.2	102.8	102.0
Permanent investment*	85.9	71.5	96.9	153.4	120.3	61.3	104.6	69.3	119.8
Retail trade turnover*	108.5	89.4	116.3	106.0	119.7	103.5	104.8	105.5	105.0
Real income of the population, % to the previous year	98.7	90.4	108.6	100.2	111.0	107.6	102.4	102.4	104.4
Consumer price index, December to December, %	114.3	107.2	109.2	105.7	106.0	106.0**	104.5–105.5**	104.0–105.0**	104.0–105.0**

* In comparable prices, % to the previous year.
** According to the forecast of Ministry of Economic Development of the Russian Federation.

Table 2. Key indicators of the Vologda Oblast budget

Indicators	Fact					2013, estimate	Forecast		
	2008	2009	2010	2011	2012		2014	2015	2016
Revenues, total, bln. rubles	**39.5**	**31.2**	**36.1**	**39.3**	**42.4**	**41.2**	**40.9**	**41.8**	**45.1**
In % to the previous year	*125.5*	*79.0*	*115.7*	*108.9*	*107.9*	*97.2*	*99.3*	*102.2*	*107.9*
Including tax and non-tax (own) revenue, bln. rubles	34.4	19.0	25.8	28.8	31.5	33.6	33.5	37.4	40.8
In % to the previous year	*128.9*	*55.2*	*135.8*	*111.6*	*109.4*	*106.7*	*99.7*	*111.6*	*109.1*
Expenses, total. bln. rubles	**39.1**	**37.7**	**43.1**	**46.5**	**45.2**	**44.7**	**44.1**	**43.9**	**46.6**
In % to the previous year	*121.0*	*96.4*	*114.3*	*107.9*	*97.2*	*98.9*	*98.7*	*99.5*	*106.2*
Deficit (-), surplus (+), bln. rubles	**+0.4**	**-6.5**	**-7.0**	**-7.2**	**-2.8**	**-3.5**	**-3.2**	**-2.0**	**-1.5**
In % to the own income	*1.2*	*-34.2*	*-27.1*	*-25.0*	*-8.9*	*-10.4*	*-9.6*	*-5.4*	*-3.6*

Figure 1. Tax and non-tax revenues of the oblast budget in real terms, in 2016 prices, billion rubles

Table 3. Dynamics of profit and payroll in the Vologda Oblast in 2012–2016

Indicators	2012, fact	2013, estimate	Forecast		
			2014	2015	2016
Profit of enterprises, bln. rubles	66.8	17.8	17.3	18.9	19.9
Profit tax, bln. rubles	10.9	8.9	5.4	5.7	6.1
Growth rate, %	*-9.2*	*-18.3*	*-39.9*	*7.1*	*6.2*
Payroll, bln. rubles	116.1	126.4	137.8	150.7	164.4
Individual income tax, bln. rubles	9.7	11.2	12.9	14.5	15.9
Growth rate, %	*10.2*	*15.5*	*15.4*	*11.9*	*9.9*

Source: report of T.V. Goligina "On basic directions of budgetary and tax policy, on transition to the formation of the program based regional budget and approaches to the drafting of key characteristics of the regional consolidated budget for 2014 and for the planned period of 2015–2016". Official site of the Department of Finance of the Vologda Oblast.

Table 4. Dynamics of average nominal accrued wages

	Fact					2013, estimate	Forecast		
	2008	2009	2010	2011	2012		2014	2015	2016
Vologda Oblast	16.1	16.6	18.5	20.7	22.6	24.9	27.1	29.6	32.5
Russian Federation	17.3	18.6	21.0	23.4	26.8	29.9	33.1	36.9	41.2
The gap in the level of average wages between the Vologda Oblast and the Russian Federation									
Thousand rubles	-1.2	-2.0	-2.5	-2.7	-4.2	-5.0	-6.0	-7.3	-8.7
%	-6.9	-10.8	-11.9	-11.5	-15.7	-16.7	-18.1	-19.8	-21.1

Sources: data of the Federal State Statistics Service; forecast of socio-economic development of the Russian Federation and the Vologda Oblast for 2014–2016.

Table 5. Provision of the population with own budgetary revenues

	Fact					2013, estimate	Forecast		
	2008	2009	2010	2011	2012		2014	2015	2016
Vologda Oblast, thousand rubles	37.5	22.9	29.9	33.5	36.5	39.7	38.5	42.1	45.8
Russian Federation, thousand rubles	34.6	29.9	34.8	40.8	36.2	47.1	52.5	56.9	62.8
The gap in the level of budget sufficiency between the Vologda Oblast and the Russian Federation									
Thousand rubles	+2.9	-7.0	-4.9	-7.3	+0.3	-7.4	-14.0	-14.8	-17.0
%	108.4	76.6	85.9	82.1	100.8	84.2	73.4	74.0	73.0
Subsidies for equalization of budget sufficiency, million rubles	0	0	0	737.9	1332.5	1619.4	1542.0	839.6	918.5

Sources: data of the Treasury of Russia; Rosstat; draft federal budget and regional budget of the Vologda Oblast for 2014–2016; report of N.R. Artamonova "On drafting the regional budget for 2014 and for the planned period of 2015– 2016".

Provision of the population with own budgetary revenues will lag behind the average level. The gap will expand from 7.4% to 17 thousand, respectively (*tab. 5*).

On that premise it can be concluded that in the coming three years the region remains subsidized and continues relations with the federal budget, aimed at obtaining subsidies for equalization of budget sufficiency. However, in the new budget cycle the relations become more tensed due to decreased revenues of the federal budget (regarding GDP) and its deficiency (caused mostly by the shortfalls of petroleum revenue taxes and the imbalance of the pension system) (*tab. 6*). In this regard, the reduction of the amount of interbudgetary transfers to regional budgets (minus 6% in 2014 compared to 2013) is forecasted.

Table 6. Key indicators of the federal budget and the budgets of the Russian Federation subjects

Indicators	Fact		2013, estimate	Forecast		
	2011	2012		2014	2015	2016
Federal budget						
Revenue, bln. rubles	11368	12854	12866	13486	14768	15908
In % to GDP	*20.8*	*20.5*	*19.1*	*18.2*	*18.0*	*17.4*
Expenditures, bln. rubles	10926	12891	13387	13847	15236	16452
In % to GDP	*20.0*	*20.5*	*19.8*	*18.7*	*18.6*	*18.0*
Deficit/surplus, bln. rubles	442	-37	-521	-362	-468	-544
Budgets of the Russian Federation subjects						
Revenue, bln. rubles	7644	8064	8593	9332	10233	11342
In % to the previous year	*117.0*	*105.5*	*106.6*	*108.6*	*110.0*	*110.8*
Interbudgetary transfers, bln. rubles	1644	1624	1394	1309	1304	1309
In % to the previous year	*117.6*	*98.8*	*85.8*	*93.9*	*99.9*	*100.4*
Expenditures, bln. rubles	7679	8343	8787	9439	10285	11364
Deficit, bln. rubles	-35	-279	-194	-107	-52	-22

The reduction of the federal financial assistance to the Vologda Oblast and its own revenues, caused by economic recession, threatens the financing of the presidential election programs embedded in the decrees of the President dated May 7, 2012. The additional expenditure burden on the regional budget in 2014–2016 is estimated at 35.9 billion rubles with the planned increase in own revenues of 7.3 billion rubles (*tab. 7*).

Judging by the mentioned estimates, the region is able to finance 54.9% of the demand in funds necessary for the presidential decrees implementation at the expense of its own sources. The similar situation is taking place in other Russian regions that sometimes propose to simplify goals and tasks. In this regard, Russian President Vladimir Putin spoke very negatively in his Address to the Federal Assembly on December 12, 2013: "…Decrees defined concrete measures to ensure the country's dynamic development in all spheres... and urge of the Russian people to a better life". The Head of State emphasized that it is inadmissible to delay the ongoing modernization (from May 2012), which is still poorly felt by public services users. He urged regional leaders to intensify qualitative decrees execution instead of inefficient spending increasing and administrative apparatus expanding in the coming mid-term period.

Apparently the number of issues of socio-economic development, not provided with regional or federal financial assurance, will be addressed by debt growth. The debt is estimated at 32.2 billion rubles in 2013 that corresponds to 106.5% of the amount of the budget tax and non-tax revenues (*tab. 8*).

Obviously, in the coming years the Vologda Oblast Government will not be able to reduce debt load. Moreover, in 2014 it will exceed the amount of own revenues of the regional budget by 2%. In the coming period the return of previous loans can be a serious budget burden. The amount to be refunded exceeds the amount of three-year budget loans twofold (*tab. 9*).

So the projected trend jeopardizes financing of expenditure obligations, which will rise to 1.9 billion rubles. However, in comparable prices the expenditures of the regional budget in 2016 compared to 2008 will reduce by 16.9 billion or 26.6% (*fig. 2*).

Table 7. Information on the budget allocations for the Vologda Oblast in 2014 to 2016 Presidential decrees, mln. rubles

Decree		2013, estimate Demand	2014		2015		2016	
			Planned	Demand	Planned	Demand	Planned	Demand
On the long-term state economic policy		4.9	4.1	4.1	4.2	4.2	4.4	4.4
On the activities for the implementation of the state social policy		2587.6	4910.1	4171.8	6449.3	5473.7	8 760.3	7 347.1
On the improvement of state policy in health care sphere		18.9	17.1	17.1	23.7	23.7	25.3	25.3
On the measures for the implementation of state policy in the sphere of education and science		985.8	1423.2	0.0	1 333.2	46.5	1 429.3	44.3
On the measures for providing the citizens with affordable and comfortable housing and enhancing the quality of housing and communal services		1030.7	1 923.4	967.2	3 498.1	403.0	1 605.4	100.0
On the main guidelines of improving the state management system		182.9	747.7	69.3	428.2	27.1	229.4	27.0
On the measures for the implementation of demographic policy in the Russian Federation		34.1	83.7	83.7	119.4	119.4	180.2	180.2
On the national strategy for the benefit of children		1.6	517.3	5.4	673.4	7.7	861.9	10.6
On some measures on realization of demographic policy in the sphere of protection of children-orphans and children left without parental care		12.4	177.3	112.1	211.6	177.3	252.7	248.0
Total		4859.0	9803.9	5430.6	12741.2	6282.8	13348.8	7986.9
Lack of funds	%			55.4		49.3		59.8
	Mln. rubles			-4373.3		-6458.4		-5361.9
Source: an annex to the explanatory note to the Oblast draft law " On the regional budget for 2014 and the planned period of 2015–2016".								

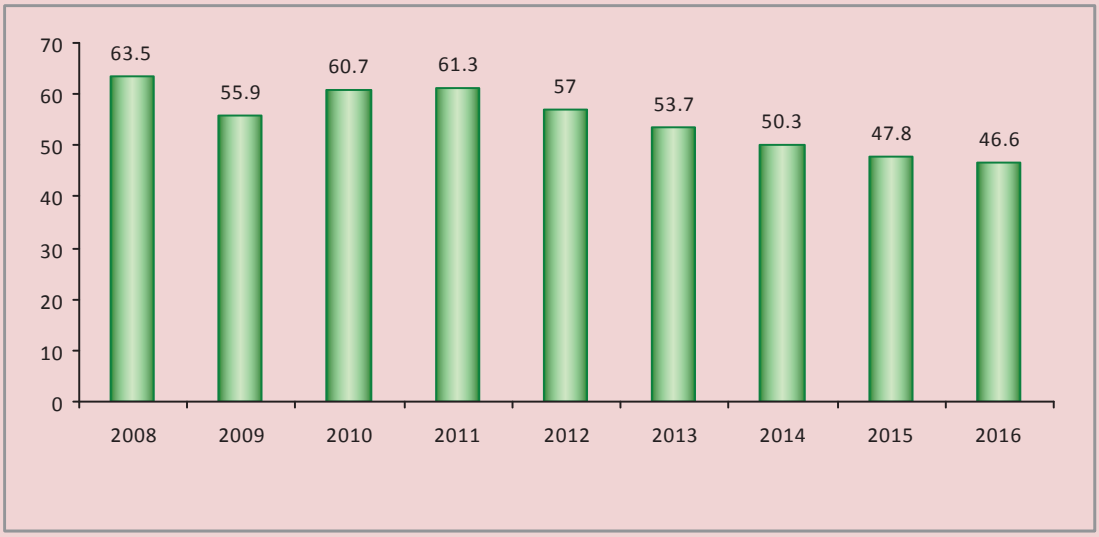
Table 8. Public debt dynamics of the Vologda Oblast

Indicator	Fact					2013, estimate	Forecast		
	2008	2009	2010	2011	2012		2014	2015	2016
Size of state debt, bln. rubles	1.8	10.4	18.5	25.8	29.2	32.2	34.2	36.2	37.7
In % to the own budget incomes	*5.1*	*54.5*	*71.6*	*89.7*	*92.6*	*106.5*	*102.0*	*97.0*	*92.3*
Growth rate, %	*3.3*	*477.8*	*77.9*	*39.5*	*13.2*	*10.3*	*8.9*	*5.8*	*4.1*

Table 9. The Vologda Oblast budget's planned repayment of loans, million rubles

Indicators	Forecast				Budget forecast for 2013–2015	Budget forecast for 2014–2016
	2014	2015	2016	2014–2016	2014–2015	
Loans, total	8290	2172	8345	18807	9655	10462
- of a commercial bank	5800	0	7465	13265	7566	5800
- of the federal budget	2490	2172	880	5542	2362	4662

Figure 2. The Vologda Oblast budget expenses in real terms, in 2016 prices, bln. rubles



The qualitative characteristic of the upcoming budget cycle is the formation of regional budget expenditures for 2014–2016 not only in a functional structure but also in a program one, based on the approved state programs. In 2013 six government programs were adopted, but in 2014 their number will increase to 21. The implementation costs amount 86.6% of total budgetary expenditures of the region in 2014, 86.3% – in 2015 and 85.2% – in 2016. In turn, the availability of 13–15% of non-program costs testifies incomplete colligation of the regional budget expenses with the purpose and objectives of the state policy to promote efficiency of public finances management.

The most significant volume of budget assignations for the next three years will be allocated to state social programs such as education development (33–34% of the expenses), social assistance (22–23%) and health development (20%). About 11% of regional expenditures will be alloted to maintenance and development of road networks of common use and provision of transport service *(fig. 3)*.

In the upcoming budget cycle the Vologda Oblast budget is to retain its social orientation (70% of the costs). The change of priorities in spending on welfare is observed. The major financing in 2014–2016 are to be allocated to an item "Education" (28–29% of expenses) which will overtake an item "Social policy" (22–23%). Health expenditure is to take third place (17–18%), while the national economy financing is to decline (from 18% in 2012–2013 to 13–14% in 2014–2016; *tab. 10*).

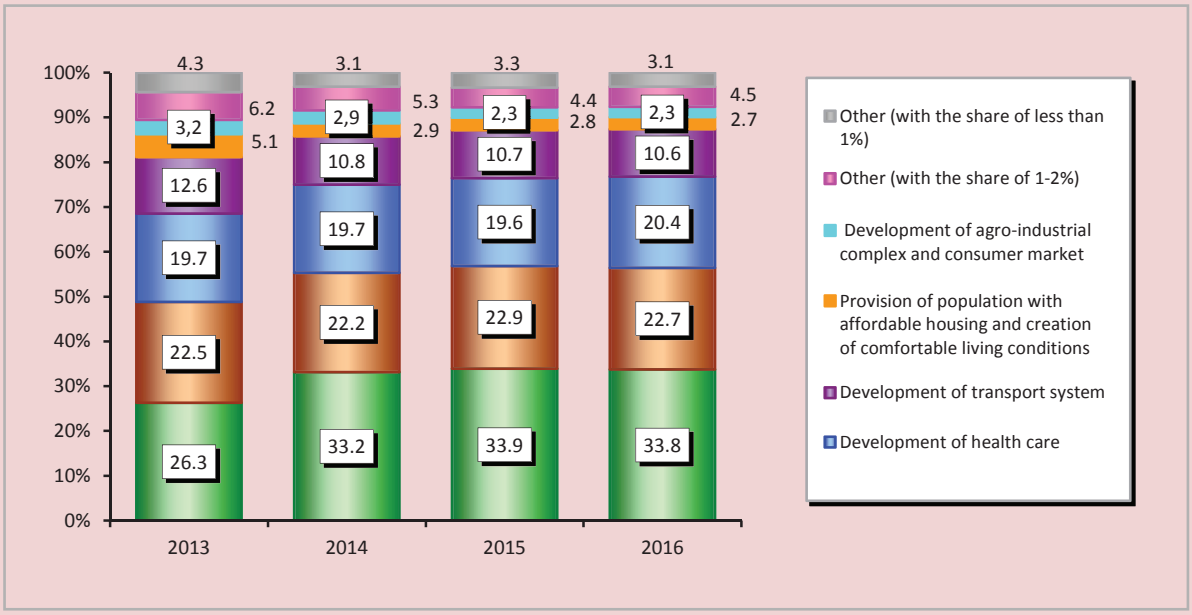
Ongoing optimization of budget expenditures will still have the strongest impact on such spheres as physical training and sport[1], housing and utilities infrastructure[2], environment protection and national economy.

Taking into account the deficiency of the budget in the coming three-year period one cannot but note the following characteristics of the expenditure part of the Oblast budget.

[1] In connection with termination of nonprofit organizations support in the sphere of physical culture and sports since 2014.

[2] In connection with decrease since 2014 and termination since 2016 of co-financing for resettlement of citizens from the failing housing stock taking into account the need to develop low-rise housing construction.

Figure 3. Structure of the Vologda Oblast budget expenditures for government programs



• Expenses for the section "National issues" are to grow in 2014 by 129.4 million rubles, or by 6.4%. The greatest growth was noted when financing the functioning of the supreme official of the RF subject (the reasons are not specified in the explanatory note which reduces the transparency of the budget planning).

• Each year the expenses on administration and governance comprise a quarter of expenditure on the national economy. For instance in 2014 21.6 million rubles or 65% from 33.3 million rubles, provided for the state program "Energy efficiency and gas infrastructure development" implementation, are to be allocated on the maintenance of the Department of Fuel and Energy Complex. Similarly almost 60% of resources allocated to the support of transport are to be used for managerial functions.

• Since 2014 financing of primary professional education establishments has stopped. They are to join secondary professional education establishments in the framework of the restructuring. However spending on subsection "Secondary professional education" decreases by 1.2 times in 2015–2016.

• The role of the regional budget in financing of cultural activities the region decreases. Spending on culture in comparison with the pre-crisis levels is to be reduced by 1.6 times, threatening goals achievement, set in the Presidential Decree No 567 "On the activities for the implementation of the state social policy" dated May 7, 2012.

• In 2014–2016 the regional budget expenditure remains high (34–37%), connected with the necessity of providing grant financial aid to local budgets[3].

• The regional budget investment costs reduce rapidly amounting only 1.1 billion rubles, or 2.4% of expenditures by 2017 (*fig. 4*).

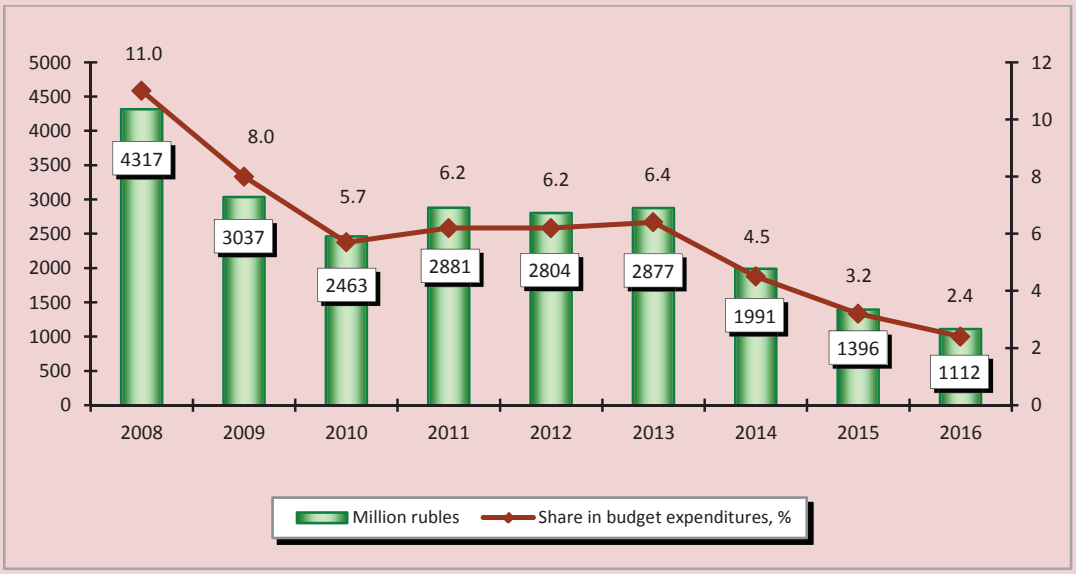
[3] The Russian President proposed in his Address to the Federal Assembly on December, 12 2013 to start and statutorily ensure the work on clarification of the general principles of local self-government organization aimed at the development of strong, independent and financially self-sufficient local authorities.

Table 10. Structure of the Vologda Oblast budget expenditures in 2011–2016*

Sections	2011, fact		2012, fact		2013, estimate		2014, estimate		2015, forecast		2016, forecast	
	Mln. rubles	%	Mln. rubles	%	Mln. rubles	%	Mln. rubles	%	Mln. rubles	%	Mln. rubles	%
Expenses, total	**46519**	**100**	**45182**	**100**	**44756**	**100**	**44093**	**100**	**43857**	**100**	**46617**	**100**
National issues	2053	4.4	1836	4.1	2020.3	4.5	2150	4.9	1865	4.3	1930	4.1
National security and law enforcement	2449	5.3	493	1.1	445	1.0	420	1.0	326	0.7	317	0.7
National economy	**6698**	**14.4**	**8239**	**18.2**	**8202**	**18.3**	**6280**	**14.2**	**5720**	**13.0**	**5952**	**12.8**
Housing and utilities infrastructure**	1917	4.1	1848	4.1	393	0.9	1138	2.6	605	1.4	256	0.5
Environment protection	236	0.5	164	0.4	145	0.3	185	0.4	149	0.3	146	0.3
Social sphere	**27421**	**58.9**	**30013**	**66.4**	**27651**	**61.8**	**30869**	**70.0**	**31209**	**71.2**	**32866**	**70.5**
Education	7043	15.1	8285	18.3	10180	22.7	12382	28.1	12616	28.8	13238	28.4
Culture, cinematography	882	1.9	594	1.3	504	1.1	477	1.1	506	1.2	594	1.3
Public health service	6643	14.3	10265	22.7	6598	14.7	7750	17.6	7726	17.6	8361	17.9
Social policy	10870	23.4	10331	22.9	9924	22.2	9966	22.6	10177	23.2	10486	22.5
Physical training and sport	1764	3.8	431	1.0	289	0.6	118	0.3	117	0.3	130	0.3
Mass media	219	0.5	107	0.2	156	0.3	176	0.4	68	0.2	56	0.1
Debt service	789	1.7	1310	2.9	1930	4.3	1919	4.4	1739	4.0	1697	3.6

* To compare data the expenditures for 2008–2010 are not given, as in this period intergovernmental transfers were not included in the structure of the functional sections of budget classification.
** In 2013–2016 uncompensated receipts are not included in housing and utilities infrastructure expenditures.

Figure 4. Dynamics of capital investments of the Vologda Oblast budget in 2008–2016



Summarizing the mentioned above, the key qualitative and quantitative features of the budget cycle, started in 2014, can be singled out:

1. A serious reduction of tax and non-tax revenues in real terms comparing to the pre-crisis level: in 2016 to 73% from the 2008 level.

2. A critical decrease of the companies profit and, accordingly, revenues from profit tax in the regional budget. They comprise 14.9% of the amount of own revenue in 2016 against 17.8% in 2009.

3. A slowdown in the revenue growth from individual income tax – from 15.4% in 2014 to 9.9% in 2016 (against 20–26% in the pre-crisis period). A larger gap between average wages in the Vologda Oblast and the country in general – from 5 thousand rubles in 2013 to 8.7 thousand rubles in 2016.

4. Possible non-fulfilment of the Presidential decrees to rise wages of public sector workers due to the limited budgetary resources: 100% – (54.9% of own sources of +20% of Federal transfers) = 25.1% of the unsecured financial liabilities.

5. An extremely high level of debt load. Public debt, standing at 34.2 billion rubles in 2014, is to exceed the amount of the budget own incomes by 2%, confirming the failure of the regions' debt[4].

6. An increase in the cost of state debt servicing to 1.9 billion rubles.

7. Formation 85–87% of budget expenditures in the program structure, which indicates incomplete alignment with the objectives of the state policy, aimed at improving the public finances management.

8. An increased tension of the region's interbudgetary relations with the federal center, which manifests in the annual decrease of financial aid to the regions. It is connected with the trends of the federal budget revenues reduction and its deficiency growth mentioned in the forecast.

Thus the challenge of the federal budget execution indicates that the main source of regional budgets incomes growth must be their own financial resources. However the trends of macroeconomic indicators do not speak of their significant growth. So the profit of the largest Vologda Oblast enterprise OAO Severstal is to be zero in the planned period, the profit of OJSC FosAgro-Cherepovet and CJSC Agro-Cherepovets is to decrease to 0.2 billion by 2017. The payroll fund increases by 1.3 times, however, the size of average monthly salary in 2013 prices grows only by 1.1 times by 2017[5].

The Vologda Oblast Government considers solution of systemic budgetary deficiency problems to a greater extent by means of sequestering the budget spending, but not boosting the territory's profit potential. In our opinion, the drafting a profitable part of the regional budget should be guided by Article 32 of the RF Budget Code, taking into account all potential income sources. This requires a number of measures aimed at:

- enhancing the work to reduce existing accounts receivable in the budget;
- optimization of tax incentives policy;

[4] At the meeting of the faction LDPR (21.10.2013) while discussing the draft federal budget for 2014–2016, the Finance Minister A.G. Siluanov stated about preparing amendments to the budget legislation, concerning responsible debt policy of the Russian Federation subjects. Now if the volume of overdue debt and budget commitment of the region exceeds 10% of total tax and non-tax revenues, the governor has to conclude an agreement with the Ministry of Finance on measures to restore the solvency and to approve the plan. If the plan implementation does not reduce the debt amount, the government has the right to make to a proposal the President to dismiss a Governor due to loss of trust. In this case the subject has a temporary financial administration. The region loses an opportunity to borrow in credit institutions and in conditions of the Federal budget deficiency can not count on the Federal budgetary loans. Therefore, non-fulfillment of social obligations becomes the main consequence of the actual bankruptcy.

[5] From S.A. Kozhevnikov and V.N. Artamonova's speeches at the public hearings on the forecast of the Vologda Oblast socio-economic development and the draft of the regional law "On the regional budget for 2014 and the planned period of 2015–2016".

Table 11. Calculation of the possible increase of the regional budget revenues through proposed improvements of the budgetary management tools*

Activity	Real value	Proposed option	Additional revenue, bln. rubles per year
Reduction of arrears on budget payments	13.5–18%	0	5400–6300
Liquidation of unfunded federal benefits	55–69% of the calculated amount in the budget	0	3650–6507
Ensuring completeness of target transfers use	2–5% of the transfers amount	0	212–457
Increase of the tax rate on dividends	9%	15%	191–194
Enhancing management of budget funds surplus	0	Deposit %	12–55
Providing full financing of delegated powers	95–99%	100%	5–69
Total			9471–13582
* Calculations were conducted in 2010–2012			

• ensuring completeness of target transfers use;

• improving taxation procedure for personal incomes;

• enhancing management of budget funds surplus;

• providing full financing of delegated powers.

According to our estimates, the identified measures implementation attract 9.5–13.6 billion rubles a year in the Vologda Oblast budget system, which boost own revenues, covering 44% of budget expenditures on social sphere (*tab. 11*).

As a conclusion it can be noted that in reality the budget execution is often far from the forecast indicators. Hence, the quality of budget planning at the regional level becomes the key issue. Without its significant improvement it will be difficult to establish a colligation between program budget execution and decision of strategic problems of territorial development. The low level of forecasts, laid in the basis of the budgetary projections, leads to systematic the budget revisions for the current year (2013 budget was reviewed 5 times). The drafting of a 3-year budget loses its meaning. What is more, with the regional budget execution the practice of underfunding of the approved expenditure commitments has been applied. This jeopardizes spending units and disorganizes functioning of the relevant economy sectors. There seems to be an urgent need for increasing personal responsibility for the quality of budget drafting and its execution and for legal establishment of a threshold of acceptable changes of the budget as a whole, its structural sections and target programs.

References

1. Artamonova V.N. Ob izmenenii mekhanizma mezhbyudzhetnogo regulirovaniya v Vologodskoy oblasti: doklad na soveshchanii s glavami munitsipal'nykh rayonov 10.10.2013 g. [About the Change in the Mechanism of Inter-Budget Regulation in the Vologda Oblast: Report at the Meeting with Heads of Municipal Districts, October 10, 2013]. *Ofitsial'nyy sayt Departamenta finansov Vologodskoy oblasti* [Official Website of the Department of Finance of the Vologda Oblast]. Available at: http://www.df35.ru/images/file/news/10.10.2013/Prezentazia_Artamonova_10102013.pdf
2. Burlachkov V.K. Koordinatsiya byudzhetnoy i denezhno-kreditnoy politiki: opyt vedushchikh stran i ego ispol'zovanie v Rossii [Coordination of Fiscal and Monetary Policy: the Experience of Leading Countries and Its Use in Russia]. *Vestnik Rossiyskogo ekonomicheskogo universiteta imeni G. V. Plekhanova* [Bulletin of Plekhanov Russian University of Economics], 2012, no.10(52), pp. 20-26.

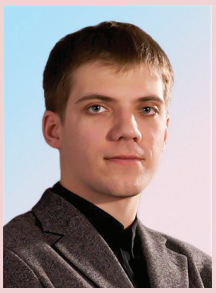
3. Zaklyuchenie Schetnoy palaty Rossiyskoy Federatsii na proekt Federal'nogo zakona "O federal'nom byudzhete na 2014 god i na planovyy period 2015 i 2016 godov" [The Opinion of the Accounts Chamber of the Russian Federation on the Draft Federal Law "On the Federal Budget for 2014 and for the Planned Period of 2015 and 2016"]. *Ofitsial'nyy sayt Schetnoy palaty RF* [Official Website of the RF Accounts Chamber]. Available at: http://www.ach.gov.ru/ru/expert/before/?id=1071
4. Ilyin V.A., Povarova A.I. Problemy ispolneniya territorial'nykh byudzhetov v 2011 godu [Problems of Execution of Territorial Budgets in 2011]. *Ekonomika. Nalogi. Pravo* [Economics. Taxes. Law], 2012, no.5, p. 87.
5. *Materialy ofitsial'nogo sayta deputata Gosudarstvennoy Dumy RF O.G. Dmitrievoy* [Materials of the Official Website of O.G. Dmitrieva, the Deputy of the Russian Federation State Duma]. Available at: http://www.dmitrieva.org/
6. Ob ispolnenii byudzhetov sub"ektov RF i mestnykh byudzhetov za 2003–2013 gg.: otchetnost' Kaznacheystva Rossii [On Execution of Budgets of the RF Subjects and Local Budgets for 2003–2013: Statements of the Treasury of Russia]. *Ofitsial'nyy sayt Federal'nogo kaznacheystva* [Official Website of the Federal Treasury]. Available at: http://www.roskazna.ru/reports/mb.html
7. O byudzhetnoy politike v 2014–2016 godakh: byudzhetnoe Poslanie Prezidenta RF Federal'nomu Sobraniyu [On the Budgetary Policy in 2014–2016: Budget Message of the RF President to the Federal Assembly]. *Ofitsial'nyy sayt Prezidenta RF* [Official Website of the RF President]. Available at: http://www.kremlin.ru/
8. Ob oblastnom byudzhete na 2011–2013 gg., 2012–2014 gg., 2013–2015 gg., 2014–2016 gg.: zakony Vologodskoy oblasti [About the Oblast Budget for 2011–2013, 2012–2014, 2013–2015, 2014–2016: Laws of the Vologda Oblast]. *Konsul'tantPlyus: spravochno-poiskovaya sistema* [ConsultantPlus: Reference-Search System].
9. *O federal'nom byudzhete na 2014 god i na planovyy period 2015 i 2016 godov: Federal'nyy zakon ot 02.12.2013 №349-FZ* [On the Federal Budget for 2014 and for the Planned Period of 2015–2016: Federal Law of December 02, 2013 No.349-FZ]. Available at: http://www.minfin.ru/common/upload/library/2013/12/main/FZ349-FZ_ot_021213.pdf
10. O formirovanii proekta byudzheta na 2014 god i planovyy period 2015–2016 godov: materialy soveshchaniya s rukovoditelyami finansovykh organov munitsipal'nykh rayonov, gorodskikh okrugov i sel'skikh poseleniy Vologodskoy oblasti 03.09.2013 g. [About the Formation of the Budget for 2014 and for the Planned Period of 2015–2016: Proceedings of the Meeting with Heads of Financial Bodies of Municipal Districts, Urban Districts and Rural Settlements in the Vologda Oblast, September 03, 2013]. *Ofitsial'nyy sayt Departamenta finansov Vologodskoy oblasti* [Official Website of the Department of Finance of the Vologda Oblast]. Available at: http://www.df35.ru/index.php?option=com_content&view=article&id=1835:2013-09-03-13-02-38&catid=34:demo-content&Itemid=134
11. Pechenskaya M.A., Uskova T.V. Aktual'nye voprosy sovershenstvovaniya mezhbyudzhetnykh otnosheniy v sisteme mestnogo samoupravleniya [Topical Issues of the Improvement of Intergovernmental Dealings in the System of Local Government]. *Ekonomicheskie i sotsial'nye peremeny: fakty, tendentsii, prognoz* [Economic and Social Changes: Facts, Trends, Forecast], 2012, no.1(19), pp. 136-146.
12. Pechenskaya M.A. Problemy sovershenstvovaniya mezhbyudzhetnykh otno-sheniy regiona i federal'nogo tsentra [Issues of Improving Inter-Budget Relations between the Region and the Federal Centre]. *Ekonomicheskie i sotsial'nye peremeny: fakty, tendentsii, prognoz* [Economic and Social Changes: Facts, Trends, Forecast], 2012, no.6, pp. 173-182.
13. Pechenskaya M.A. Sostoyanie byudzhetov munitsipal'nykh obrazovaniy i napravleniya effektivnogo ispol'zovaniya ikh sobstvennykh dokhodnykh istochnikov [State of Municipal Budgets and Directions of the Effective Use of their Own Revenue Sources]. *Problemy razvitiya territorii* [Problems of Development of Territories], 2012, no. 60, pp. 83-96.
14. Pechenskaya M.A. Region i federal'nyy tsentr: sostoyanie i otsenka re-zul'tativnosti byudzhetnykh otnosheniy [A Region and the Federal Centre: State and Efficiency Assessment of Intergovernmental Fiscal Relations]. *Audit i finansovyy analiz* [Audit and Financial Analysis], 2013, no.5, pp. 397-404.
15. Pechenskaya M.A. Problemy byudzhetnoy obespechennosti regiona i napravleniya povysheniya ee urovnya [Problems of Budgetary Sufficiency of the Region and Ways of Increasing Its Level]. *Izvestiya vysshikh uchebnykh zavedeniy (Seriya "Ekonomika, finansy i upravlenie proizvodstvom")* [Proceedings of Higher Schools (Series "Economics, Finance and Production Management"], 2013, no.3(17), pp. 25-33.
16. Povarova A.I. Trekhletniy byudzhet: zhdat' li stabil'nosti? [The Three-Year Budget: Should We Wait for Stability?]. *Ekonomicheskie i sotsial'nye peremeny: fakty, tendentsii, prognoz* [Economic and Social Changes: Facts, Trends, Forecast], 2011, no.2, p. 20.

17. Povarova A.I. Oblastnoy byudzhet 2012: stabilizatsiya otkladyvaetsya [Regional Budget of 2012 – 2014: Stability Is Delayed]. *Ekonomicheskie i sotsial'nye peremeny: fakty, tendentsii, prognoz* [Economic and Social Changes: Facts, Trends, Forecast], 2012, no.3, p. 39.
18. Poslanie Prezidenta Federal'nomu Sobraniyu 12.12.2013 g. [Presidential Address to the Federal Assembly, December 12, 2013]. *Ofitsial'nyy sayt Prezidenta RF* [Official Website of the RF President]. Available at: http://www.kremlin.ru/
19. Poslanie Gubernatora Vologodskoy oblasti Zakonodatel'nomu Sobraniyu oblasti 30.10.2013 g. [Address of the Vologda Oblast Governor to the Legislative Assembly of the Oblast, October 30, 2013]. *Ofitsial'nyy sayt Gubernatora Vologodskoy oblasti* [Official Website of the Vologda Oblast Governor]. Available at: http://okuvshinnikov.ru/interview/byudzhetnoe_poslanie_gubernatora_oblasti_na_sessii_zakonodatelnogo_sobraniya_oblasti_30_oktyabrya_2013_goda/
20. Prognoz sotsial'no-ekonomicheskogo razvitiya RF na 2014 god i na planovyy period 2015 i 2016 godov [Forecast of Socio-Economic Development of the Russian Federation for the year 2014 and for the Planned Period of 2015 and 2016]. *Ofitsial'nyy sayt Ministerstva ekonomicheskogo razvitiya RF* [Official Website of the Ministry of Economic Development of the Russian Federation]. Available at: http://www.economy.gov.ru/wps/wcm/connect/economylib4/mer/activity/sections/macro/prognoz/doc20130924_5
21. *Razdatochnye materialy k publichnym slushaniyam po prognozu sotsial'no-ekonomicheskogo razvitiya Vologodskoy oblasti i proektu zakona oblasti "Ob oblastnom byudzhete na 2014 god i planovyy period 2015 i 2016 godov"* [Handouts for the Public Hearings on the Forecast of Socio-Economic Development of the Vologda Oblast and the Draft Oblast Law "On the Oblast Budget for the Year 2014 and for the Planned Period of 2015 and 2016].
22. Regiony Rossii. Osnovnye kharakteristiki sub"ektov RF [Regions of Russia. Main Characteristics of the RF Subjects]. *Federal'naya sluzhba gosudarstvennoy statistiki* [Federal State Statistics Service]. Available at: http://www.gks.ru/wps/wcm/connect/rosstat_main/rosstat/ru/statistics/publications/catalog/doc_1138625359016

UDC 339.9(470.12), LBC 65.59(2Rus-4Vol)

The EU's Seventh Framework Programme: opportunities for Russian academic institutions*

Svetlana Viktorovna
TEREBOVA
Ph.D. in Economics, Department Head, Federal State-Financed Scientific Institution the Institute of Socio-Economic Development of Territories of the Russian Academy of Sciences (56A, Gorky Street, Vologda, 160014, Russia, svetlana-ter@mail.ru)



Ilya Vladimirovich
KUZMIN
Junior Research Associate, Federal State-Financed Scientific Institution the Institute of Socio-Economic Development of Territories of the Russian Academy of Sciences (56A, Gorky Street, Vologda, 160014, Russia, honorarium@mail.ru)

Abstract. The article deals with the issues concerning the expansion of international cooperation in the sphere of innovation activity. The authors consider one of the main tools of its development – the EU's Seventh Framework Programme (FP7). The article presents the analysis of statistical information reflecting the degree of involvement of Russian organizations in the work on the projects in the subject area "Socio-Economic Sciences and Humanities" under FP7. The authors present the experience of participation of the Institute of Socio-Economic Development of Territories of RAS in the competitions under this program, including the project "Social Innovation: Driving Force of Social Change". The article reveals the essence of social innovations, highlights their features, and gives their classification.

Key words: international cooperation, innovation activity, EU's Seventh Framework Programme, social innovations.

* The work was carried out with the support of the Russian Foundation for Basic Research (RFBR grant No. 12-06-00379-a).

Russia's transition to a new economic system was accompanied by a very broad range of problems in all the spheres of society. Although the first stage in the development of market economy has been passed, its difficulties still linger. It is possible to talk about the creation of the basis for the country's further development, which can be achieved only by increasing human capital and enhancing the quality of life. The implementation of social innovations becomes an important aspect in theoretical and methodological approaches to studying the issues of life quality enhancement. This aspect, however, has not been developed comprehensively so far. Social innovations can be developed by involving people in public innovation projects implemented on the basis of public-private partnership, leading to greater social consolidation and seeking to smooth the consequences of excessive inequality in society.

We consider that the development and implementation of social innovations should be preceded by a comprehensive research into their origin and development, as well as competent elaboration of the strategy for their implementation. Moreover, the more extensive the theoretical and practical material that is put in its basis, the more reliable the formed strategy. As for the practical aspect, social innovations in a number of developed countries (Western Europe, Scandinavia) have been implemented purposefully for several decades already.

With the support from the Russian Foundation for Basic Research, the Institute of Socio-Economic Development of Territories of RAS (ISEDT RAS) is developing theoretical and methodological foundations for the study of social innovation. This experience has allowed ISEDT RAS to take part in a major international research project in this field.

It is also necessary to note that, although research organizations in some countries are carrying out theoretical research in this field, the nature of the phenomenon "social innovations", the economic and other conditions of their emergence have been studied insufficiently. The authors of theoretical concepts are, as a rule, foreign researchers. However, even their works do not cover the following subjects: the differences between technology-based social innovations and non-technological social innovations; the reasons stimulating and hampering their emergence; interaction between authorities and administration, enterprises, public organizations, the "target audience" of the initiatives for creating successful social-innovation projects.

Thus, the following conclusion seems logical: the catalyst for the growth of scientific and practical knowledge on the development of social innovations can be found in the exchange of researchers' experience at the international level, pulling their efforts together in the study of these issues, including joint research works. The latter can focus on the specifics of scientific principles and practical recommendations on the examples of different regions of the world.

Research support programs are one of the main tools that provide opportunities for the emergence of these practices and development of international cooperation in innovation activities in Europe.

The key place among these programs belongs to the so-called framework programs of the European Union on the development of scientific research and technology. The main purpose of these programs is to implement R&D funding for the establishment and development of the European Research Area (ERA). The programs successively replace each other; the implementation of each subsequent one is carried out for several years and seeks to achieve specific goals of the next stage of ERA formation.

The first EU's framework program was implemented in 1984–1988; currently, the Seventh Program (FP7) covering 2007–2013

Table 1. Budgets of the EU's framework programs for promotion of research and technology, billion euros

Framework program	Period of validity	Budget
First	1984–1988	3.75
Second	1987–1991	5.40
Third	1990–1994	6.60
Fourth	1994–1998	13.22
Fifth	1998–2002	14.96
Sixth	2002–2006	17.88
Seventh	2007–2013	50.52
Source: Artis M.J., Nixson F. The Economics of the European Union: Policy and Analysis. 4th ed. Oxford University Press, 2007.		

Table 2. The results of the EU's Seventh Framework Program for 2007–2011

Indicator	Year					
	2007	2008	2009	2010	2011	**Total**
Number of supported projects	3132	2720	4037	3399	2813	**16101**
Number of participating organizations	22077	14112	19471	13710	12932	-
Total funding, billion euros	6.52	4.43	5.66	5.31	3.69	**25.60**
Average amount of funding for one project, thousand euros	2080.19	1629.34	1401.65	1561.35	1310.42	**1589.88**
Average amount of funding for one organization, thousand euros	295.11	314.05	290.61	387.09	285.05	-
Source: Fifth FP7 Monitoring Report. Monitoring Report 2011. Available at: http://ec.europa.eu/research/evaluations/index_en.cfm?pg=fp7-monitoring						

is coming to its end. The total budget of about 53.2 billion euros makes it one of the largest initiatives for research support in the world.

The success of this tool for the promotion of research and technology led to a significant increase in the budget of each subsequent stage. We can conclude that in the European Commission's estimates the innovation cooperation issues are becoming increasingly important, because the budget of the Seventh Framework Program several times exceeds that of the First Program *(tab. 1)*.

Over the period of five years, the number of participants of research projects financed from the program's budget accounted for more than 82 thousand organizations *(tab. 2)*.

The main advantage of participating in FP7 is the fact that an organization gets funding for most of its R&D. At the same time, during the implementation of the supported project FP7, an organization has the following opportunities:

– access to foreign markets with high-tech product;

– exchange of experience with foreign partners working in related fields;

– improve its employees' qualification;

– attract the attention and funds from other donors;

– substantially enhance its reputation and branding.

A special sub-program FP7 Cooperation is of the greatest interest to innovation enterprises, because it seeks to support joint R&D of enterprises (including small and medium), universities, and research organizations of different countries of the world. The budget of FP7 Cooperation is 39 billion euros – more than half of the total budget of FP7. *"Socio-Economic Sciences and Humanities"* have been highlighted as one of its priority thematic areas. The volume of funding for this direction in the framework of FP7 is 600 million euros, which

corresponds to the share of about 2% in the structure of the program's budget *(fig. 1)*.

For 2007–2012 the funding of projects in the area "Socio-Economic Sciences and Humanities" increased by 33% *(fig. 2)*.

Nonetheless, the share of Russian organizations' participation in the FP7 projects of this direction is insignificant. 199 projects received support during the analyzed period[1]. Russian organizations were represented only in *nine supported projects*[2] (information on the projects is given in *tab. 3*).

At present, the current volume of funding allocated to Russian organizations in this area is also low. The total amount of funding of supported projects was 475 million euros (199 projects). Due to participation in nine supported projects, Russian organizations received funding in the amount of 1.31 million euros, that is only 0.28% of the total volume of allocated funds.

In general, over this period, the projects with Russian participation received 73.67 million euros from the FP7 budget; the projects without Russian participation received 401.33 million euros.

In general, Russian organizations have little experience of participating in FP7 socio-humanitarian direction (for example, in 2010 only seven applications for participation were filed). In addition, it should be noted that most of the Russian participants of FP7 contests are enterprises, universities and research organizations from Moscow and Saint Petersburg. Participation activity of other regions is much lower; few territories have the relevant experience.

As for the Vologda Oblast, the only organization that submitted applications for receiving support to research projects under FP7 is the Institute of Socio-Economic Development of Territories of RAS.

ISEDT RAS considers the development of scientific ties with foreign colleagues to be an important direction of activity of the research organization. As a result, the number of international events, held by the Institute, and with its participation, has increased significantly in recent years. In 2011–2012, research associates at the Innovation Economics Department carried out thorough work to find foreign partners for the Institute's international projects; and in early 2012 it took part in the competitions of the European Framework Programs, which is a valuable research experience.

The work for the preparation of international projects is very labor intensive due to the fact that it requires solving several additional tasks along with the execution of research itself; these tasks include:

1. Monitoring of the most suitable opportunities, taking into account all the necessary conditions for participation, which, as a rule, in full form are available only through foreign resources.

2. Involvement of experienced scientists in participation in the project to enhance the competitiveness of the work.

3. Search for international partners that have the necessary competence (participation in the international competition often requires involvement of more than two countries).

4. Negotiating with partners, business correspondence in English during the preparation of the application, which, along with the search for partners, is a significant part of the whole work.

[1] *Sixth FP7 Monitoring Report. Monitoring Report 2011.* Available at: http://ec.europa.eu/research/evaluations/index_en.cfm?pg=fp7-monitoring

[2] Source: *Ofitsial'nyy sayt Federal'nogo gosudarstvennogo avtonomnogo obrazovatel'nogo uchrezhdeniya vysshego professional'nogo obrazovaniya "Natsional'nyy issledovatel'skiy universitet "Vysshaya shkola ekonomiki"* [Official Website of the Federal State Autonomous Educational Institution of Higher Professional Education "National Research University "Higher School of Economics"]. Russian Participation in FP7 (December 2012). Available at: http://www.hse.ru/data/2013/04/02/1294165375/RU%20participation%20FP7.pdf

Figure 1. The FP7 budget on priority thematic areas, billion euros

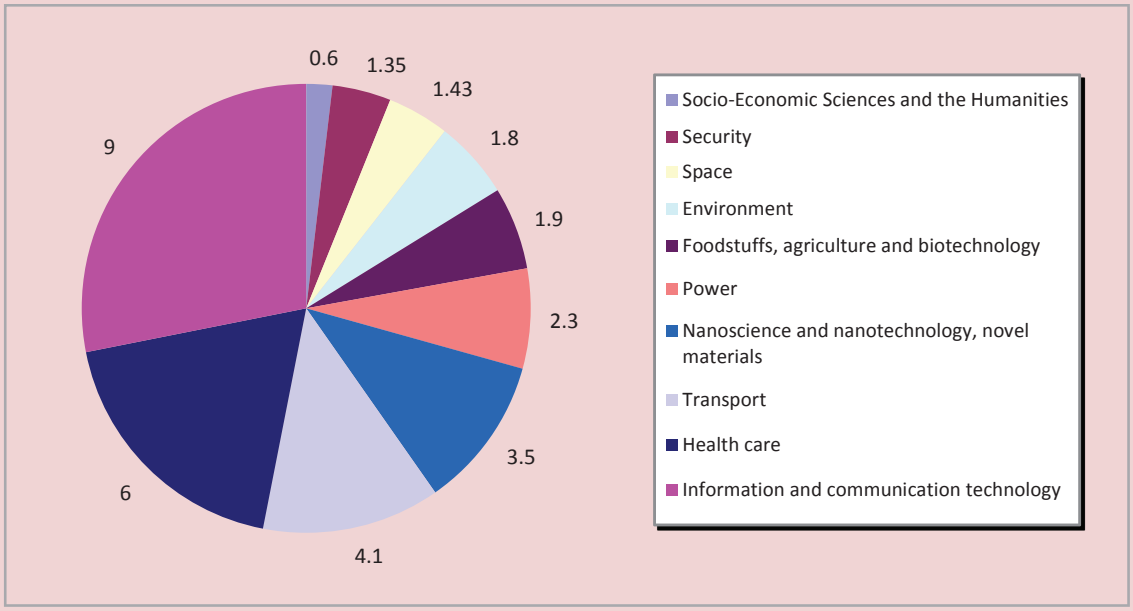
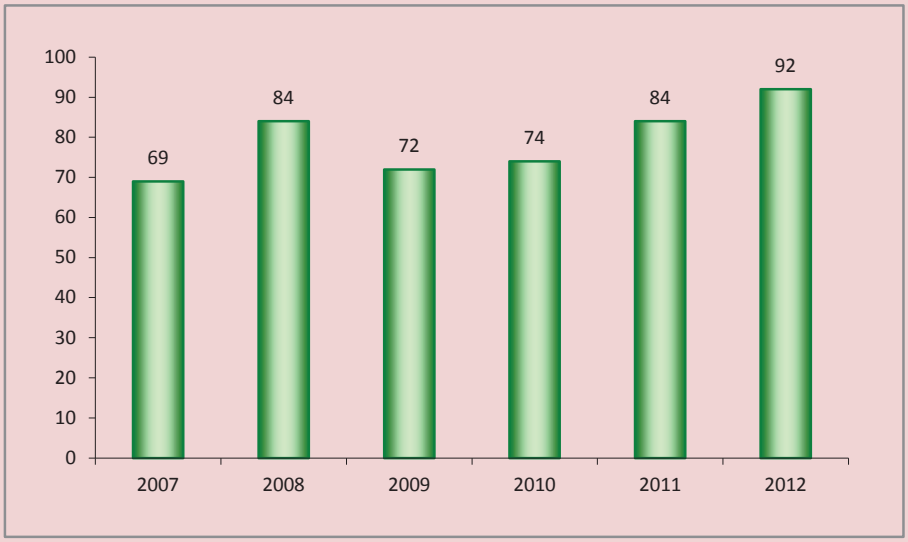


Figure 2. Funding of projects in the FP7 area "Socio-Economic Sciences and Humanities", million euros



Source: European Commission. Research & Innovation. FP7. Statistics. Available at: http://ec.europa.eu/research/fp7/index_en.cfm?pg=budget

When working over the projects, ISEDT RAS received significant assistance from international research-to-practice seminars. The negotiations held in the course of these seminars resulted in the concepts of joint projects, joint work plans.

5. High-quality translation of working materials and the final version into English during the whole process of work on the project (for sharing information with partners). The above requires good command of the English language from participants themselves.

Active encouragement and continuous support from the Institute's leadership became the key criteria of successful work on the FP7 projects. The information on the preparation of applications was regularly presented at the meetings; issues that required decision-making were submitted for discussion; participation in FP7 was given special attention at the Academic Council sessions.

In addition, the work in this direction was carried out by young professi-onals, who performed most of these tasks, in particular, the translation of the project materials.

On this basis, in 2012 the cooperation aimed at the preparation of an application for FP7 was expanded between ISEDT RAS and the Social Research Center at the University of Technologies Dortmund (Germany).

Table 3. Information about supported projects with Russian participation in the FP7 area "Socio-Economic Sciences and Humanities" in 2007–2013

№ п/п	Theme of the project with Russian participation	Russian organization, city	Project budget, million euros	Starting date of the project's implementation
1.	Transnational cooperation between national contact centers in the direction "Socio-Economic Sciences and Humanities"*	Scientific Research Institute – Federal Research Centre for Projects Evaluation and Consulting Services, Moscow	3.10 2.22 1.20	01.02.2008 01.02.2011 01.02.2013
2.	Interplay of European, national and regional identities: nations between states along the new eastern borders of the European Union	Lomonosov Moscow State University, Moscow	1.73	01.04.2008
3.	Advancing knowledge-intensive entrepreneurship and innovation for growth and social wellbeing in Europe	Financial University under the Government of the Russian Federation, Moscow	4.28	01.01.2009
4.	Towards the topography of tolerance and equal respect. A comparative study of the policies of public places in culturally diverse societies	Ural Federal University named after the first President of Russia B.N. Yeltsin, Yekaterinburg	1.72	01.01.2010
5.	European regions, external borders of the EU, its neighbors. The analysis of regional development policies and practices in cross-border cooperation	Non-Governmental Organization the Centre for Independent Social Research, Saint Petersburg	3.34	01.03.2011
6.	Memories, youth, political heritage, and civic activism	Research Center "Region" at Ulyanovsk State University, Ulyanovsk	9.95	01.06.2011
7.	Sharing knowledge: consolidation of regions	Federal State Autonomous Educational Institution of Higher Professional Education, National Research University – Higher School of Economics, Moscow	3.27	01.08.2011
8.	The issues of borders, political situation, social sphere: prospects and problems of developing concepts of borders in the world after the cold war	Non-Governmental Organization the Centre for Independent Social Research, Saint Petersburg Federal State-Financed Research institution the Institute of Geography, the Russian Academy of Sciences, Moscow	8.99	01.06.2012
9.	Social innovation: driving force of social change	Federal State-Financed Research institution the Institute of Socio-Economic Development of Territories of the Russian Academy of Sciences, Vologda	6.06	01.01.2014**

* The project was resumed twice after the completion. Thus, three projects on the corresponding theme were supported.
** At the time of preparation of the article, the project coordinator was engaged in negotiations about the conclusion of the grant agreement. In this regard, January 1, 2014 is an approximate date of the beginning of realization of the project.
Source: *Official website of the EU's Seventh Framework program*. Available at: http://cordis.europa.eu/fp7/home_en.html

In September 2012 ISEDT RAS held a seminar "Problems of development and introduction of social innovations" held in the framework of the visit of German colleagues to Vologda. In the course of the seminar, its participants discussed the concept for social innovation, developed by the Social Research Center. The Center is the European leader in this field of research, as it is one of the first organizations that paid serious attention to the research into the issues of social innovation. After the meeting in Vologda, ISEDT RAS and the Social Research Center signed the protocol of intent that laid the foundation for the preparation of a new FP7 project.

The work had the following results: the Institute joined the international consortium; a joint application "Social Innovation: Driving Force of Social Change" was prepared and submitted for participation in the FP7 competition program "Socio-Economic Sciences and Humanities" with the Social Research Center being the coordinator of the consortium.

In June 2013 the European Commission informed the consortium that according to the examination results, the application won 14 points out of 15, and that the European Commission intends to support the project and to start negotiations on a grant agreement. Currently, the coordinator is discussing the preparation of the documents and agreements, and their coordination with project partners.

Thus, ISEDT RAS research works received positive estimation of our colleagues from Europe, America, and other countries, which enabled us to participate in the EU's Seventh Framework Program, which is an important tool of integration into the European Research Area.

Fifteen partners from twelve member states of the EU and eleven partners from other regions of the world take part in the project. The list of the countries represented by the participants includes Australia, Austria, Belgium, Bulgaria, Great Britain, Germany, Egypt, India, Spain, Italy, Canada, China, Colombia, Lithuania, the Netherlands, the Russian Federation, Romania, Turkey, Croatia, Chile, South Africa, Sweden *(tab. 4)*.

The project seeks to extend the knowledge about social innovations in three main directions:

– integration of theories and research methodologies for better understanding of the essence of social innovation that will contribute to building a complete, comprehensive paradigm of innovation;

– identification and analysis of social innovations, implemented and developed at the European level and globally; and, through this, the study of the social, economic, cultural, historical and other aspects of these processes in eight major regions of the world;

– provision of the authorities and management bodies, as well as individuals involved in the issues under consideration, with relevant data obtained on the basis of comprehensive analysis and case studies in the framework of the seven policy areas (including European and global comparisons, development of forecasts and organisation of conferences/seminars on policy issues in the field of social innovations).

* * *

In the beginning of the article, we highlighted the importance of the issues concerning the development and introduction of social innovations. Due to the fact that ISEDT RAS carries out research in this area, we consider it necessary to disclose the content and specifics of the concept "social innovations". It is also necessary to provide a more detailed review of certain aspects that determine the specifics of the research into the origin and development of social innovations. Our article is based on the materials prepared during the implementation of the work under the RFBR grant.

Table 4. The participants of the project "Social Innovation: Driving Force of Social Change"

No.	Participant	Country
1.	Project Coordinator University of Technologies Dortmund /Social Research Center	Germany
2.	Institute for Work and Technology, Westflische Hochschule Gelsenkirchen	Germany
3.	Netherlands Organisation for Applied Scientific Research	Netherlands
4.	Young Britons' Foundation	Great Britain
5.	Brunel University	Great Britain
6.	Centre for Social Innovation, Vienna	Austria
7.	Austrian Institute of Technology, Vienna	Austria
8.	University of Deusto	Spain
9.	Social Innovation Laboratory	Croatia
10.	Applied Research and Communications Fund	Bulgaria
11.	International Organisation for Knowledge Economy and Enterprise Development	Sweden
12.	Kazimieras Simonavicius University	Lithuania
13.	Danubius University, Galai	Romania
14.	LAMA Development and Cooperation Agency, Florence	Italy
15.	Istanbul Technical University	Turkey
16.	Heliopolis University, Cairo	Egypt
17.	Institute of Socio-Economic Development of Territories of the Russian Academy of Sciences, Vologda	Russian Federation
18.	Zhejiang University, Hangzhou	China
19.	Bertha Centre for Social Innovation and Entrepreneurship at the University of Cape Town	South Africa
20.	United Nations Economic Commission for Latin America and the Caribbean	Chile
21.	Colombian Center for Social Innovation, National Agency for the Alleviation of Extreme Poverty, Bogot	Colombia
22.	University of Sydney, Australian Centre for Innovation, Sydney	Australia
23.	Tata Institute of Social Sciences, Mumbai	India
24.	Simon Fraser University, Vancouver, Centre for Policy Research on Science and Technology	Canada
25.	Social Innovation Research Centre, University of Qubec	Canada
26.	European Federation of National Organisations Working with the Homeless	Belgium

Nowadays, scientists propose various interpretations of the notion "social innovations", which often have significant differences *(tab. 5)*. Having studies the views of a number of European researchers, we note that, in our opinion, the interpretation proposed by German scientists J. Howaldt and M. Schwartz, reflects the main aspects of this concept and may become a landmark for further research into this area[3].

We can define several features of social innovations by comparing them to material-and-technological innovations:

1. The source of social innovations is, in most cases, collective work; as for material-and-technological innovations, they are more likely to emerge on the basis of individual labor.

2. The result of implementing social innovations is not manifested so quickly, it does not have such concrete character that material-and-technological innovations do.

3. The specifics of social innovations, in addition, lies in the fact that they are more clearly conditioned by external environment. Here we can draw an analogy with an approach, existing in the general theory of innovation, the so-called "pressure of demand", according to which the development and spread of

[3] Kuzmin I.V. Sotsial'nye innovatsii: sushchnost' i vliyanie na ekonomicheskoe razvitie [Social Innovation: the Nature and Impact on Economic Development]. *Materialy Mezhregional'noy nauchno-prakticheskoy konferentsii "Sotsial'nyy kapital kak resurs modernizatsii v regione: problemy formirovaniya i izmereniya", g. Cherepovets, 16–17 oktyabrya 2012 g.: v 2-kh t.* [Proceedings of the Interregional Research-to-Practice Conference "Social Capital as a Resource for Modernization in the Region: Problems of Formation and Measurement", Cherepovets, October 16–17, 2012: in 2 vols]. Cherepovets: ChGU, 2012. Vol. 2. Pp. 14-19.

Table 5. Interpretations of the concept "social innovations"

№ п/п	Author	Interpretation
1.	Kopoteva I.V., Nikula Y.	Social innovations are the production and integration of new knowledge in the form of programs, organizational models or a specific set of principles and other tools used at the local level for responding to both positive and negative results of restructuring*.
2.	Mulgan G.	Social innovations - new ideas, working in the form of reproduced programs or organizations for satisfying urgent needs, and improving people's lives**.
3.	Mumford M.	Social innovation is the generation and implementation of new ideas about people and their interaction within the social system***.
4.	Howaldt J., Schwarz M.	Social innovations are a new combination or a new form of social activity in specific areas or social context that are implemented by individuals or a group of individuals in thought-out ways for better satisfying or meeting the needs and problems than it is possible on the basis of the existing practice****.

* Kopoteva I.V., Nikula Y. Sotsial'nye innovatsii v izmenyayushcheysya sel'skoy srede Rossii [Social Innovation in a Changing Rural Environment of Russia]. *Ekonomicheskie i sotsial'nye peremeny: fakty, tendentsii, prognoz* [Economic and Social Changes: Facts, Trends, Forecast], 2008, no.2, p. 76.
** Mulgan G. et al. *Social Innovation: What Is It, Why It Matters, How It Can Be Accelerated*. London: Young Foundation, 2006.
*** Mumford M.D. Social Innovation: Ten Cases from Benjamin Franklin. *Creativity Research Journal*, 2002, no.14(2), pp. 253-266.
**** Howaldt J., Schwarz M. *Social Innovation: Concepts, Research Fields and International Trends*. IMA/ZLW & IfU. RWTH. Aachen: Aachen University, 2010.

innovation facilitates the growth in demand. Under the "demand" in this case we mean the social problems that cannot be solved by conventional methods.

4. The wider potential sphere of implementation. In particular, the field of using social innovation depending on the group and personal qualities of the actors, as well as the target audience, participating in the development of this innovation, can be changed.

This means that the introduction of social innovations can be divided into a "single-point", suggesting their development on a specific object (here, a one-time implementation is possible, as well as a regular one, depending on the objectives of a specific innovation), and "spatial", with further spreading of innovations on many objects. Speaking about the scale of social innovations, it is necessary to note their different character: innovations important for the solution of universal issues; innovations, the implementation of which is especially important for certain regions; innovations of local importance. When considering social innovations from the viewpoint of social life, is it possible to highlight innovations, aimed at the development of social institutions, political, economic, cultural and spiritual spheres.

When developing social innovation projects, the persons responsible for decision-making have to define their specific features that are conditioned by targeted nature of the sphere of implementation; this ensures the achievement of the best results.

In our opinion, social innovations are classified according to a number of features *(tab. 6)*.

In addition to the proposed grouping of social innovations, they can be classified in accordance with the more specific sphere of activity, in which the social innovation is implemented. The FP7 project "Social Innovation: Driving Force of Social Change" (hereinafter – the Project) envisages that different countries and groups of countries implement the research into social innovations in several areas, including science, education and lifelong learning; employment (including in small and medium business); medical and social assistance.

It should be also noted that, despite the increasing interest of scientific community, authorities, and public to the issues of social

innovations, it is other types of innovations that hold leading positions by the level and depth of research. Such innovations are as follows: technological (creation of new products, technologies, equipment, materials), organizational (improvement of organizational structure of enterprise management), economic (use of new systems and forms of remuneration, methods of production costs management), marketing (development of new markets and ways of product promotion), environmental (implementation of new technologies in environmental protection) and other innovations. Social innovations are studied on a much lesser scale, although they are an important condition for the promotion of the above mentioned processes (for example, introduction and development of social innovations is not reflected in official statistical digests; issue of their assessment remain undeveloped).

The monitoring of innovations implementation is of priority importance for the estimation and measurement of social innovations in the regions. The study of the data on the existing scientific approaches, on the development of concepts, methods for social innovations measuring and monitoring allow us to conclude that methodologies for assessing social innovations as such have not been elaborated or completed. Quantitative and numerical measurement of the results of social innovations implementation is very difficult, which hampers their accounting and analysis.

The data that can be used to describe the situation in the sphere of social innovations development are divided into two groups depending on data source: indices calculated on the basis of objective statistics; indicators calculated on the basis of subjective statistics. However, as noted above, statistics on innovation activities at Russia's enterprises do not contain any information on social innovations. At present, the assessment of implemented social innovations and the monitoring of the latter can be done most appropriately using the method based on the calculation of indicators, derived from subjective statistical data, in particular, surveys, interviews of experts, etc. Participation in the Project will allow the research teams involved in the studies of social innovations, to consider the ways to solve this problem at the local, national and supranational levels, which, in turn, should lead to the formation of a more elaborated approach to the analysis of social innovations.

Table 6. Classification of social innovations

Classification criterion	Types of social innovations
By the way of development	Individual Collective
By the level of social novelties	Global, seeking to solve universal problems Regional Local, representing more specific interests of regional and local significance
By the type of effect	Target-oriented With indirect impact
By the way of implementation	Initiated by authorities Initiated by enterprises Based on public-private partnership
By the spheres of public life	In social structures and institutions Political Economic Innovations in cultural and spiritual sphere
By the scale of usage	Single social innovations, implemented on one object Diffuse innovations, distributed to many objects

The project will allow its participants to exchange relevant research information, theoretical findings, and research methods; to develop a joint vision of a theoretical concept of social innovation. The understanding of the nature and features of social innovations will be enhanced through the study of their theoretical and methodological aspects. In addition, comprehensive case studies of Russian and international practices in the development and implementation of social innovations will be carried out. Foreign experience of the latter, as follows from the findings of ISEDT RAS in the course of research work on the project of the Russian Foundation for Basic Research "Enhancement of consolidation of the population on the basis of social innovations" (RFBR grant No. 12-06-00379-a), confirms the positive impact of the development and introduction of social innovations on the quality of life.

In this regard, the project "Social Innovation: Driving Force of Social Change" is very important from socio-economic point of view; its results are especially relevant for solving issues related to changes in society and enhancement of the quality of life.

From the scientific perspective, the participation of research organizations in EU's framework programs and similar initiatives contributes to the development of fundamental and applied spheres of socio-economic and interdisciplinary research. The work in an international research team creates opportunities for testing methodological approaches in different countries, for a comprehensive analysis of research results, for the development and implementation of practical recommendations. Moreover, joint projects form a more objective overview of the research work and the socio-economic situation in the participating countries (in particular, they help inform foreign colleagues about the research developing in Russia).

Thus, expansion of cooperation with foreign partners is the most important sphere of activity on the integration of the Russian science in the global processes of scientific and technological development.

References

1. Kopoteva I.V., Nikula Y. Sotsial'nye innovatsii v izmenyayushcheysya sel'skoy srede Rossii [Social Innovation in a Changing Rural Environment of Russia]. *Ekonomicheskie i sotsial'nye peremeny: fakty, tendentsii, prognoz* [Economic and Social Changes: Facts, Trends, Forecast], 2008, no.2, p. 76.
2. Kuzmin I.V. Kratko o Sed'moy ramochnoy programme Evropeyskogo soyuza [Briefly about the Seventh Framework Programme of the European Union]. *Innovatsionnaya deyatel'nost': problemy, praktika kommertsializatsii: sbornik materialov VI nauchno-prakticheskogo seminara "Innovatsionnaya deya-tel'nost': voprosy kommertsializatsii tekhnologiy"* [Innovation Activity: Problems, Commercialization Practice: Proceedings of the 6th Research-to-Practice Seminar "Innovation Activity: Commercialization of Technologies]. Vologda: Institut sotsial'no-ekonomicheskogo razvitiya territoriy RAN, 2012. Pp. 41-44.
3. Kuzmin I.V. Sotsial'nye innovatsii: sushchnost' i vliyanie na ekonomicheskoe razvitie [Social Innovation: the Nature and Impact on Economic Development]. *Materialy Mezhregional'noy nauchno-prakticheskoy konferentsii "Sotsial'nyy kapital kak resurs modernizatsii v regione: problemy formirovaniya i izmereniya", g. Cherepovets, 16–17 oktyabrya 2012 g.: v 2-kh t.* [Proceedings of the Interregional Research-to-Practice Conference "Social Capital as a Resource for Modernization in the Region: Problems of Formation and Measurement", Cherepovets, October 16–17, 2012: in 2 vols]. Cherepovets: ChGU, 2012. Vol. 2. Pp. 14-19.
4. Makoveev V.N. Otechestvennyy opyt gosudarstvennogo regulirovaniya innovatsionnykh protsessov v promyshlennosti [Domestic Experience of State Regulation of Innovation Processes in Industry]. *Molodoy uchenyy* [Young Scientist], 2013, no.4, pp. 262-265.
5. *Ofitsial'nyy sayt Sed'moy ramochnoy programmy ES* [Official Website of the Seventh Framework Programme of the EU]. Available at: http://cordis.europa.eu/fp7/home_en.html
6. *Ofitsial'nyy sayt Federal'nogo gosudarstvennogo avtonomnogo obrazovatel'nogo uchrezhdeniya vysshego professional'nogo obrazovaniya "Natsional'nyy issledovatel'skiy universitet "Vysshaya shkola ekonomiki"* [Official Website of the Federal State Autonomous Educational Institution of Higher Professional Education "National

Research University "Higher School of Economics"]. Russian Participation in FP7 (December 2012). Available at: http://www.hse.ru/data/2013/04/02/1294165375/RU%20participation%20FP7.pdf

7. Terebova S.V. Razvitie mezhdunarodnogo sotrudnichestva v nauchno-issledovatel'skoy sfere [Development of International Cooperation in the Sphere of Science and Research]. *Problemy razvitiya territorii* [Problems of Development of Territories], 2012, no.5, pp. 7-10.
8. Terebova S.V. Transfer tekhnologiy kak element innovatsionnogo razvitiya eko-nomiki [Technology Transfer as an Element of Innovation Economy Development]. *Problemy razvitiya territorii* [Problems of Development of Territories], 2010, no.4, pp. 31-36.
9. Artis M.J., Nixson F. *The Economics of the European Union: Policy and Analysis*. 4th edition. Oxford University Press, 2007.
10. *European Commission. Research & Innovation. FP7. Statistics.* Available at: http://ec.europa.eu/research/fp7/index_en.cfm?pg=budget
11. *Fifth FP7 Monitoring Report. Monitoring Report 2011.* Available at: http://ec.europa.eu/research/evaluations/index_en.cfm?pg=fp7-monitoring
12. Howldt J., Schwarz M. *Social Innovation: Concepts, Research Fields and International Trends*. IMA/ZLW & IfU. RWTH. Aachen: Aachen University, 2010.
13. Mulgan G. et al. *Social Innovation: What Is It, Why It Matters, How It Can Be Accelerated*. London: Young Foundation, 2006.
14. Mumford M.D. Social Innovation: Ten Cases from Benjamin Franklin. *Creativity Research Journal,* 2002, no.14(2), pp. 253-266.
15. *Sixth FP7 Monitoring Report. Monitoring Report 2011.* Available at: http://ec.europa.eu/research/evaluations/index_en.cfm?pg=fp7-monitoring

UDC 330.341.1, LBC 65.011.151

Assessment of Jiangxi regional innovation system construction

Ma ZHIHUI
Research Associate, Director of Institute of Economics of Jiangxi Academy of Social Sciences

Jiangxi, a less developed province in central China, with insufficient talents, serious insufficiency of scientific investment, relatively vulnerable in scientific innovation capability Incompletion of function and imperfection of mechanism in self- innovation in the enterprises-centered system; Further improvement is in need in the integration mechanism and innovation environment of innovation system. Hence, constructing the Jiangxi regional innovation system is the strategic choice of accelerating the economic and social development, boosting the industrialization process, facilitating the optimization and upgrading of industrial structure as well as advancing regional competitiveness.

1. Basic situation of Jiangxi regional innovation system construction

1.1 Knowledge innovation system takes shape

1.1.1 Universities and research organizations become the fresh troops in scientific innovation. Till the year-end of 2011, a total of 86 common colleges, 58 research organizations built by higher education institutions with 13326 scientific research personnel; A total of 12 centers for post-doctoral studies, 43 Post-Doctoral Research Centers; in the province wide, there are a total of 113 independent research institutes above the county level with 5256 scientific researchers; 31 Provincial independent research institutes with 4501 scientific and technical personnel.

1.1.2 Positive promotion for the scientific and technical basic condition terrace construction. Thus far, the total number of key laboratories of various types (including one with national level) has reached 67 while 102 engineering technical research centers (including 5 with national level) have been set up. The R&D fields of these organizations involve agriculture, food, provender, light textile, medicine, engineering and technology, humanism and society and other aspects.

1.1.3 Talent group reaches a certain size. In the year-end of 2011, the talent over the province has reached 1.7 million. Among which, 708,000 people are professional and technical personnel in various fields, 112,200 engaging in sciences and technology activities, including 52,000 scientists and engineers as well as 4 academicians.

1.1.4 Sustainable growth rate took place in patent application quantity, patent granted quantity and scientific and technological achievements. In 2011, there are 9674 patent applications, 5500 patents granted and 708 scientific and technological achievements registrations over the province, with 53.4%, 27.6% and 20.41% increase respectively compared to the same period of last year, which has created a record high.

1.2 Technology innovation system is generating for enterprises-centered system

At the end of 2011, 6481 industrial enterprises above designated size with about 240,000 employees have been established; 325 enterprise-level R&D institutions and 120 enterprise technology centers including 6 of national-level have been established; 27500 enterprise researchers, accounting for 66.0% of the province total amount which manifesting that the enterprises have gradually become the central part of innovation.

1.3 Initial formation of science and technology intermediary service system

At the end of 2011, Jiangxi possesses 7 high-tech business incubators, including 4 of national-level; 124 productivity promotion centers, including 6 of national-level; Technology market has become the tie connecting technology and economy. Initial construction has been made in four-level market system, that is, province, city, county and township. In provincial total, 2262 contracts have been clinched, which adds to 3.239 billion yuan for contract transaction amount.

1.4 Diversified scientific investment system is forming

R&D investment has basically formed a multiple-input pattern that takes government appropriation as guidance and enterprise investment as mainstay, initial involvement of financial institutions and foreign fund. In 2011, the total amount of social R&D budget was 9.675 billion yuan including 7.835 billion yuan for research use from enterprise investment, 825 million yuan from technology and research institutes and 799 million yuan from institutions of higher learning. Venture capital institutions initially started their business and by now, there are 5 venture capital institutions in Jiangxi.

1.5 Constant improvement on security system of science and technology policy

A series of policies and regulations on encouraging technological innovation, accelerating the commercialization and industrialization of research achievements have been formulated and appeared one after another in Jiangxi Province, for instance: *CPC Jiangxi Provincial Party Committee, People's Government of Jiangxi Province implementing the Views of Enforcement on Implementation of the Decision on Strengthening Technological Innovation*, *Developing High-tech and Realizing Industrialization*, *Several Opinions of Jiangxi Provincial People's Government on Energetically Implement the Strategy of Developing Jiangxi Through Science and Education and Strengthening the Province Through Talents*, *Management Ordinance of Jiangxi Technology Market, Ordinance of Facilitating the Commercialization of Research Findings*, *Jiangxi Provincial People's Government's decision to vigorously develop the Private Science and Technology Enterprises*, *Science and Technology Reward System of Jiangxi Province, Jiangxi Provincial People's Government's Decision on Management System Reform of Provincial Independent Scientific Research Institutes*, *Several Policies on promoting*

Jiangxi's Hi-tech Industry Development, *Trial Procedures of Jiangxi Province-level Private Science and Technology Park Management*, *Trail Procedures of Subsidized Loan Management on Science and Technology Projects of Jiangxi Provincial Science and Technology Agency*. The policies and regulations above will drive the continuous improvement on scientific and technological innovation environment.

2. Jiangxi regional innovation system assessment

In accordance with authoritative publishing of the National Ministry of Science and Technology, China Regional Innovation Capability index and ranking of 2011 and the statistical monitoring index and ranking on national scientific and technological progress, basic judgment on Jiangxi regional innovation system can be concluded as it's in low intermediate level in national scale *(tab. 1)*.

Knowledge innovation capability includes 3 indexes: research and development investment, patent and research articles; Knowledge acquisition capacity includes 3 indexes: scientific cooperation, technology transformation and foreign direct investment; Enterprise technology innovation capacity contains 4 indexes: enterprise R&D investment, design capacity, manufacture and production capacity, revenue of new product sales; Technology innovation environment contains 5 indexes Innovation infrastructure, market demand level, workforce quality level, finance environment and entrepreneurship level; Economic benefits of innovation contains 5 indexes: macro-economy, industrial structure, international competitiveness of product, employment level, as well as sustainable development and environment protection *(tab. 2)*.

Table 1. All Level Index and Ranking of Jiangxi in China Regional Innovation Capability (2011)

Index Name	Composite Indicators	Strength (subitem)	Efficiency (subitem)	Potential (subitem)	Rank
Composite value	22	20	24	6	18
Knowledge Creation	26	21	27	4	22
knowledge acquisition	25	24	18	16	21
Technological innovation abilities of enterprise	27	22	26	25	25
Technology innovation environment and management	16	22	26	29	27
Economic Benefit of Entrepreneurship	14	15	10	18	14
Data Sources: Science and technology statistical data of Jiangxi Province, 2012					

Table 2. All Level Index and Ranking of Jiangxi in Statistical Monitoring of National Science and technology progress (2011)

Index name	Monitoring value	Rank
Environment of Science and Technology Progress	41.99	24
Investment of Science and Technology Activity	37.09	23
Output of Science and Technology Activity	21.84	27
High-tech Industrialization	49.15	12
Science and Technology Facilitating Economic and Social Development	57.99	28
Data Sources: Science and technology statistical data of Jiangxi Province 2012		

3. Existing issues of Jiangxi regional innovation system

Weak in gross science and technology investment.

Of late years, in spite of increase in financial appropriation of science and technology in governments at all levels, the issue of insufficient gross investment is still penetrating. The proportion that provincial local financial investment in science and technology accounting for fiscal expenditure has been stagnant and is in lower level compared to other regions over the country. The proportion of research and experiment development funding accounting for GDP falls far short of the national average.

The development of the provincial science and technology financial system lags behind relatively. Science and technology venture capital, bank loans, social financing and other multi-channel tech investment system are imperfect. Due to the long-term shortage of investment in science and technology, outmoded technical equipment, underdeveloped measures, few result and lower level, which makes it hard to adapt to the needs of economic and social development in science and technology.

Less independent intellectual property rights and technological achievements.

The provincial tech strength is relatively weak, especially in the advanced technology featuring perceptiveness and intersectional nature. In the light of 2012 national statistical monitoring record, Jiangxi's 5 basic indexes including environment index of science and technology progress, science and technology activities input index, science and technology activities output index, the index of high-tech industry and science and technology for economic and social development are not only lower than the national average, but also in the lower position among the 6 China central provinces.

Lack of high-level scientific and technological innovation leading talents.

In particular, it is a serious lack of excellent academic and engineering leaders, high-tech industries leaders, knowledge-intensive management personnel and other high-level science and technology innovation talents. The number of centers for doctoral studies and enterprise postdoctoral working station is only equivalent to one key university or a city in a developed province.

The enterprise-centered technological innovation system has not been completely constructed.

Due to the inadequate reform of property, the enterprises lack initiative impetus, investment and have imperfect organization mechanism in technological innovation, which make enterprises a weak power in technological development. In the year of 2011, 34.28% technology development power is divorced from enterprises and only half of large and medium enterprises have technological development organization while the ones with organization are still weak in innovation.

Lag on the reform and innovation of science and technology system and operation mechanism.

Most of the provincial research institutes still use original operation mode, with weak economic foundation, lack of reserve personnel, independent portal with single function, making it difficult to accomplish the projects with high technical integration request. Though the research institutes have the capability of some element technics, they still show helplessness when dealing with synthesis technique claim from enterprises. Various sciences and technology intermediary's development lag behind and they do not effectively play the role in aggregation effect and service functions of scientific and technological achievements.

4. Policies and measures of Jiangxi regional innovation system construction

4.1 Vigorous implementation of the program "1368" for Jiangxi regional innovation system construction.

A. Core Program: a core program to strengthen innovation subject and form a network interactivity.

Improving the strength and size for 6 innovation subjects including enterprises, institutions of higher learning, research institutes, financial institutes, intermediary service organizations and ability of governments at all levels and forming the regional innovation mechanism and network between innovation subjects while setting innovation as the overall objective.

B. Building regional innovation system program in 3 economic regions including Nanchang city, South Central Jiangxi and West Jiangxi.

C. Building 6 regional innovation system programs, namely knowledge innovation, technology innovation, intermediary services, investment and financing, environment support and policy guarantee.

D. Building 8 characteristics innovation system programs

– pillar industries

– Innovation system program of high and new technology industry

– Innovation system program of industrial park

– Innovation system program of specialization region

– Innovation system program of the industrial cluster of Jingdezhen ceramics

– Innovation system program of military and civilian integration

– Innovation system program of agriculture

– Innovation system program of the Moutain-River-Lake Project.

4.2 Intensifying regional innovation management system

A. Establishing construction leading group to promote regional innovation system of Jiangxi. The leading group takes responsibility for *Top-Level-Design* of the provincial regional innovation system construction, establishing policies and measures, development planning, accreditation of plan implementation, coordination of organization and implementation, etc. Leading group sets the office which can be affiliated to Jiangxi Provincial Department of Science and Technology and takes responsibility for presiding over specific jobs like coordination, monitoring, organizing and implementing, etc.

B. Establishing experts committee for regional innovation. The committee should consist of leading experts from main industries and disciplines. Also famous scholars and experts from domestic and abroad can take part in as consultants that are responsible for consulting on technology level demonstration and decisional counseling for major issues.

C. Establishing strategy and plan for scientific and major industry development. Efforts should be exerted in building technical innovation platform and integrate scientific power in whole province. This will assemble and improve the major research cooperation program of multi-industry and multi-region, aiming to direct and facilitate dynamic integration of scientific power in all directions.

D. Establishing and improving policies in scientific investment, tax, industries, talent, government procurement, intellectual property, etc.

4.3 Deepening the reform on science and technology system

On the basis of national and provincial government work deployment, the property rights system reform of research institutes conversion should be accelerated, the reform in public welfare research institutes should be comprehensively promoted. This will drive most research

institutes and scientific and technical personnel to major economic construction areas, which will make a new road closely combining science, technology with economy.

4.4 Establishing diversified investment and financing system.

Further improvement will be made in diversified scientific and technological innovation investment system with government investment in guidance, enterprise investment as mainstay, financial and venture capital as support, active absorbing social capital and bringing in foreign capital. Capital market will be utilized to promote science and education, science and industry, science and social development, science and industry development of local characteristics, science and capital, scientific development and infrastructure investors, making them a harmonious joint, combined promotion and mutual development in multiple levels.

4.5 Establishing talent support system

A. Organizing and implementing all kinds of talents programs.

B. Carrying out overseas students' entrepreneurship project.

C. Creating a good environment for entrepreneurship, innovation and talents promotion.

D. Intensifying construction of high-level talents resources.

4.6 Establishing an effective mechanism for combining production, teaching with research, and international cooperation

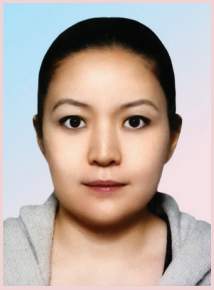
A. Supporting enterprises to build research institutes and engineering technology research centers.

B. Implementing industrialization projects, enhancing the industry-university-research cooperation.

C. Accelerating technical innovation progress of medium-sized and small enterprises.

UDC 330.341.1, LBC 65.011.151

Theoretical and methodological framework establishing the conditions for the development of innovation clusters



Anel' Akhmetovna KIREEVA
Ph.D. in Economics, Senior Research Associate, the Institute of Economics of the Committee for Science of the Ministry of Education and Science of the Republic of Kazakhstan (29, Kurmangazy Street, Almaty, 050010, Kazakhstan, anele19@mail.ru)

Abstract. The article proposes certain methodological approaches to the formation of conditions for the development of innovation clusters, aimed at the structuring, appraisal and promotion of innovation processes. The article highlights some efficient conditions for the formation and development of "ideal" innovation clusters on the basis of these approaches.

Key words: cluster, innovation cluster, regional economy.

Currently, more and more representatives of scientific community acknowledge that the regions, which establish and develop clusters on their territory, are becoming leaders in the technological and economic development of the country. The presence of such leading regions determines the competitiveness of national economies. Of course, the effectively functioning cluster structures accelerate technological process, and the cluster project participants develop certain advantages like openness to innovation, the improvement of business processes and the efficient growth of labor productivity. Clustering is an objective process caused by globalization that spurs the growth of international competition, including the competition for investment resources and for the enhancement of network and informal relationships between entities. Clustering is expanding worldwide; it accelerates the development of innovation-technological processes in national economies.

Thus, the Address of the President of the Republic of Kazakhstan Nursultan Nazarbayev to the People of Kazakhstan "The Strategy "Kazakhstan-2050": new political course of the established state" that took place on December 14, 2012 sets out a goal "to join the 30 most developed states of the world" [1]. Note that the cluster approach should become the main tool in the implementation of the strategy "Kazakhstan-2050".

In view of the above, the following factors become especially important: choosing a suitable location for the construction of facilities; scientific substantiation of the most rational location of innovation technologies with regard to their provision with least mobile labor, material and natural resources and achievement of maximum production efficiency.

Current experience of developed countries shows that the regions' efficient economic development depends to the full extent on the oriented system of interrelated factors, among which the geographic location and highly qualified personnel are very important. An effective and dynamic growth takes place in those regions that have formed the very innovation clusters as an alternative to the traditional branch-wise approach. And the most active and viable clusters are formed on the basis of intersectoral relations diversification.

The phenomenon of cluster as an industry agglomeration of economically interrelated enterprises in some territory is known from the times of handicraft production. However, industrial-innovation clusters began to be regarded as an important factor in the regions' economic development only in the last quarter of the 20th century [2].

So, the main feature of a cluster is its innovation. It includes the entire innovation chain, from generation of scientific knowledge and formation of business ideas on their basis to the sales of marketable products in traditional or new markets [3]. Cluster structure leads to the creation of a "comprehensive innovation product" – a special form of innovation [4]. The unification into a cluster on the basis of vertically oriented integration establishes an efficient system of transfer of new knowledge and technologies rather than just a concentration of various technological and scientific achievements. The formation of sustainable relations between all the cluster participants is the most important condition for the effective transformation of achievements into innovations, and innovations into competitive advantages [5].

The cluster approach is a relatively new tool for Kazakhstan. But it begins to play a most important part in the strategies for the country's innovation development. Certain mechanisms for promoting and supporting the development of clusters are formed at the state level.

In general, it is necessary to point out that the cluster initiative is being implemented in accordance with the President's Address to the people of Kazakhstan "To the competitive Kazakhstan, competitive economy, competitive nation" dated March 19, 2004 [6]. The main objectives of Kazakhstan's cluster initiative is to create the necessary conditions for the fullest use of the country's competitive advantages in order to develop the non-primary sector of economy with the involvement of private business structures and enhancement of the competitiveness of domestic enterprises.

Kazakhstan in the course of its development has approached a situation when the diversification of production is strongly required in order to avoid further dependence on the oil sector. The expected entry into the WTO (World Trade Organization) urges the country to take immediate measures of innovative and technological nature. In this context, without major changes, economic growth will acquire extensive character, and the ability of enterprises to withstand market changes will decrease gradually. In this connection, a special role belongs to the cluster model that facilitates the realization of comparative advantages, turning them into competitive advantages.

Let us distinguish five basic theoretical concepts that support the cluster theory [7]:

- external economies;
- innovation environment;
- cooperative competition;
- rivalry;
- path dependence.

We should note that the provisions of these theories are directly connected with Porter's diamond model of competitiveness, and, as a matter of fact, a cluster enhances the competitive advantage of producers [8, p. 92] increasing the productivity of processes and resources of individual enterprises by forming and localizing specific sustainable sources of its competitive advantages. A cluster is formed within a single institutional environment with a high degree of specialization, cooperation and competition. Thus, as M. Porter notes, the region should have at least two leading industries, involved in the technological chain.

However, Porter's closest follower M. Enright argues that a cluster is formed only by competitive enterprises. He speculates that competitive advantages are created not on the supranational or national level, but on the regional level where historical prerequisites such as the development of regions, the diversity of business practices and organization of production, and education play the leading part [9]. These circumstances cast doubt upon the ways of adjusting the cluster technologies for their use in Kazakhstan.

At that, there are some organizational problems that hamper the formation of innovation clusters in the country; they are conditioned primarily by the necessity to enhance the cooperation and interaction of organizations within the cluster structures. M. Porter defines four factors as the sources of competitiveness in the global economy:

1) technological capacity;

2) access to a large-scale, integrated, and rich market;

3) the difference between the production costs of the producing party and prices in the target market;

4) political opportunities of national and international institutions for managing the growth strategies of countries and regions under their jurisdiction [10, p. 205].

It becomes evident that these very sources provide competitiveness, because they represent institutional, operational and economic conditions for the formation of clusters.

Currently the cluster approach is used in many countries for enhancing the competitiveness of national economy. Thus, the European experts who monitor the development of small and medium-sized enterprises have analyzed several types of clusters, and using the research by M. Storper [11, p. 92] they have worked out a scheme of development of the "ideal" cluster that includes six stages:

1) establishment of pioneer companies on the basis of local production specifics, spin-off process;

2) creation of a system of suppliers and a specialized labor market;

3) formation of new organizations (often governmental) to support the firms;

4) attraction of external domestic and foreign firms, highly skilled personnel into the cluster as an impetus for the establishment of new cluster firms;

5) creation of implicit assets (knowledge) between firms; for promoting the diffusion of innovations, information and knowledge;

6) the possible period of cluster's decline due to the exhaustion of its innovation potential, lack of its openness for external innovation [12, p. 93-94].

However, not all the "ideal" innovation clusters go through the six stages of development: some stage, perhaps, will be completed, while others simply fall out. In addition, the formation of any "ideal" innovation cluster requires a high level of interaction and partnership between enterprises, research and public organizations, and the government. Each organization can be a valuable tool in the creation of the cluster, and it can effectively perform its functions and tasks, only as part of a smoothly running **synergetic mechanism** *that is a set of functional elements in the form of separate subsystems that have specific tools for fulfilling the functions of this mechanism.*

World practice shows that developed countries are currently at the stage of assimilation of innovation advantages, and the rest are mainly at the stage of assimilation of factor advantages and partly – investment advantages in terms of attractiveness, China, for instance. The strategy of orientation to the world market, provides developing countries with an opportunity to use a kind of "advantage of backwardness". As for the transition to technological competitive advantages, it requires that the government should coordinate investments in technology with the development of "human capital", and its objective multidimensional assessment [13]. Kazakhstan has significant problems connected with the reduction in fundamental science financing, and with the reforms in the education system.

The most successful innovation clusters are formed in the places that have opportunities for establishing a well-functioning synergetic mechanism in the field of breakthrough technologies with subsequent access to global markets. Thus, the consolidated groups participating in the cluster on the basis of vertical integration, form a strictly oriented system of knowledge and innovation transfer, rather than just a spontaneous concentration of various technological innovations.

Germany represents a most successful example of innovation clusters formation on the basis of a smooth interaction within one and the same region. Sectoral and cross-sectoral networks of companies, created in the framework of the federal state of North Rhine-Westphalia, allow the regional authorities to form their own international brand under the name "Exzellenz NRW", considering it part of the common strategy for positioning the region to attract investments.

The Ministry of Economic Affairs and Energy of the State of North Rhine-Westphalia, which supervises the project, adheres to the official standpoint that "the cluster policy has been adopted in order to stimulate economic growth and transform the industry into creative economy" [14, p. 20]. A task of innovation clusters of this territory is to initiate creative processes and, for this purpose, to form close unions of complementary companies, research organizations, and associate members like credit institutions and educational establishments.

Therefore, the "ideal" innovation clusters create conditions for attracting investment resources; they also promote the growth of business activity of entrepreneurial structures, the development of social, economic, information and integrated systems; this in turn, enhances the competitiveness of the national economy.

In this regard, we suggest a *step-by-step methodology for the creation and development of innovation clusters*, which represents an order of interrelated procedures that make it possible to create a cluster formation.

In our opinion, the step-by-step creation of innovation clusters should be based on the methodological approaches that provide for the reduction in organizational challenges in the sphere of clusters formation:

- *process approach* creates a basis for the structuring of technological processes and formation of the processes management system, which includes control over the execution of the processes and efficiency of their organization;
- *resource-based approach* is aimed at assessing and identifying the resources required for the efficient implementation of the functions of innovation clusters, and their capacity;
- *result-oriented approach* ensures the operation of a control mechanism that assesses the achievement of the goal of innovation cluster formation and specifies the direction of development; besides, this mechanism promotes the integration of all the structural elements of the cluster for the implementation of common strategic tasks;
- *innovation approach* facilitates the development of innovation processes and forms

the ability of the cluster to use resources and knowledge efficiently.

We propose to define several efficient conditions for the formation and development of "ideal" innovation clusters on the basis of the above methodological approaches:scientific potential, i.e. research institutes and centers, university and factory (industrial) science;

- institutional prerequisites that can be highlighted on the basis of the cluster approach – governmental support for the idea of establishing an innovation cluster, possibly in the framework of a high-priority sector;
- political prerequisites, which are manifested in the determination of the leadership to develop innovation activity as one of the strategic priorities of development;
- social prerequisites that are connected with social interaction within the cluster, as well as the availability of human resources;
- production prerequisites, namely, the level of innovativeness of region's industry in general and that of individual enterprises constituting the cluster;
- economic prerequisites that are manifested in the presence of competitive enterprises capable of attracting additional investment and loan capital.

Therefore, the cluster structure of organizing innovation activity leads to the creation of innovation product. Such innovation is the product of joint activities of business entities, which will promote their dissemination through an interconnected network in the common regional economic space. Furthermore, a variety of different sources of technological knowledge and contacts facilitates the achievement of competitive advantages and becomes a prerequisite for innovation. Consolidation into an innovation cluster on the basis of vertically oriented integration forms a concentrated system for the dissemination and adoption of new technologies, rather than just spontaneous concentration of various technological inventions.

The innovation cluster, as the most effective tool for enhancing competitiveness, is a synergetic mechanism of efforts undertaken by different organizations, industrial enterprises, research centers, government authorities, higher educational institutions and public organizations.

The system of relations between the participants of the innovation cluster is complex in its nature and should include the legal, organizational, economic, innovation, infor-mation and other mechanisms. Therefore, it is necessary to pay special attention to the harmonization of the cluster participants' interests. In our opinion, the interests of an enterprise should be considered from the perspective of its profitable interaction with the subjects of external environment carried out permanently or during a certain period of time on a compulsory basis or at the enterprise's own choice.

In this regard, the efficient conditions for the formation of innovation clusters should consist, first of all, in creating sustainable spatial framework of various structural cluster zones of priority (innovation) development, which could spread innovations to the extensive periphery of the country. Thus, "ideal" innovation clusters create conditions for attracting investment resources; they also promote the business activity of enterprises and entrepreneurs, the development of social, economic, information and integrated systems; this, in turn, enhances the competitiveness of national economy. This approach ensures the efficient transformation of inventions into innovations, and innovations – into competitive advantages of the cluster.

References

1. *Poslanie Prezidenta Respubliki Kazakhstan – lidera natsii N.A. Nazarbaeva narodu Kazakhstana "Strategiya "Kazakhstan-2050" – Novyy politicheskiy kurs sostoyavshegosya gosudarstva" 14 dekabrya 2012 g.* [Address of the President of the Republic of Kazakhstan, Leader of the Nation, Nursultan Nazarbayev to the People of Kazakhstan "The Strategy "Kazakhstan-2050": New Political Course of the Established State" on December 14, 2012].
2. Gibezh A.A. Derevyannoe domostroenie kak osnova klastera [Wooden Housing Construction as a Basis for Cluster]. *Problemy strategii i taktiki regional'nogo razvitiya: materialy V Rossiyskoy nauch.-prakt. konf., g. Vologda, 25–27 yanvarya 2006 g. Chast' II* [Issues of Strategy and Tactics of Regional Development: Proceedings of the 5th Russian Research-to-Practice Conference, Vologda, January 25–27, 2006. Part 2]. Vologda: VSCC CEMI RAS, 2006.
3. Biryukov A.V. Preimushchestva sovremennykh innovatsionnykh klasterov [Advantages of Modern Innovation Clusters]. *Maritime News of Russia*. Available at: http: www.morvesti.ru
4. Migranyan A.A. Teoreticheskie aspekty formirovaniya konkurentosposobnykh klasterov v stranakh s perekhodnoy ekonomikoy [Theoretical Aspects of Formation of Competitive Clusters in Transition Economies]. *Vestnik KRSU* [Bulletin of Kyrgyz-Russian Slavic University], 2002, no.3.
5. Yalov D.A. Klasternyy podkhod kak tekhnologiya upravleniya regional'nym ekonomicheskim razvitiem [Cluster Approach as a Technology of the Regional Economic Development Management]. *Kompas promyshlennoy restrukturizatsii* [Compass of Industrial Restructuring], 2007. http:www.compass-r.ru/st.html
6. *Poslanie Prezidenta strany N.A. Nazarbaeva, lidera natsii, narodu Kazakhstana "K konkurentosposobnomu Kazakhstanu, konkurentosposobnoy ekonomike, konkurentosposobnoy natsii" 19 marta 2004 g.* [Address of the President of the Republic of Kazakhstan, Leader of the Nation, Nursultan Nazarbayev to the People of Kazakhstan "To the Competitive Kazakhstan, Competitive Economy, Competitive Nation" on March 19, 2004].
7. Bergman E.M. *Industrial and Regional Clusters: Concepts and Comparative Applications. Web Book of Regional Science*. West Virginia University. Available at: http://www. rri.wvu.edu/ WebBook/ Bergman-Feser
8. Porter M. *Mezhdunarodnaya konkurentsiya* [The Competitive Advantage of Nations]. Translated from English and edited by V.D. Shchetinin. Moscow: Mezhdunarodnye otnosheniya, 1993.
9. Enright M. J., Sun Hung Kai. *Survey on the Characterization of Regional Clusters: Initial Results. Working Paper*. 2000.
10. Porter M. *Konkurentsiya* [On Competition]. Translated from English. Moscow: Vil'yams, 2000.
11. Storper M. Walker R. *The Capitalist Imperative. Territory Technology and Industrial Growth*. New York: Basil Blackwell, 1989.
12. Pilipenko I.V. *Konkurentosposobnost' stran i regionov v mirovom khozyaystve: teoriya, opyt malykh stran Zapadnoy i Severnoy Evropy* [Competitiveness of Countries and Regions in the World Economy: Theory, Experience of Small Countries of Western and Northern Europe]. Smolensk: Oykumena, 2005.
13. Sokolov B. I. Finansovoe izmerenie chelovecheskogo kapitala v Rossii [Financial Dimension of Human Capital in Russia]. *Problemy sovremennoy ekonomiki* [Problems of Modern Economics], 2010, no.4, pp. 53-56.
14. *North Rhine-Westphalia 2015. Report of the Council of NRW*. Available at: http://www.factor10-institute.org/files/NRW_2015_e.pdf

MODELING AND INFORMATICS

UDC 338.27:330.42, LBC 65.23

The use of median rank for the comparison of alternatives in the long-term

Sergey L'vovich SADOV
Doctor of Economics, Leading Research Associate, Laboratory for Complex Fuel-and-Energy Issues, the Institute of Socio-Economic and Energy Problems of the North Komi Science Centre, Ural Branch of RAS (26, Kommunisticheskaya Street, Syktyvkar, 167982, Russia, sadov@energy.komisc.ru)

Abstract. The article offers the author's approach to the comparison of the alternatives for the long-term development of the system/object, based on the use of ordinal variables. The best alternative is compared and selected using the author's method of supramedian ranks. The article illustrates the application of the proposed approach when choosing the option of economic development of the Komi Republic.

Key words: alternatives for the long-term development of the system/object, supramedian rank method, ordinal variables.

It is necessary to forecast socio-economic processes for the long term, to assess the variants of their dynamics and to give recommendations on selecting the alterna-tive in the conditions of high uncertainty. This results from the large forecast hori-zon, and as a consequence, great uncer-tainty of the external conditions – the environment, in which the forecast object (system) develops and functions, and low reliability of the majority of the original data. Socio-economic systems, as a rule, are very complex, which leads to great and essentially inherent uncertainty in determining the dynamics of their development. Therefore, when modeling economic systems, it is typical that expert evaluations serve as an important part of the information support of the models.

Moreover, it is desirable to minimize specific quantitative evaluations, provided by the experts, that in the long-term are invariably inaccurate and can misinform the researcher. The aim of the author was to develop a method for selecting the best alternative for the development of the object/system, based on the population analysis of expert qualitative evaluations, which goes beyond grouping the alternatives by preference, and allows differentiating them to the maximum degree.

The means of the fuzzy sets theory were used previously, when dealing with the specific features of uncertainty in the economic evaluation of oil and gas resources, and have suited well to the modeling problems of

geological objects and bearing areas and to the issues of estimating the economic value of hydrocarbon resources [1]. It remains unclear whether the situation is favorable for the long-term forecasting problems of socio-economic processes. For example, the construction of the membership function, one of the most important means of the fuzzy sets theory, in each specific task requires different approaches and consideration of particular characteristics of the industry. Therefore, it proved to be useful to address other possibilities for forecasting in conditions of uncertainty, provided by mathematics.

For these purposes, nominative variables, ordinal variables, interval variables and ratio variables are widely used along with the fuzzy variables. They are listed in the order of increasing informative value and the requirements to the initial information are increasing along in the same order. Ordinal variables are of special attention in the list. This is the type of a discrete variable of qualitative nature, used to indicate ordinal or rank indicators. They are expressed numerically in points or verbally in the form of a linguistic scale gradation (which can also be easily converted into quantitative indicators). They require less information support – above mentioned expert evaluations are sufficient. The examples of ordinal variables application in forecasting and management problems are mentioned in the works of T. Saati [2], Ya.I. Kurgin [3], on sociological, psychological and linguistic topics. There are no any serious obstacles for their application when solving the tasks of the economic forecasting of the qualitative character.

This approach is implemented in the well-known median rank method [4]. Although the user of the given method will have to regard a number of alternatives as equal and combine them into a single cluster, which is formally legitimate. But this is nonsense for the content of the task in hand: the alternatives for long-term development should provide *considerably different* ways of the development of the system under consideration, so one should not mix them, but to seek the best of them. The suggested supra-median rank (SR) method serves this purpose.

Let us consider the formal statement of the task of comparing several development alternatives of the object/system that can be associated with a region, sector or economic sector or private entity. The goal of the researcher is to determine the best alternative for the implementation, by means of comparison.

At the *first stage* (analytical) the expertise determines, on the one hand, the alternative – significant variants for the development of the object/system, which must exhaust the main possibilities and differ considerably from each other, and *m* factors, affecting the development of the object/system. The factors may be absolutely different in nature – economic, energy, social, investment, environmental, institutional, demographic, transport, etc. – the main point is that their effect is to be acknowledged as essential.

Further by each of the alternatives, each factor is conferred a rank, which will characterize its sufficiency, capacity to support and ensure the development of the object/system in compliance with the alternative, and the selection of the best alternative, based on the obtained set of ranks. Since the factors will be of different character and dimension, they should be reduced to a single scale of ranks, typically consisting of 5 or 9 levels. Let us consider the widely used scale, consisting of nine gradations [2]. For the problem under review:

- rank 1 is to define the excellent, highest capacity of the factor to ensure the considered development alternative;
- rank 3 –good capacity;
- rank 5 –satisfactory capacity;
- rank 7 –bad capacity;
- rank 9 – complete incapacity.

Even ranks from 2 to 8 express intermediate states. This establishes a link between quantitative values of ranks and their verbal description as a linguistic variable [5]. If the detection of even ranks for any factor will be very difficult, it will be necessary to apply the scale of 5 uneven levels. This will result in lesser "resolution capability" of the given factor, but will not change the method's principle. The analysis of the obtained matrix of factors will highlight the bottlenecks in the implementation of an alternative.

At the *second stage* (algorithmic) the *supra-median rank method* is used to evaluate the alternatives to conclude, which alternative is preferential. Obviously, the alternative is to be chosen, in case all its ranks are the best. But such situation is a rare exception. As a rule, when assessing the factors the situation is rather discordant. In this case, a set of supra-median ranks attributed to the alternative is highlighted out of the sum total of ranks. At that, the reason that there can not and should not be too many implementation drivers for this or that development scenario and that an absolute majority of the factors out of their total number will be sufficient enough, will play the decisive role.

Let us consider the best or equal to median ranks as *supra-median*. They should make up the absolute majority among the ranks involved in the assessment of alternatives, i.e. their number is not less than m', where

$$m' = \begin{cases} \frac{m}{2} + 1, \; if \;\; m - even\, number \\ \frac{m+1}{2}, \; if \;\; m - uneven. \end{cases}$$

In other words, *supra-median ranks* are m' of the ranks in the beginning of the series, ranked from the best to the worst. Up to this moment, the described method is reminiscent of the median rank method [4]. But the further course of actions is significantly different.

As a rule, it turns out that at the first stage many alternatives have the same median rank (MR). In that case, in order to differentiate them in detail, it is necessary to apply other criteria, used in the method (*figure*): the number of supra-median ranks (NSR) is calculated for the alternatives with the same MR, and the higher the NSR of an alternative, the more preferential it is.

When required, providing that any alternatives have the same NSR, special attention is paid to the structure of supra-median ranks – the more high ranks among them, the better is the structure, which is revealed by such criterion as the sum of SR (SSR). The lower SSR of an alternative, the higher its evaluation as a result. At that, of special importance is such subtlety as the conditional character of addition operation, as in theory, ranks are not necessarily to be expressed in figures (though it may be more familiar and more comfortable). Letter symbols and any pictorial images are acceptable, as long as the order is defined for their set. In this case the introduction of the addition operation on the set of the symbols is possible theoretically, though it is a troublesome and pragmatically unreasonable activity. Therefore the addition at this stage of the algorithm is important only as the means of reflection, qualitative analysis and quantitative assessment of the structure of the supra-median ranks of the alternative.

Sequence of criteria in the supra-median rank method

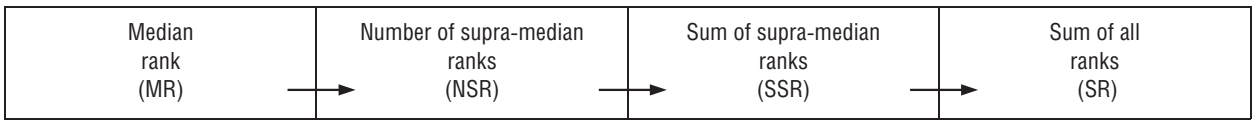


Table 1. Example of determining the best alternative by SR method

Alternative	Factor							MR	NSR	SSR	SR
	1st	2nd	3rd	4th	5th	6th	7th				
Alternative-1	5	2	7	6	3	6	4	5			
Alternative-2	4	7	5	2	4	3	6	4	4	13	
Alternative-3	1	7	4	6	4	2	8	4	4	11	32
Alternative-4	3	6	2	4	2	7	5	4	4	11	29

The last attempt to differentiate the alternative, in case all its previous results are the same is to calculate the sum of *all* ranks (SR), i.e. considering the whole set of ranks, obtained for the alternative. And only if they are equal, the alternatives are to be acknowledged as equivalent and the final choice is to be made by other critera. Perhaps, one should turn to the source data and check, if the assignment of the initially conferred factors to the rank values is appropriate. The sequence of criteria, used when required (see figure), allows pointing to the application of the advanced concept of the median rank, its generalization. Hence, the name of the SR method comes.

Example. Assume that 4 alternatives for the development of the object/system are considered and 7 factors are selected according to the results of the analysis, the following source data are prepared, applying the scale of 9 gradations (*tab. 1*).

The process of determining the median rank by the example of the first alternative is as follows: as there are 7 factors, in compliance with the formula $m' = 4$. Among the set of ranks of the given alternative, we look for the highest one – rank 2 in this case. Can it be median? No, as it is the only one, and $1 < m'$. Further we consider whether the next rank is median – rank 3 in this case. Also no, as the number of the third and better ranks is $2 < m'$. Rank 4 together with the best ones also does not form the majority, therefore, can not be median. And only rank 5 is the median. Similarly the median ranks for the alternatives from the 2nd to the 4th are found and for all of them it makes up 4. If some alternative had the highest median rank, it would be recognized as the best and the work by the given method would end at this. But in this example, three alternatives have the highest MR (note that in compliance with the median rank method they should all be enrolled in one cluster), so the second criterion – the number of supra-median ranks is applied to this group. As 4 is the number for all the alternatives, the choice cannot be made, so the next criterion – the sum of supra-median ranks comes into action. This amount for "alternative 2" is equal 4+2+4+3=13, for the third: 1+4+4+2=11, for the fourth: 3+2+4+2=11. For the last two alternatives with the best values of the SSR criterion, they were equal, therefore the last criterion – the sum of the ranks, the value of which is 32 for "alternative 3", and 29 for "alternative 4", is to be applied. As the result of "alternative-4" is the best and the supra-median rank method ends at this.

Let us turn to the particular task of evaluating and selecting alternatives for the economic development of the Komi Republic in the long term. The following 4 alternatives (except the conservative-inertial alternative), promising in terms of socio-economic development of the region, can be singled out for the Republic [6, 7]: No.1 –the extension of raw-material orientation, No.2 – focus on the increase in the processing of raw materials with high added value, No.3 – the creation of new industries, No.4 – innovation. At least 6 factors will affect the possibilities of the alternatives' implementation: investment, technology, personnel, transport, institutional, environmental (that is the order they are included in *tab. 2*), therefore $m' = 4$.

Table 2. Factor matrix for selecting g the alternative for the economic development of the Komi Republic

Alternative	Factor						MR	NSR	SSR	SR
	1st	2nd	3rd	4th	5th	6th				
No. 1	6	2	3	7	4	8	6	–	–	–
No. 2	3	4	3	5	3	6	4	–	–	–
No. 3	4	5	5	5	5	5	5	–	–	–
No. 4	3	7	6	3	2	2	3	–	–	–

In order to assign ranks to the alternatives by any of the factors, it is necessary, first of all, to analyze how essential this factor is for implementing alternatives, assessing its impact, and then correlating its affect with a 9-grade scale of ranks.

Thus, for example, the investment factor is the most unfavorable for the alternative No. 1, as a part of the Timan-Pechora oil and gas province, located in the Komi Republic, is mainly comprised of deposits in the stage of declining production, and of prospective resources with problematic localization, therefore it is of the utmost interest to the major oil companies (having large investment opportunities). Whereas small companies do not have sufficient investment resources for prospecting and exploration and for developing the potential of the understudied areas of the province. The coal resources development is also very capital intensive.

The investment factor is less significant for alternative No. 3 and even lesser (approximately to the same extent) – for No. 2 and No. 4. Based on the correlations, the closest numerical gradations conformable to their linguistic values are selected on the 9-grade scale. As a result, the quantitative values of grades, equal to 6, 4, 3 and 3 respectively, were selected. The same is for other factors. The important development trend of the method described above is to make the process of assigning numerical values of ranks more objective through its unification and formalization.

Thus, factor matrix has the form (see tab. 2). It is noticeable that already at the first stage of the SR method the Alternative No.4 reveals itself as the most promising for implementation.

In conclusion, it should be noted that it is useful not to consider the SR method in isolation from economic assessments, even though they are approximate and obtained through long-term forecasting, in order to study the forecasts more thoroughly. Let us suppose that an Alternative (No.2, extension of raw-material orientation) is recognized as the most desirable for the successful socio-economic development of the Republic. Then it would be useful to compare the costs of the bottlenecks expansion of this alternative (in this case, 2nd and 4th factors that are to be raised to the rank 3) with the positive consequences of its implementation. In other words, it is necessary to determine whether it is worth to fight for this specific alternative or it will be better to focus on the one that is more consistent under current conditions. One of the ways to improve the given method may be to maintain accounting of nonequivalence factors, by which the practicability of alternatives is assessed – for the cases with certain prevalence of some factors within the whole forecast period.

References

1. Sadov S.L. *Metody otsenki neftegazovogo potentsiala territoriy* [Methods for Assessing Oil and Gas Potential of the Territories]. Syktyvkar: KNTs UrO RAN Publ., 2007. 248 p.
2. Saati T. *Prinyatie resheniy: metod analiza ierarkhiy* [Decision-Making: Analytic Hierarchy Process]. Moscow: Radio i svyaz', 1993. 280 p.

3. Khurgin Ya.I. *Problemy neopredelennosti v zadachakh nefti i gaza* [Problems of Uncertainty in Oil and Gas Issues]. Moscow-Izhevsk: Institut komp'yuternykh issledovaniy, 2004. 320 p.
4. Orlov A.I. *Ekonometrika* [Econometrics]. Moscow: "Ekzamen" Publ., 2002. 576 p.
5. Zadeh L. *Ponyatie lingvisticheskoy peremennoy i ego primenenie k prinyatiyu priblizhennykh resheniy* [The Concept of a Linguistic Variable and Its Application to Approximate Reasoning]. Moscow: Mir, 1976. 165 p.
6. *Energoekonomicheskoe prognozirovanie razvitiya regiona* [Energy and Economic Forecast of the Region's Development]. Executive Editor: RAS Corresponding Member V.N. Lazhentsev. Moscow: Nauka, 2008. 356 p.
7. *Innovatsionnoe razvitie toplivno-energeticheskikh sistem Severa* [Innovation Development of Fuel and Power Systems of the North]. Executive Editor: O.V. Buryi. Syktyvkar: KNTs UrO RAN Publ., 2011. 244 p.

UDC 331.101.262(470.12), LBC 65.240(2Rus-4Vol)

Assessment of the effectiveness of population's labor behavior at the macro-level

Andrey Vasilyevich
POPOV
Junior Research Associate, Department of Living Standards and Lifestyle Studies, Federal State-Financed Scientific Institution the Institute of Socio-Economic Development of Territories of the Russian Academy of Sciences (56A, Gorky Street, Vologda, 160014, Russia, ai.popov@yahoo.com).

Abstract. The article considers the main approaches to the research into the effectiveness of people's labor behavior. Special attention is paid to the analysis of statistical, social and statistical-sociological methods. The article presents the author's methodology for analyzing the effectiveness of labor behavior by the spheres of manifestation: in the labor market and in an organization. The research shows a high degree of differentiation by this indicator among the Russian territories. The indicator's value was the highest in the Ural Federal District (0.588 points) and Central Federal District (0.422 points); it was the lowest in the Siberian (-0.139 points) and North Caucasian (-1.269 points) federal districts. The integrated assessment of the people's labor behavior effectiveness was conducted, 5 groups of RF regions were allocated according to this criterion depending on the indicator's value. The results of the analysis show that the territories with the high level of the indicator under consideration include such subjects of the Central Federal District as Moscow and the Moscow Oblast. The majority of RF subjects constitute the group with the level above medium. The medium-level group includes the regions that are part of nearly all the districts (except for the Ural Federal District), including the Vologda Oblast. The low level of labor behavior effectiveness indicates a depressive character of the territories and requires immediate measures for enhancing the search for reserves and increase in the efficiency of formation and use of labor potential.

Key words: labor behavior, integral index, region, effectiveness of labor behavior.

The late 1990s – early 2000s were a time of dramatic changes in the Russian society. Enterprises transfer to private ownership, new property owners' lack of attention to traditional methods to stimulate production activity of ordinary workers have led to a change in the existing labor values. The role of workers' material claims has increased significantly, thus changing the nature of labor activities and consequently transforming their labor potential in a qualitative way.

The government of the country[1] faces the tasks of increasing the pace and sustainability of economic growth, improving citizens' real incomes, achieving technological leadership is impossible without enhancing the quality of work activities. Socio-economic transformation is to be carried out by highly qualified and motivated employees.

This provision actualizes the problem of the analysis of labor behavior efficiency, which study reveals the potential for the work intensification in general.

Labor behavior is a way of the population practical implementation of employment potential, associated with the creation of material and spiritual wealth to satisfy certain human needs[2].

The studies of labor behavior which is currently a research subject in many disciplines, such as sociology of labor, economics of labor, psychology of labor and so on, are interdisciplinary. The variety of structural elements of labor behavior caused the emergence of a large number of conceptual and methodological approaches to its analysis [7]. Nevertheless, the study of problems of labor behavior efficiency has not been developed appropriately. Typically, the analysis has been limited to considering a single aspect, such as an impact of financial and nonfinancial incentives on the worker's labor productivity, motivation issues, job satisfaction, etc.

Existing approaches to assess labor behavior effectiveness can be divided into two groups: *sociological and statistical-sociological,* with the key classification criterion being a methodology used to gather information. Let us consider the presented methods in more detail.

The greatest number of studies of labor behavior is based on the use of sociological measurement, such as "standard" polls, questionnaires, and closely related psychodiag-nosis and testing. It is determined by a psy-chological component of labor behavior.

One example of a sociological approach to clearly calculate an integral characteristic of the effectiveness of labor behavior is a methodology developed in the Institute of Socio-Economic Development of Territories of RAS (ISEDT RAS). As labor behavior is a "way of practical implementation of the labor potential of the population", and its efficiency is determined by the fact how fully able-bodied population realizes the potential [9, p. 106-108].

To assess the level of the population use of their qualities and skills in labor activity, in the framework of the labor potential monitoring[3], we developed a special methodology based on the question pool: "How fully are you "stretched" at work? To what extent do you use your qualities and skills?". The study uses the following four-point marking scale: "to use completely (strained to the limit)" – 4 points, "more-less completely (can use more skills)" – 3; "incompletely (little)" – 2; "very little (at a minimum)" – 1. Then divide the actual number of points by maximum possible, convert the received grades into indices, conditionally called as indices of the labor potential implementation. They comply with eight basic indices of the labor potential quality (*fig. 1*).

[1] In accordance with the decrees of the RF President V.V. Putin, dated 21.05.2012, the government was renewed by three quarters.

[2] A detailed description of the theoretical basis of the labor behavior is given in the research work "Management of human capital and innovative development of the territories": final report of the research work. Executed by A.A. Shabunova, G.V.. Leonidova, K.A. Ustinova, A.V. Popov, A.M. Panov. Vologda, 2012. Pp. 34-42.

Informative meaning of the received indices is the following: each index reveals what share of the existing quality is actually embodied in the labor activity, i.e. if the index is equal to 0.25 points, this means that a person realizes its potential only by a quarter. Multiplying the calculated indices by 100%, we get an index showing how many percent of the labor potential *quality* is implemented, i.e. it is an analogue of employment, showing how many percent of the labor potential *quantity* is implemented. Thus calculated indicator was conditionally named as a *realization level of labor potential quality*. The effectiveness of labor behavior is defined as an average realization level of labor potential quality [8, p. 45].

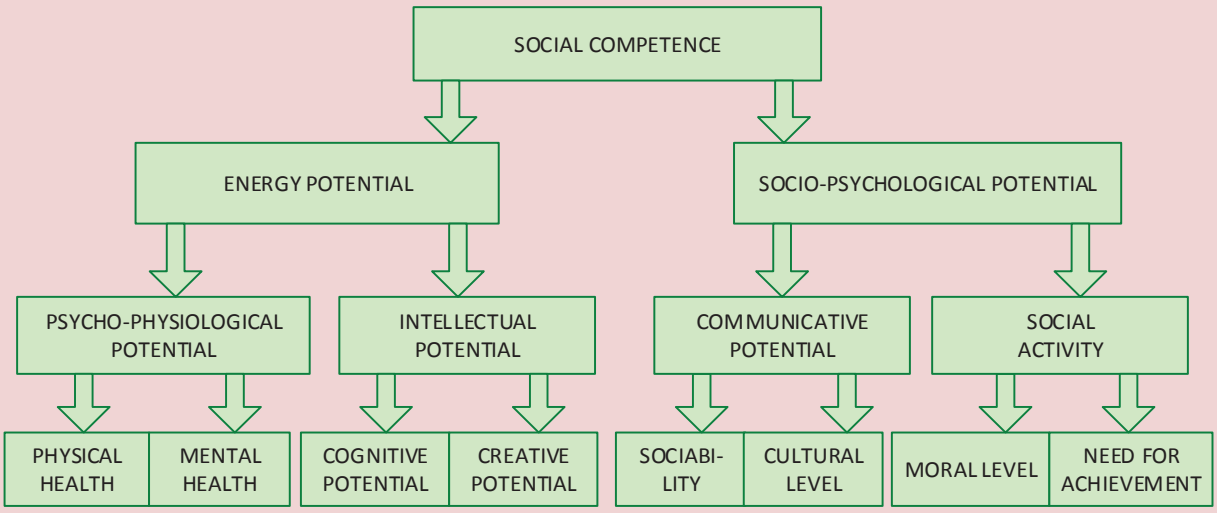
The main advantages of the approach are the following: the use of data that are impossible to get in official statistics; possibility of independent specification of the general sample, etc. that significantly expands the study.

At the same time, the high efficiency of sociological methods, applied in the process of studying various aspects of labor behavior, disappears when assessing its effectiveness due to the fact that the integral index is calculated on the basis of the respondents' subjective estimations. It is possible to get more objective results by means of improvement of a methodological base and methodologies for collecting information.

Using a statistical-sociological method one can avoid some weaknesses of a sociological approach by integrating the latter with the official statistics data. The key advantages of this method are receiving more reliable test results and opportunities to include a variety of factors, due to the extensive information base. However, the disadvantages of the approach are a limited use of the research results, labor intensity and complexity of integral indicators calculations.

Among statistical and sociological methods to assess the effectiveness of labor behavior the most prominent one is the work by I.A. Kulikova [5]. Her research is based on the use of objective (statistical) and subjective (sociological) indicators. As a case study, *table 1* presents a classification of indicators cha-

Figure 1. A structure of the labor potential quality (according to the methodology of ISEPP RAS)



Source: Chekmareva E.A. Realizatsiya trudovogo potentsiala regiona: zaklyuchitel'nyy otchet o NIR [Implementation of the Region's Labor Potential]. Executed by E.A. Chekmareva. Vologda, 2010. 94 p.

Table 1. Indicators of the effectiveness of labor behavior in the labor market

Indicator	Unit of measurement
Objective	
Direct	
Average duration of job search	Months
Average amount of time spent on job search	Hours a week
A share of active profile groups per job seeker	%
An average number of job search methods per job seeker	Points
An average number of job applications	Points
An average number of persons refusing jobs offered by a employment service (state and commercial), relatives, friends or an employer	Points
A coefficient of population independence in employment	–
Indirect	
Provision of the population with employment services	%
A proportion of trainees per job seeker	%
Distribution of job seekers number by job search methods	%
Subjective	
Direct	
Satisfaction with the workplace which a person is going to have	%
Person's positive evaluation of job search	%
Indirect	
Job seekers' satisfaction their status, the current situation	%
A level of initiative, job seekers' business acumen	%
A level of optimism in employment	%

Sources: compiled from the materials: Kul'kova I.A. Upravlenie trudovym povedeniem kak faktor usileniya trudovoy motiva-tsii: avtoref. dis. na soisk. uchenoy step. d-ra ekon. nauk [Management of Labor Behavior as a Factor in Enhancing Labor Motivation: Doctor of Economics Dissertation Abstract]. Izhevsk, 2009. P. 29.

racterizing labor behavior of the population in the labor market as one of the spheres of its application[3].

Generally, the significant disadvantage of the presented approaches is a limited use, as it is not easy to obtain sociological data. In this regard, it is important to develop methodologies for assessing the effectiveness of labor behavior on the basis of official statistics data.

As a rule, *the statistical method* is not suitable for the analysis of motivation, attitudes, values, etc., but it represents the final result of labor behavior and, therefore, can be successfully applied to calculate indicators of its effectiveness. This approach simplifies and standardizes a set of indicators, contributing to the geographical expansion of research due to availability of the information base.

We examine effectiveness of labor behavior in terms of economically active population of Russia on the basis of official statistics data.

The essence of this study, as well as in the works of some researchers (I.A. Kul'kova [3, 4], N.I. Shatalova [8] and others), lies in dividing labor behavior by the spheres of its application (*tab. 2*):

1. The labor market. To calculate the indicator of workers' labor behavior in the labor market one includes unemployment rate; average duration of job search, specific weight of the unemployed looking for a job for 12 months

[3] It should be noted that mostly the labor behavior of the people in an organization/company has been studied in the foreign and domestic literature.

Table 2. Indicators characterizing labor behavior

№	Indicator	Unit of measurement	Weight coefficient
Labor behavior in the labor market			
1.	Unemployment rate (by ILO)	%	1.0
2.	Average duration of job search	Months	1.0
3.	Share of the unemployed looking for work for 12 months and more	%	1.0
4.	A structure of unemployed by jobs search methods.	%	1.0
5.	Seek secondary employment	% of the employed population	0.5
Labor behavior in an organization			
1.	Employment	%	1.0
2.	Labor productivity	Th. rubles per one employee	1.0
3.	Fulfilled per employee per week	Hours	1.0
4.	Share of people got work-related injuries with disability for one or more working days and fatal outcome	In % per 1000 employees	1.0
5.	Share of people who have undergone professional training	Trained in % from the total number	1.0
6.	Actual number of hours worked on a side job per employee per year	Hours	0.5
7.	Share of the employed moving to work to another RF regions	% of the employed population	0.5

Source: compiled by the author.

and more; a structure of unemployed by jobs search methods. During the expert assessment they have got a weight coefficient equal to 1.

The search of secondary employment has a smaller share in this indicator, but as a factor of hyperactive labor behavior it is included in the given table. Its lower weight coefficient is due to an optional indicator of the labor market functioning.

2. Management. The effectiveness of labor behavior at work places is characterized by such indicators as a level of employment, labor productivity, a number of hours fulfilled per employee per week, the share of people got work-related injuries and the share of people who have undergone professional training. The choice of these indicators is due to the fact that labor behavior is manifested by means of labor activity, which includes:

- employment;
- labor activity character;
- discipline of labor process participants [6, p. 39].

Additional options include indicators to evaluate the scale of secondary employment and labor mobility of the population.

To reconcile diverse indicators we applied standardization by z-transformation taking into account their direction (forward/reverse). The index negative values indicate its location below the average of the entire sample, positive ones – location above it:

$$x_i = \frac{a_i - \overline{a}}{\sigma}, \quad (1)$$

where a_i – a variable value;
$\overline{a}$ – a variable average value;
σ – standard deviation.

$$\sigma = \sqrt{\frac{\sum_{i=1}^{n}(a_i - \overline{a})^2}{n}}. \quad (2)$$

This indexation method was chosen due to the fact that some variables have a different scale of values or their values differ considerably from each other, that is why the use of maximum

and minimum values does not make sense in this methodology.

The composite index of each block represents a sum of all observed values divided by their number (simple average). The integral index of the effectiveness of labor behavior is similar and is calculated by the following formula:

$$PLB_i = \frac{LBM_i + LBO_i}{2}, \quad (3)$$

where PLB_i (Productivity of labor behavior) – an integral index of the effectiveness of labor behavior of the population;

LBM_i (Productivity of labor behavior in the labor market) – is a composite index of the effectiveness of labor behavior in the labor market;

LBO_i (Productivity of labor behavior in an organization) is a composite index of the effectiveness of labor behavior of the population in the organization.

As the indices are calculated separately for the districts and regions of the Russian Federation, their values vary depending on the territory lying in the basis of the research.

The effectiveness of labor behavior of the population in the labor market

In 2010, the highest value of the index of the effectiveness of the labor behavior in the labor market could be observed in the Ural Federal District (0.625 points; *tab. 3*). Despite a rather high level of unemployment on this territory (8.0%), other figures are significantly below the national average. The lowest value of the index is observed in the North Caucasian Federal District, as the absolute outsider is the Chechen Republic (-2.622 units).

The Northwestern Federal District takes fifth place among the districts. Index values differentiation in the given district fluctuated from 0.050 points in the Kaliningrad Oblast to 0.567 points in Arkhangelsk. The Vologda

Table 3. Composite indices of the effectiveness of labor behavior of the population (2010)

Territory	LBM, points	LBO, points
Ural Federal District	**0.625**	**0.551**
Central Federal District	**0.410**	**0.434**
Volga Federal District	**0.324**	**0.133**
Southern Federal District	**0.291**	**-0.002**
Northwestern Federal District	**0.232**	**0.031**
Saint-Petersburg	0.419	0.442
Leningrad Oblast	0.118	0.340
Republic Of Komi	0.425	0.001
Murmansk Oblast	0.416	-0.075
Novgorod Oblast	0.119	0.146
Arkhangelsk Oblast	0.567	-0.305
Pskov Oblast	0.317	-0.075
Kaliningrad Oblast	0.050	-0.017
Vologda Oblast	0.137	-0.209
Republic Of Karelia	0.210	-0.539
Far Eastern Federal District	**-0.098**	**-0.114**
Siberian Federal District	**-0.001**	**-0.277**
North Caucasian Federal District	**-1.783**	**-0.755**
Source: compiled by the author.		

Oblast takes seventh place (0.137 units) in the rating of the Northwestern regions.

It can be generally noted that most Federal districts, except the North-Caucasian and Far Eastern Federal districts, are territories with average and high levels of the effectiveness of labor behavior of the population in the labor market. The Ural and Central Federal districts are among the leaders by this indicator, with Moscow being an absolute leader among Russian regions by most parameters.

The effectiveness of labor behavior of the population in an organization

In 2010, the Ural (0.551 points) and the North-Caucasian (-0.755 points) Federal districts have maximum and minimum values of the index of the effectiveness of the labor behavior in the organization. The first case stems from a high level of employment; large volumes of products per unit of time, manufactured by employees; further training. The second one is explained by common labor passivity of the population, caused not only by personal factors, but also by external environment conditions.

The Northwestern Federal District takes forth place by this indicator. The integral characteristic reaches 0.031 points, slightly above the average Russian level. Saint Petersburg (0.442 points) and the Leningrad Oblast (0.340 points) are absolute leaders in the district.

The Vologda Oblast relates to outsiders of the district and Russia as a whole, the index value of the effectiveness of labor behavior at the workplace is -0.209 points. Such factors as a low level of labor productivity (489.2 thousand rubles) and labor mobility (0.6% of the employed population), a high share of accidents (4.4% per 1000 workers) have a negative impact on this indicator.

The methodology final stage is to calculate an integral characteristic of the effectiveness of labor behavior of the population of the Russian Federation subjects on the basis of a given composite indices.

The integral index of the effectiveness of labor behavior of the population

The Ural and Central Federal districts occupy leading positions in the rating: the indices of the effectiveness of labor behavior on these territories reach 0.588 and 0.422 points, respectively (*tab.4*).

The differentiation of effectiveness of labor behavior in the Ural Federal District can be characterized as high: the maximum index value is observed in Tyumen (0.490 points), and the minimum – in Kurgan (-0,274 points) oblasts.

In the Central Federal District Moscow has the highest value of the effectiveness of labor behavior of the population (1.315 points) and the Tambov Oblast – the lowest value (-0,333 points). In general, the results reveal the existence of a large gap between the Moscow Oblast and other regions of the district. According to the given hierarchy, the nearest area in the district is the Tver Oblast with the integral indicator value being 0.247 points.

The integral indicator of the effectiveness of labor behavior in the Volga Federal District equals to 0.229 points. The territory has moderate differentiation of labor behavior: the index ranges from 0.498 points (the Samara Oblast) to -0.164 points (the Ulyanovsk Oblast).

The Southern and Northwestern Federal districts are at the end of the list of the subjects with the index above the national average – 0.144 and 0.131 points, respectively. The leaders by this indicator in the studied districts are Krasnodar Krai (0.316 points) and Saint Petersburg (0.43 points), and the outsiders – republics of Kalmykia (-0.777 units) and Karelia (-0.165 points).

The index of effectiveness of labor behavior in the Vologda Oblast reaches -0.036 points, which is slightly below the national average. The following key factors that have a negative impact on the integral characteristic can be singled out:

Table 4. The integral index of the effectiveness of labor behavior of the population (2010)

Territory	PLB, points	Territory	PLB, points
Ural Federal District	**0.588**	Republic of Adygea	-0.094
Tyumen Oblast	0.490	Republic of Kalmykia	-0.777
Chelyabinsk Oblast	0.399	**Northwestern Federal District**	**0.131**
Sverdlovsk Oblast	0.293	Saint-Petersburg	0.430
Kurgan Oblast	-0.274	Leningrad Oblast	0.229
Central Federal District	**0.422**	Komi Republic	0.213
Moscow	1.315	Murmansk Oblast	0.171
Moscow Oblast	0.698	Novgorod Oblast	0.133
Tula Oblast	0.247	Arkhangelsk Oblast	0.131
Yaroslavl Oblast	0.232	Pskov Oblast	0.121
Kaluga Oblast	0.218	Kaliningrad Oblast	0.017
Smolensk Oblast	0.171	Vologda Oblast	-0.036
Ivanovo Oblast	0.151	Republic Of Karelia	-0.165
Belgorod Oblast	0.143	**Far Eastern Federal District**	**-0.106**
Kostroma Oblast	0.124	Chukotka Autonomous Okrug	0.400
Vladimir Oblast	0.041	Sakhalin Oblast	0.362
Kursk Oblast	0.029	Primorsky Krai	0.145
Ryazan Oblast	-0.022	Kamchatsky Krai	0.139
Tver Oblast	-0.092	Sakha (Yakutia) Republic	0.052
Orel Oblast	-0.129	Magadan Oblast	-0.137
Bryansk Oblast	-0.205	Jewish Autonomous Oblast	-0.149
Lipetsk Oblast	-0.217	Khabarovsk	-0.166
Voronezh Oblast	-0.254	Amur Oblast	-0.173
Tambov Oblast	-0.333	**Siberian Federal District**	**-0.139**
Volga Federal District	**0.229**	Krasnoyarsk Oblast	0.462
Samara Oblast	0.498	Tomsk Oblast	0.387
Nizhny Novgorod Oblast	0.421	Irkutsk Oblast	0.203
Republic of Tatarstan	0.387	Omsk Oblast	0.188
Udmurt Republic	0.353	Republic of Khakassia	0.130
Chuvash Republic	0.303	Novosibirsk Oblast	0.045
Perm Oblast	0.282	Kemerovo Oblast	-0.040
Saratov Oblast	0.227	Republic of Buryatia	-0.323
Republic of Bashkortostan	0.214	Zabaykalsky Krai	-0.398
Orenburg Oblast	0.082	Altai Krai	-0.505
Penza Oblast	0.030	Altai Republic	-0.657
Kirov Oblast	-0.044	Tyva Republic	-0.740
Republic of Mordovia	-0.085	**North Caucasian Federal District**	**-1.269**
Mari El Republic	-0.130	Stavropol Krai	0.022
Ulyanovsk Oblast	-0.164	Republic of North Ossetia-Alania	-0.400
Southern Federal District	**0.144**	Republic of Dagestan	-0.551
Krasnodar Krai	0.316	Kabardino-Balkar Republic	-0.719
Rostov Oblast	0.205	Karachay–Cherkess Republic	-1.201
Astrakhan Oblast	0.138	Republic of Ingushetia	-1.234
Volgograd Oblast	0.042	Chechen Republic	-1.830

Source: compiled by the author.

• low activity of the population in the employment process;
• high rate of industrial injuries;
• low labor mobility.

The lowest level of the effectiveness of labor behavior is observed in the North Caucasian Federal District –in only one subject (the Stavropol Oblast) the level is similar to the national average (0.022 points). The rest of the territory belongs to a group with the low level, with Kabardino-Balkar, Karachay–Cherkess and Chechen republics being included into the group of regions having a critically low level of the effectiveness of labor behavior. They take last places in the Russian regions rating.

The analysis of integral characteristics of the effectiveness of labor behavior in our country regions has made it possible to divide all the territory into several groups:

• a low level – from -1.830 points to -1.201 points;
• below an average level – from -1.200 points to -0.571 points;
• an average level – from -0.570 points to 0.059 points;
• above an average level – from 0.060 points to 0.689 points;
• a high level – from 0.690 points to 1.319 points (*fig. 2*).

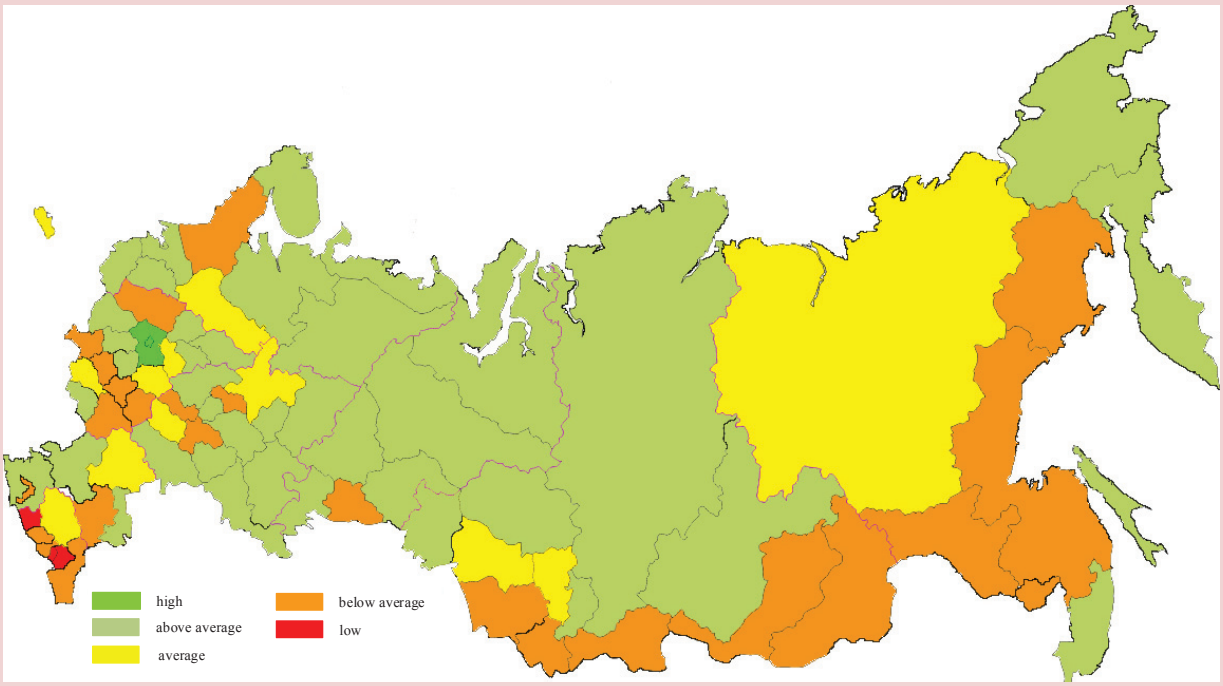
According to the analysis, the Central Federal District, Moscow and the Moscow Oblast have a high level of the effectiveness of labor behavior.

The effectiveness level of labor behavior above average is characteristic for the following districts (the percentage of the total number of subjects in the district is given in brackets):

1. Ural – 3 territories (75%);
2. Northwestern – 7 territories (70%);
3. Volga – 9 territories (64%);
4. Southern – 3 territories (50%);
5. Far Eastern – 4 territories (44%);
6. Siberian – 5 territories (42%);
7. Central – 7 territories (39%).

The subjects of all districts, except the Ural Federal District, can be referred to the group

Figure 2. The effectiveness levels of labor behavior in the regions (2010)



Source: compiled by the author.

with an average level. The Vologda Oblast is included in this group.

Below the average level of the effectiveness of labor behavior is characteristic for such districts as:

1. Far Eastern – 4 territories (44%);
2. North-Caucasian – 3 territories (43%);
3. Siberian – 5 territories (42%);
4. Central – 6 territories (33%);
5. Southern – 2 territories (33%);
6. Ural – 1 territory (25%);
7. Volga – 3 territories (21%);
8. Northwestern – 1 territory (10%).

The regions of the North-Caucasian Federal District (Karachay–Cherkess Republic, Republic of Ingushetia, Chechen Republic) have the lowest position in the rating.

Thus, the conducted analysis indicated that the level of effectiveness of labor behavior of the population in the majority of Russian regions is characterized as average or above average. The significant part of the regions with low level are depressed, therefore, it is necessary to take immediate measures to enhance the search of reserves and to increase the efficiency of labor potential formation and use.

The overall evaluation of the effectiveness of labor behavior of the population have revealed a significant gap among the RF subjects (including in one Federal district) by this indicator, which proves the necessity of adjusting government policy in the field of employment. First of all it concerns the development of regional programs that should be based on a differentiated system of measures to boost the labor market efficiency taking into account the trends of labor behavior of the population on a certain territory.

References

1. Verkhovin V.I. Soderzhanie, struktura i funktsii trudovogo povedeniya [Content, Structure and Functions of Labor Behavior]. *Sotsiologicheskie issledovaniya* [Sociological Studies], 1991, no.11, pp. 25-36.
2. Gulin K.A., Shabunova A.A., Chekmareva E.A. *Trudovoy potentsial regiona* [Labour Potential of the Region]. Vologda: ISERT RAN, 2009. 84 p.
3. Kul'kova I.A. *Otsenka aktivnosti trudovogo povedeniya cheloveka v period poiska raboty* [Evaluation of the Activity of Employment Behaviour in the Period of Job Search]. Available at: http://www.e-rej.ru/Articles/2007/Kulkova.pdf
4. Kul'kova I.A. Poisk raboty kak sostavlyayushchaya trudovogo povedeniya [Looking for a Job as a Constituent of Labor Behavior]. *Voprosy ekonomiki* [Issues of Economics], 2008, no.6, pp. 111-117.
5. Kul'kova I.A. *Upravlenie trudovym povedeniem kak faktor usileniya trudovoy motiva-tsii: avtoref. dis. na soisk. uchenoy step. d-ra ekon. nauk* [Management of Labor Behavior as a Factor in Enhancing Labor Motivation: Doctor of Economics Dissertation Abstract]. Izhevsk, 2009. 45 p.
6. Leonidova G.V., Ustinova K.A., Popov A.V., Panov A.M., Golovchin M.A., Solovyeva T.S., Chekmareva E.A. *Problemy effektivnosti gosudarstvennogo upravleniya. Chelovecheskiy kapital territoriy: problemy formirovaniya i ispol'zovaniya: monografiya* [Problems of State Management Effectiveness. Human Capital of the Territories: Problems of Formation and Use: Monograph]. Ed. by A.A. Shabunova. Vologda: ISERT RAN, 2013. 184 p.
7. Temnitskiy A.L. Teoretiko-metodologicheskie podkhody k issledovaniyu trudovogo povedeniya [Theoretical and Methodological Approaches to the Study of Labor Behavior]. *Sotsiologicheskie issledovaniya* [Sociological Studies], 2007, no.6, pp. 60-71.
8. Tikhomirova T. M., Sukiasyan A. G. Otsenka vektora razvitiya chelovecheskogo potentsiala v sub»ektakh RF [The Estimation of the Vector of Human Potential Development in the Russian Federation Subjects]. Vestnik Rossiyskogo ekonomicheskogo universiteta imeni G. V. Plekhanova [Bulletin of Plekhanov Russian University of Economics], 2013, no.2(56), pp. 81-91.
9. Chekmareva E.A. *Realizatsiya trudovogo potentsiala regiona: zaklyuchitel'nyy otchet o NIR* [Implementation of the Region's Labor Potential]. Executed by E.A. Chekmareva. Vologda, 2010. 94 p.
10. Shatalova N.I. *Trudovoy potentsial rabotnika: ucheb. posobie dlya vuzov* [Labour Potential of an Employee: Textbook for Higher Schools]. Moscow: YuNITI-DANA, 2003. 399 p.
11. Champoux J. E. *Organizational Behavior: Integrating Individuals, Groups, and Organizations*. Available at: http://www.tandfebooks.com/action/showBook?doi=10.4324/9780203872918

RAS ACADEMICIAN, THE JOURNAL'S EDITORIAL COUNCIL MEMBER

VLADIMIR V. OKREPILOV CELEBRATES HIS 70TH ANNIVERSARY

A prominent economic scientist, Academician of the Russian Academy of Sciences, General Director of the Federal State-Financed Institution "State Regional Center for Standardization, Metrology and Testing in Saint Petersburg and the Leningrad Oblast" Vladimir Valentinovich Okrepilov celebrates his 70th Anniversary.

V.V. Okrepilov was born on February 23, 1944 in the city of Leningrad. In 1970 he graduated from the Leningrad Mechanical Institute with the specialty "mechanical equipment of automatic installations". He started his career in 1965 at the Leningrad Radio-Engineering Equipment Factory, first as a mechanic, technician, and then he was promoted to process engineer, and senior design engineer.

In the 1980s Vladimir Valentinovich worked as chief engineer at D.I. Mendeleev VNIIM Research-and-Production Association, and then he was appointed Director of the Leningrad Center for Standardization and Metrology of GOSSTANDART of the USSR.

For more than a quarter century he is the Head of the institution "TEST – Saint Petersburg", established on the initiative of D.I. Mendeleev in 1900 as the first Saint Petersburg testing office of weights and measures with the purpose of maintaining unity and reliability of measurements throughout Russia.

In academic circles V.V. Okrepilov is known as the founder of a new field in Economic Science – Quality Economics that is based on the application of tools of quality management, standardization and metrology for facilitating socio-economic progress and improving the quality of life. He supervised the first fundamental research and applied calculation of economic effect from activities in the area of standardization and metrology; the development of a unique national system of quality management based on implementation of program-target planning methods and aimed at increasing the pace of economic modernization in the country.

Vladimir Valentinovich made a decisive scientific-organizational contribution to the creation of a unique, scientifically grounded multilevel system of continuous personnel training – Quality Economics. He is the Head of the scientific school "Economics and quality management" that is included in the Register of the leading scientific and scientific-pedagogical schools of Saint Petersburg.

Academician V.V. Okrepilov is the author of more than 450 scientific works in the following fields: Quality Economics, the increase of innovation development efficiency, the theory of measurements standardization and unification.

He is the founder of electronic journal "Economics for Quality"; Editor-in-Chief of the journal "Economy of the Northwest: Problems and Prospects for Development ", and a member of editorial boards of many journals.

His entire professional, research and public activities seek to solve socio-economic problems of Saint Petersburg and the Northwestern reg-ion on the whole; they are also aimed at the development of their research-and-production potential, improvement of the quality of life of citizens.

Vladimir Valentinovich is a co-author of the following documents: the Concept for improvement of quality and competitiveness of the products of industrial enterprises of Saint Petersburg; accommodation standards, approved by the Law of Saint Petersburg of November 15, 2005 No. 584-8; the Strategy for socio-economic development of Saint Petersburg until 2030; the Comprehensive research-and-technological program of the Northwestern Federal District till 2030.

He supervises extensive work on the training of scientific staff for research into the issues of quality. He is the Head of basic branch departments at Saint Petersburg State University and Saint Petersburg State University of Aerospace Instrumentation; he was elected Honorary Doctor of the top five universities in the city; he is a member of the Expert Council of the Higher Attestation Commission of the Russian Federation.

V.V. Okrepilov is involved in public activity; he is Co-Chairman of Economic Council under Saint Petersburg Governor, Deputy Chairman of Scientific-and-Technological Council

V.V. Okrepilov delivers his report at the Russian conference "Strategy and tactics of socio-economic reforms implementation: regional aspect"

under Saint Petersburg Government, member of the Public Council of Saint Petersburg, member of the Presidium of Saint Petersburg Union of Industrialists and Entrepreneurs.

V.V. Okrepilov was awarded state prizes and other awards for his outstanding achievements in science, technology and education. He is the Honored Worker of Science and Engineering of the Russian Federation, Distinguished Worker for Science and Technology of the Russian Federation. He was awarded the Orders "For Merits to the Fatherland" (IV grade), "Order of Honour", "Friendship of Peoples", medals, badge of merit "For Merits to Saint Petersburg", breastplate "For Merits in Standardization" and "Honorary Metrologist", honourable diplomas of Saint Petersburg Legislative Assembly and Leningrad Oblast Legislative Assembly, honour certificates of Saint Petersburg Governor and Leningrad Oblast Governor.

V.V. Okrepilov made significant contribution to the formation and development of the Institute of Socio-Economic Development of Territories of the Russian Academy of Sciences. Vladimir Valentinovich visited Vologda several times, delivering his reports at the international research-to-practice conferences "Strategy and tactics of socio-economic reforms implementation: regional aspect" that were organized by ISEDT RAS and presided by Academician D.S. Lvov. At present, V.V. Okrepilov is a member of the Editorial Board of the journal "Economic and social changes: facts, trends, forecast" that published a number of his articles.

Recommendations of Vladimir Valentinovich are of great benefit for enhancement of practical and scientific relevance of research conducted at the Institute, and for improvement of the quality and relevance of the Journal.

ISEDT RAS and the Journal's Editorial Board congratulate Vladimir Valentinovich heartily and cordially on his birthday and thank him for fruitful cooperation; we wish him success and prosperity, and express hope for further productive joint work.

Requirements to manuscripts

The proposed articles should contain the results of the studies characterized by novelty and practical orientation. They should be available in the form of presentation for a wide range of readers and meet the scientific focus of the journal (economic and sociological researches).

The article should generally include the following aspects: the purpose of research; method and methodology of work, its results and the field of their application; conclusions. The findings may be accompanied by recommendations, suggestions and hypotheses, resulting from the contents of the article. When presenting the results of sociological research in the article, it is necessary to state the following information: methods and methodology; the date, place (territory) and organization which carried out the study; the structure of total population; the type, volume and sampling error; the description of methods of data collection and analysis. This information should be arranged according to one of the following options: in the special section (paragraph) of the article; directly in the text; in the footnote. When creating tables, it is necessary to specify, whether the percentage of persons is calculated out of the number of those who answered the question, or out of the total amount of respondents. References should demonstrate the author's professional outlook and the quality of the research.

Authors are responsible for the selection and authenticity of the facts, quotations, statistical and sociological data, proper names, place names and other information, as well as for ensuring that the article does not contain the data that cannot be liable to open publication.

The cost parameters in tables (diagrams) related to different time periods are usually represented in the form of comparable scores. If tables (diagrams) contain comparative data on some territories, kinds of economic activities, etc., they should be presented in rank order, indicating the period of ranking.

The volume of articles should be no more than 40 000 printed characters (1 author list), including spaces and footnotes, for doctorates and PhDs (including the co-authors having no degree). It should contain no more than 20 000 printed characters (0.5 AL) for the rest of the authors. Exceptions are possible only in terms of a preliminary agreement with the editorial board.

The author should send the text of the article and supporting information in printed form by mail (1 copy on one side of the sheet) and identical materials by e-mail. The printed copy must be signed by the author(s).

The text of the article is sent in MS Word format, in accordance with the following parameters: headset Times Roman, font size – 14-point type, line spacing – 1.5, footnotes in Arabic numerals are placed at the end of the text in the order mentioned in the text. Graphs and charts for an electronic version of the articles are performed in MS Excel. They should be done in a separate file, which must contain not only the graphics, but initial data (tables). Flowcharts are drawn in MS Word or MS Visio.

The article should be assigned **the UDC index** (it is located above the title of the article).

The article should be accompanied by **the abstract** (600-700 printed characters; the summary is supposed to contain the following aspects: statement of problem, research techniques and information resources, characteristic of basic research results, the ways of problem solving), **key words in the English and Russian languages, references.**

The works in references are arranged in alphabetical order, firstly in the Russian language, then – in English (other languages – in Latin). When the author makes reference to the work, it is necessary to give its number in square brackets.

Information about authors is attached to the article in a separate file. It should contain the title of the article **(in Russian and English)**, surname, name and patronymic (in full), academic degree, academic rank, full name and address of the organization – the place of employment, work status, telephone and fax numbers, e-mail address and mailing address for correspondence.

The electronic version of the article should include author's color photo (print size – 4x6 cm; file type – TIF (preferred) or JPEG; photo format – 300 dpi).

In accordance with the requirements of the Civil Code of the Russian Federation the authors and the editorial board of the journal should conclude a License agreement enclosed by the Product acceptance and conveyance certificate. These documents are drawn up on the form below and signed by all authors of the article. They should be submitted to the editorial board along with the text of the article. A copy of the agreement signed by the editorial board will be sent to the authors by mail with a copy of the author's journal issue.

Manuscripts should be sent by mail to: 56A Gorky Street, Vologda, 160014, Russia, ISEDT RAS, the editorial board, marked "for publication in the Journal "Economic and Social Changes: Facts, Trends, Forecast", and to **e-mail:** common@vscc.ac.ru. Fax (8172) 59-78-02. Tel. (8172) 59-78-31.

It is obligatory to refer to the journal at full or partial reprint of manuscripts in another publication.

All manuscripts are liable to reviewing. If a reviewer has any questions, the article is returned for revision.

Delivery date of the article is the date when the editorial board receives the final version of the article. The editors reserve the right to make editorial changes and cuts that do not distort the meaning of the article.

Since 2010, the journal has opened a rubric "Young researchers", which publishes manuscripts of postgraduate students. The article should be written without co-authors. It must be certified by a research supervisor and recommended by the research organization to which the postgraduate student is assigned.

Attention! In cases these requirements are not met the article is not considered by the editorial board.

Electronic version of the journal is available at: http://esc.vscc.ac.ru.

SUBSCRIPTION INFORMATION

Dear Colleagues,
we offer you to subscribe to the journal
"Economic and Social Changes: Facts, Trends, Forecast".

The founder: Institute of Socio-Economic Development of Territories of Russian Academy of Science (ISEDT RAS) (previously - VSCC CEMI RAS).

The Journal publishes the researching results on the performance evaluation of regional socio-economic systems of the North-West Federal District of Russia, economy sectors of the District's subjects and municipalities in the following directions:

- Development strategy;
- Regional economy;
- Social development;
- Foreign economic relations;
- Information economy;
- Problem of expanded reproduction, etc.

The Journal is included in the database of **Russian Science Citation Index** (RSCI).

According to the decision of the Presidium of the Higher Attestation Commission of the Russian Education and Science Ministry № 6/6 of February 19, 2010 the Journal is included in the List of leading scientific publications, recommended for publishing the results of doctorial and candidate theses.

The main purpose of the Journal is to provide the scientific community and practitioners with the possibility to familiarize themselves with the results of research in the sphere of scientific support for the regional economy, to participate in discussions on these issues.

The Editorial Board which carries out an independent examination of scientific papers consists of the leading scientists from several regions of Russia.

The Journal is published 6 times a year.

The Journal is included in the inter-regional part of the Russian press catalogue "Press of Russia": Subscription Index **41319**.

Catalogue price of one issue of the journal is 250 rubles (excluding delivery). The subscription form is annexed.

Editor A.A. Sokolova

Make-up page T.V. Popova, G.S. Selyakova

Translators and Proof-readers A.A. Sokolova, O.L. Gagarina

Passed for printing March 11, 2014.
Date of publication March 14, 2014.
Format 60×84 1/8. Digital recording.
Con. pr. sheets 20,5. Number of 100 copies. Order No. 66.
Price is open.

The journal is registered by the Federal Service
for Supervision of Telecom and Mass Communications (Roskomnadzor).
Certificate of registration PI FS77-49490 dated April 20, 2012.

Founder: Federal State-Financed Scientific Inslitution the Institute of Socio-Economic Development
of Territories of RAS (ISEDT RAS)

Address of the Publisher and Editorial office:
56A, Gorky St., Vologda, 160014, Russia
phone (8172) 59-78-03, fax (8172) 59-78-02, e-mail: common@vscc.ac.ru