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

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

MAIN RESEARCH DIRECTIONS

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

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

INTERNATIONAL TIES AND PROJECTS

In order to integrate scientific activities of the Institute's scholars into global research area, every year international scientific conferences take place, which result in cooperation agreements.

Every year ISEDT RAS signs cooperation agreements with different scientific establishments:

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

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

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

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

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

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

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

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

NEW PUBLICATIONS OF ISEDT RAS

Ilyin V.A., Povarova A.I. – Problems of Government Efficiency. Trends in market transformation. The crisis of the budget system. The role of private capital. Strategy-2020: realization problems.

Uskova T.V., Selimenkov R.Y., Anischenko A.N., Chekavinskii A.N. – Food security in the region.

Leonidova G.V. – Problems of Governance. The education sector areas: state and development prospects.

Uskova T.V., Selimenkov R.Y., Chekavinskii A.N. – Agroindustrial complex of the region: state, tendencies, prospects.

Uskova T.V., Chekavinskii A.N., Lukin E.V. – Economic development of the city: state, problems, prospects.

Shabunova A.A., Kalashnikov K.N., Morev M.V., Kalachikova O.N., Kondakova N.A. – Health and healthcare: training aid for higher education institutions.

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FROM THE CHIEF EDITOR

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The year of tough decisions

The third year of V.V. Putin's Presidency, his current third political cycle, is coming to an end.

It was a year of tough decisions, and this was what the President pointed out in his annual Address to the Federal Assembly of the Russian Federation on December 4.

Delivering his Address, V.V. Putin noted that in 2014 Russia faced trials that only a mature and united nation and a truly sovereign and strong state can withstand.

The historic reunification of the Crimea and Sevastopol with Russia, which was carried out in compliance with international law, and the efforts that Russia took in order to protect our compatriots in the south-eastern territories of Ukraine have caused massive economic and political pressure on Russia by the United States and its partners in Western Europe. This has been an attempt to talk with Russia from the position of strength. ***V.V. Putin said: "If for some European countries national pride is a long-forgotten concept and sovereignty is too much of a luxury, true sovereignty for Russia is absolutely necessary for survival".*** This approach expressed in the part of the Address devoted to foreign policy summarizes and streamlines Russia's foreign political course, which was pursued in 2012–2014. It is extremely important that this approach become a key factor increasing the consolidation of our society[1].

The main focus of the Address was devoted to internal problems of Russia's development, and above all, to the execution of all the basic social obligations of the Government set out in the decrees of the President back in May 2012.

[1] According to the latest data provided by Russia's leading sociological centers, the level of support of V.V. Putin's performance as President of the Russian Federation at present is 85%. High approval of the President's performance is also registered in the dynamics of public opinion assessment carried out by ISEDT RAS in the Vologda Oblast.

Judging by many parameters of economic and social life, the situation at present cannot but arouse concern. According to many experts, Russia has entered a period of adverse economic conditions. Its resource-based economy causes high risks. These risks are increasing greatly under the external sanctions imposed on Russia, the ruble is falling and prices rising, which arouses continuing anxiety in the society. But for many years the Government of the Russian Federation has been doing virtually nothing to handle the problems connected with the structural and technological transformation of the economy. The Government does not pay attention to the experts and political parties that sharply criticize it for its commitment to liberal principles of organization of state administration[2].

"Fragmentarity and inconsistency of the national administration approach leads to the fact that instead of urgent change there is a continuous process of simulating transformations: change for the sake of process, and not for the sake of result. There is a widespread development of poorly coordinated pseudo-reforms. But most importantly, there is no effective independent public expert auditing institution, as well as no monitoring of the results of reforms implementation. This gives rise to a system in which the state apparatus acts in a totally irresponsible way toward the society. That is why instead of strategic foresight and design we observe only "forever immediate" response to immediate challenges"[3].

Instead of searching for ways to boost economic growth, the Ministry of Economic Development of the Russian Federation, in fact, only registers the recession and forecasts the decline of macroeconomic indicators; the data in *table 1* show it clearly.

According to the forecast that was made in May 2012, the gross domestic product growth rate in 2014 would be 104.4%, however, this rate was reduced to 100.5% in September 2014. The forecast rate of investment in fixed capital was 107.3 and 97.6%, respectively. In December 2013, the outflow of capital from the country was expected to be 25 billion U.S. dollars, and in September 2014 – 100 billion[4].

[2] See, for example: Grinberg R.S., Gorshkov M.K. Dvadtsatiletie rossiiskikh reform v otsenkakh ekonomistov i sotsiologov (dvadtsat' tezisov o glavnom) [Twenty Years of Reforms in the Assessments of Economists and Sociologists (Twenty Theses on Most Important)]. *Mir peremen* [The World of Transformations], 2012, no. 1; Amosov A. Kak preodolet' otstavanie v razvitii [How to Overcome the Lag in the Development]. *Ekonomist* [The Economist], 2013, no. 8; Gubanov S. Avtonomnaya retsessiya kak final'naya faza sistemnogo krizisa Rossii [Autonomous Recession as the Final Stage of the Systemic Crisis of Russia]. *Ekonomist* [The Economist], 2013, no. 9; *Na puti k sovershennoi dinamichnoi i effektivnoi ekonomike: doklad pod red. A.D. Nekipelova, V.V. Ivantera, S.Yu. Glaz'eva (v podgotovke doklada prinimali uchastie 25 deistvitel'nykh chlenov i chlenov-korrespondentov RAN)* [On the Way to a Perfect Dynamic and Efficient Economy: the Report, edited by A. D. Nekipelov, V.V. Ivanter, S.Yu. Glazyev (25 Full Members and Corresponding Members of the Russian Academy of Sciences participated in the preparation of the report]. Moscow: RAN, 2013; Vinslav V. Proval'nye itogi–2013 – ocherednoi impul's k smene ekonomiko-upravlencheskikh reshenii [Disastrous Results of 2013 – Yet Another Push for Changing Economic and Managerial Strategies]. *Rossiiskii ekonomicheskii zhurnal* [Russian Economic Journal], 2014, no. 1, etc.

[3] Gel'vanovkii M., Zakharov A. Obespechenie liderstva Rossii cherez rost konkurentosposobnosti [Ensuring Russia's Leadership through the Growth of Competitiveness]. *Ekonomist* [The Economist], 2014, no. 11.

[4] According to a recent statement by the Chairman of the Central Bank of Russia E. Nabiullina, the outflow of capital will reach 120 billion U.S. dollars this year.

Table 1. Forecast of the main macroeconomic indicators of the Russian Federation for 2014, as a percentage of the previous year, in comparable prices

Indicators	Date of provision of the forecast					
	11.05.12.	12.09.12.	12.04.13.	23.10.13.	27.12.13.	26.09.14
GDP	104.4	104.3	103.7	103.0	102.5	100.5
Industrial production index	104.1	103.7	103.4	102.2	102.2	101.7
Investment in fixed capital	107.3	107.3	106.6	103.9	103.9	97.6
Inflow (+), outflow (-) of capital, billion U.S. dollars	30.0	30.0	0	-25.0	-25.0	-100.0
Source: RF Ministry of Economic Development.						

The developments of the Ministry of Finance of the Russian Federation have substantial deviations from the reference indicators and forecast parameters of the budget process.

This is particularly evident with regard to the consolidated budgets of the RF subjects *(tab. 2)*.

The deficit of the consolidated regional budgets relative to their own revenues based on three years (2014–2016) was forecast to be 212.3 billion and now it is expected to be 500.8 billion rubles, or almost twice as large. The amount of regional budgets' own revenues will be reduced by 7% in a comparable estimate.

The crisis of regional budgets is evidenced even more clearly in the dynamics of key indicators such as the amount of profit, profit taxes, and especially the growth of public and municipal debts of regions *(tab. 3)*.

Table 2. Key forecast parameters of consolidated budgets of the subjects of the Russian Federation in 2014, billion rubles (in 2014 prices*)

Parameters	Forecast			2014, estimation of expected parameters	Dynamics of estimate for 2014 in comparison with forecasts			
	2012–2014	2013–2015	2014–2016		2012–2014		2014–2016	
					billion rub.	%	billion rub.	%
Revenues	8384.5	9370.6	8485.4	8149.6	-234.9	-2.8	-335.8	-4.0
Own revenues	7413.3	8242.3	7186.8	6682.2	-731.1	-9.9	-504.6	-7.0
Deficit	-9.0	-81.9	-212.3	-500.8	+491.8	+55.6 p.	+288.5	+2.4 p.
* Forecast level of inflation in 2014 was: in the forecast for 2012–2014 – 105%; in the forecast for 2013–2015 – 105%; in the forecast for 2014–2016 – 104.8%; expected level of inflation in 2014 – 107.5%.								

Table 3. Key indicators of the budget process in the Russian Federation regions, billion rubles

Indicators	2011	2012	2013	2013 in % to 2011
Profit	8793.6	9213.0	8494.0	96.6
Profit tax	1927.9	1979.9	1719.7	89.2
Public and municipal debt	1387.3	1596.7	2026.4	146
Debt burden, %	23.8	25.0	30.8	+7 p.p.
Sources: RF Finance Ministry; Federal Treasury; Rosstat; ISEDT RAS calculations.				

The amount of this debt was 1387.3 billion rubles in 2011; but in 2013 it reached 2026.4 billion rubles, i.e. increased by almost 1.5 times. The debt burden on regional budgets increased from 23.8% in 2012 to 29.3% in 2014 (according to the data for 10 months). The debt load in a significant number of regions exceeds the annual amount of budget revenues.

Possible reserves for significant increase in tax revenues, and consequently, decrease in the public and municipal debt and strengthening budget security are not used[5]. Research and expert estimates[6] show that many private owners, especially oligarchic structures, use "loopholes" not regulated by the legislation and minimize their profit by formally increasing production costs, moving a significant part of created value added in the offshore, and by using other "profitable" tools, the origins of which are formed as a result of flaws in the public administration system in the country.

The turmoil on the currency exchange that happened in December 15–16, 2014 showed the absence of coordinated actions between the Government and the Central Bank of Russia.

The journal "Expert" characterizes their level of mutual understanding as follows: "Not a week passes without the Government and its individual members, the Central Bank and some of its leaders making another forecast that "adjusts" all the previous ones. The outflow of capital from Russia will be so many billion this year; oh no, it will sooner be so and this much; no, it will rather be so and this much and a quarter of this much... Inflation this year will be so much per cent per annum; no, it will be a bit higher; no, it seems to be a double figure; no, a very double figure"[7].

Under such a system of management, the Government, of course, finds dozens of reasons justifying its failure to execute the Presidential decrees of May 7, 2012.

The President expressed his dissatisfaction with the performance of the Government in his Address to the Federal Assembly of the Russian Federation of December 12, 2013. ***"A year and a half has passed since the executive orders were issued. You know what I'm seeing? Either things are being done in a way that elicits a negative reaction among the public, or nothing is done at all. Clearly, we will fail to achieve our stated goals with this kind of work"***[8].

Unfortunately, by the end of 2014 the state of affairs in the financial and economic

[5] See: Petrov Yu. Deofshorizatsiya ekonomiki, protivodeistvie "minimalizatsii nalogov" i presechenie utechki kapitala (vozmozhnosti sistemno-innovatsionnogo podkhoda k ekonomicheskoi politike) [Deoffshorization of Economy, Countering "Tax Mitigation" and Preventing Capital Flight (Opportunities for Systems and Innovative Approach to Economic Policy)]. *Rossiiskii ekonomicheskii zhurnal,* 2013, no. 6; Dmitrieva O. Ekonomicheskie krugooboroty i finansovye pylesosy [Economic Turnovers and Financial Vacuum Cleaners]. *Voprosy ekonomiki* [Issues of Economy], 2013, no. 7.

[6] The studies include those conducted in recent years by ISEDT RAS and devoted to the analysis of the activities of the largest ferrous metallurgy corporations in Russia. See, for example: Ilyin V.A., Povarova A.I. *Problemy effektivnosti gosudarstvennogo upravleniya. Tendentsii rynochnykh transformatsii. Krizis byudzhetnoi sistemy. Rol' chastnogo kapitala. Strategiya 2020. Problemy realizatsii* [Public Administration Efficiency. Market Transformation Trends. Crisis of the Budget System. Role of Private Capital. Strategy-2020: Implementation Issues]. Vologda: ISERT RAN, 2014. 188 p.

[7] Privalov A. Ob uverennosti v zavtrashnem dne [About Confidence in the Future]. *Ekspert* [The Expert], 2014, no. 51 (928).

[8] *Address of President V.V. Putin to the Federal Assembly of the Russian Federation on December 12, 2013.*

sphere has deteriorated significantly. And the President, delivering his 2014 Address, again set a new range of economic objectives before the Government and federal and regional elites; these objectives take into account the actual external factors in the country's development.

Great concerns are raised with regard to the fact that these new guidelines set out by the President will be achieved if the current inefficient state administration system based on the extremely liberal financial-economic bloc of the Government is preserved, since ***"the vulnerability of Russia's finance was already evident during the crisis in 2008, and yet, five years after that, we continue to follow the same disastrous course"[9].***

———————

2015 will most likely be a year of tough decisions for the President, for the Russian citizens and for the country.

It is very important that the President's decisions be timely, coordinated, and supported by the voters, just like they supported the return of the Crimea to Russia – its "native harbor".

[9] Redaktsionnaya stat'ya "Snova opyat'" [Editorial "Again and over Again"]. *Expert* [The Expert], 2014, no. 51.

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 in October – December 2014 and also on the average for 2014. These data are compared with the data for 2013.

Estimation of performance of the authorities

In October – December 2014 the United States and its European partners increased their economic and political pressure on Russia in connection with our country's position on the events in Ukraine. Under the circumstances, Russia's authorities have boosted the implementation of measures aimed to strengthen the sovereignty of our country, to ensure its decent geopolitical standing, and to overcome complications in the economy, in financial and banking sector and in social sphere. The consolidation of the Russian society is increasing under the current conditions. This is proved by the results of public opinion monitoring in the Vologda Oblast.

Despite the aggravation of the external and internal situation in Russia, the assessment of the performance of the federal authorities in the period from October 2014 to December 2014 remains high. The level of support of the President of the Russian Federation by Vologda Oblast residents is in the range of 66–67%, the level of support of the Chairman of the RF Government is 56%.

For reference: according to VTSIOM (for the first half of December 2014) the nationwide level of approval of the performance of the RF President is 85%, the proportion of negative estimates is 8%.

On average for 2014 compared to 2013 the levels of approval of the performance of the President and the Government have increased (from 55 to 64% and from 49 to 54%, respectively). The performance of the Vologda Oblast Governor is approved by 40% of respondents on average for 2014 (in 2013 – 44%), the share of those who do not approve of his performance has decreased over the past two months from 40 to 37%.

[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. The representativeness of the sample is ensured by the observance of the proportions between the urban and rural population, the proportions between the inhabitants of settlements of various types (rural communities, small and medium-sized cities), age and sex structure of the oblast's adult population. Sampling error does not exceed 3%.

More details on the results of ISEDT RAS polls are available at http://www.vscc.ac.ru/

How do you assess the current performance of..? (as a percentage of the number of respondents)

Answer option	2007	2011	2013	2014	Feb. 2014	Apr. 2014	June 2014	Aug. 2014	Oct. 2014	Dec. 2014	Dynamics (+/-), 2014 in comparison to...		
											2013	2011	2007
RF President													
I approve	75.3	58.7	55.3	64.1	56.1	62.8	66.6	66.4	66.8	66.0	+9	+5	-11
I do not approve	11.5	25.6	29.4	22.3	29.3	25.4	21.8	19.3	18.5	19.7	-7	-3	+11
Chairman of the RF Government *													
I approve	-	59.3	48.9	54.2	49.3	52.5	55.8	55.2	56.2	56.3	+5	-5	-
I do not approve	-	24.7	32.8	27.6	32.9	30.9	26.4	26.8	23.9	24.7	-5	+3	-
Governor													
I approve	55.8	45.7	44.4	40.1	42.8	41.6	38.5	38.8	39.7	39.3	-4	-6	-16
I do not approve	22.2	30.5	33.2	38.9	36.9	39.0	40.9	40.1	39.6	37.0	+6	+8	+17

* Included into the survey since 2008.

The last two months witnessed an increase in the proportion of the oblast residents who believe that the President of the Russian Federation is successful in coping with key issues such as imposing order in the country (increase from 49 to 52%), protection of democracy and strengthening the freedoms of citizens (from 38 to 41%), as well as economic recovery and increase in the citizens' welfare (from 34 to 38%). Public opinion concerning the President's efforts to strengthen the international position of Russia remains stable: the proportion of positive views is 51–52%, negative – 30–31%.

The assessments of all the parameters on average for 2014 are more positive than in 2013.

Which party expresses your interests? (as a percentage of the number of respondents)

Answer option	2007	2011	2013	2014	Feb. 2014	Apr. 2014	June 2014	Aug. 2014	Oct. 2014	Dec. 2014	Dynamics (+/-), 2014 in comparison to...		
											2013	2011	2007
Strengthening Russia's international standing													
Successful	58.4	46.2	45.7	50.4	45.9	48.6	53.7	50.9	52.3	50.8	+5	+4	-8
Unsuccessful	24.9	33.7	36.2	32.4	35.7	35.5	31.7	30.0	31.0	30.3	-4	-1	+8
Index of success	*133.5*	*112.5*	*109.5*	*118.0*	*110.2*	*113.1*	*122.0*	*120.9*	*121.3*	*120.5*	*+9*	*+6*	*-16*
Imposing order in the country													
Successful	53.2	36.6	39.4	48.0	42.7	46.7	49.5	47.5	49.4	52.1	+9	+11	-5
Unsuccessful	34.0	50.0	47.5	39.1	43.7	40.9	39.5	37.8	37.8	35.1	-8	-11	+5
Index of success	*119.2*	*86.6*	*91.9*	*108.9*	*99.0*	*105.8*	*110.0*	*109.7*	*111.6*	*117.0*	*+17*	*+22*	*-10*
Protecting democracy and strengthening the citizens' freedoms													
Successful	44.4	32.4	31.8	37.5	32.3	36.3	40.1	37.6	38.2	40.7	+6	+5	-7
Unsuccessful	37.0	48.3	51.0	45.4	50.1	48.7	43.9	43.7	44.3	41.9	-6	-3	+8
Index of success	*107.4*	*84.1*	*80.8*	*92.1*	*82.2*	*87.6*	*96.2*	*93.9*	*93.9*	*98.8*	*+11*	*+8*	*-15*
Economic recovery and increase in the citizens' welfare													
Successful	47.2	30.7	31.3	34.8	31.5	34.9	35.8	35.1	33.9	37.6	+4	+4	-12
Unsuccessful	39.1	56.1	56.8	53.4	57.1	54.3	53.5	50.2	54.4	50.8	-3	-3	+14
Index of success	*108.1*	*74.6*	*74.5*	*81.4*	*74.4*	*80.6*	*82.3*	*84.9*	*79.5*	*86.8*	*+7*	*+7*	*-27*

* Ranked according to the average value of the index of success for the last 6 surveys.

The structure of the Russians' preferences concerning political parties has not changed significantly over the past two months. The "United Russia" remains leader – the proportion of the oblast residents who believe that this party expresses their interests is 36–37%. Support for the KPRF is 8–9%, for the LDPR – 7–8%, for the "Just Russia" – 3–4%.

In 2014 compared to 2013 the share of supporters of the "United Russia" increased slightly (from 29 to 33%). The positions of the rest of parliamentary parties remain stable.

Which party expresses your interests? (as a percentage of the number of respondents)

Party	2007	Election to the RF State Duma 2007, fact	2011	Election to the RF State Duma 2011, fact	2013	2014	Feb. 2014	Apr. 2014	June 2014	Aug. 2014	Oct. 2014	Dec. 2014	Dynamics (+/-), 2014 in comparison to...		
													2013	2011	2007
United Russia	30.2	60.5	31.1	33.4	29.4	32.8	28.3	29.5	32.7	34.3	35.5	36.7	+3	+2	+3
KPRF	7.0	9.3	10.3	16.8	11.3	9.7	10.9	10.7	9.8	9.1	9.3	8.3	-2	-1	+3
LDPR	7.5	11.0	7.8	15.4	7.2	7.6	8.9	8.3	6.2	6.9	7.3	7.8	0	0	0
Just Russia	7.8	8.8	5.6	27.2	4.6	3.5	3.5	3.3	3.3	3.7	3.9	3.2	-1	-2	-4
Other	1.8	–	1.9	–	0.6	0.3	0.4	0.2	0.1	0.1	0.7	0.1	0	-2	-2
No party	17.8	–	29.4	–	34.9	34.4	35.2	34.8	36.0	35.0	32.6	32.7	-1	+5	+17
It is difficult to answer	21.2	–	13.2	–	10.2	11.7	12.7	13.1	11.8	10.9	10.7	11.1	+2	-2	-10

The characteristics of social sentiment and stock of patience for the last two months have not changed substantially. The share of the oblast residents who assess their mood as "good and normal" is 69–71%; the share of those who believe that "everything is not so bad; it's difficult to live, but it's possible to stand it" is 80%.

In December 2014, compared with October 2014, the structure of social self-identification of the population somewhat deteriorated: there was a reduction in the proportion of the oblast residents who consider themselves people with average incomes (from 44 to 42%) and an increase in the share of those who consider themselves "poor" and "extremely poor" (from 49 to 51%).

The consumer sentiment index for the period from February 2014 to December 2014 has declined by 10 points (from 92 to 82 p.). And this is understandable: according to Vologdastat, in the period from January to November 2014 the general price increase was 8.1%, food prices increased by 12.2%, prices for non-food products – by 5.3%, for services – by 8.1%.

Estimation of social condition as a percentage of the number of respondents)

Answer option	2007	2011	2013	2014	Feb. 2014	Apr. 2014	June 2014	Aug. 2014	Oct. 2014	Dec. 2014	Dynamics (+/-), 2014 in comparison to...		
											2013	2011	2007
Mood													
Usual condition, good mood	63.6	63.1	68.6	69.4	65.1	69.3	71.1	70.5	69.3	70.9	+1	+6	+6
I feel stress, anger, fear, depression	27.8	28.9	26.2	24.9	27.1	24.9	23.7	25.1	24.6	24.1	-1	-4	-3
Stock of patience													
Everything is not so bad; it's difficult to live, but it's possible to stand it	74.1	74.8	79.3	80.8	79.8	81.3	81.0	82.5	80.3	80.0	+2	+6	+7
It's impossible to bear such plight	13.6	15.3	14.2	12.6	12.3	11.1	13.4	12.8	12.1	13.6	-2	-3	-1
Social self-identification													
The share of people who consider themselves to have average income	48.2	43.1	43.9	43.2	44.2	43.1	42.0	44.1	43.5	42.3	-1	0	-5
The share of people who consider themselves to be poor and extremely poor	42.4	44.3	46.9	49.1	46.9	49.1	48.4	49.6	49.3	51.0	+2	+5	+7
Consumer sentiment index													
Index value, points	105.9	89.6	90.3	87.6	91.5	90.3	90.5	87.1	84.0	82.3	-3	-2	-18

Attitude of the population toward the anti-Russian sanctions imposed by the USA and the EU countries and toward Russia's response to these actions

In October – December 2014 the public opinion monitoring was supplemented by a special block of questions aimed to assess the degree of the oblast residents' awareness of the anti-Russian sanctions imposed by the U.S. and EU countries and Russia's response thereto, and how this, in their opinion, can affect the development of economic situation in the country and the region.

The survey results show that the vast majority of the Vologda Oblast residents know about the existence of economic sanctions imposed by the U.S. and EU against Russia and about the response of the Russian Federation (81 and 85%, respectively). The share of those who believe that they are well aware of the economic sanctions against Russia has increased from 41 to 44% over the last two months; the share of those who have only a general idea about them has decreased from 43 to 38%.

The proportion of those who are well aware of the response of the Russian Federation on the anti-Russian sanctions imposed by the U.S. and EU countries and the share of those who have only a general idea about that remains unchanged (41–42% and 43–44%, respectively).

People's awareness of the U.S. and EU sanctions against Russia and of Russia's response to these actions (as a percentage of the number of respondents)

Answer option	Vologda			Cherepovets			Districts			**Oblast**		
	Oct. 2014	Dec. 2014	Dynamics (+ -), Oct. 2014 to Dec. 2014	Oct. 2014	Dec. 2014	Dynamics (+ -), Oct. 2014 to Dec. 2014	Oct. 2014	Dec. 2014	Dynamics (+ -), Oct. 2014 to Dec. 2014	Oct. 2014	Dec. 2014	Dynamics (+ -), Oct. 2014 to Dec. 2014
In connection with the conflict in Ukraine some countries have introduced sanctions against Russia in recent months. Did you know that?												
I am well aware of that	56.3	55.8	-1	61.0	55.6	-5	21.7	30.6	+9	41.1	43.7	+3
I hear something, but I don't know the details	33.1	32.9	0	32.3	35.4	+3	53.9	41.4	-13	42.8	37.6	-5
I hear about this for the first time	2.0	3.3	+1	3.1	1.3	-2	7.8	8.3	+1	5.1	5.1	0
It is difficult to answer	8.6	8.0	-1	3.6	7.8	+4	16.5	19.7	+3	11.1	13.5	**+2**
The Russian Government has imposed a one-year ban on the importation into Russia of agricultural products, raw materials and foodstuffs from the countries that have imposed sanctions against our country. Did you know that?												
I am well aware of that	54.5	55.0	+1	63.1	58.3	-5	21.6	26.2	+5	41.1	42.1	+1
I hear something, but I don't know the details	35.1	35.7	+1	30.5	34.1	+4	56.2	51.0	-5	43.9	42.6	**-1**
I hear about this for the first time	3.5	2.8	-1	2.8	2.8	0	7.7	6.2	-2	5.3	4.4	-1
It is difficult to answer	6.8	6.4	0	3.6	4.8	+1	14.6	16.6	+2	9.7	10.9	**+1**

In December 2014, as in the previous assessment period, the proportion of those who find it difficult to assess the impact of U.S. and EU sanctions on the economy of Russia and the Vologda Oblast, became significantly higher than the proportion of optimistic and pessimistic forecasts (29% vs. 24% and 30% vs. 20–21%, respectively). The share of positive and negative opinions in this respect was approximately equal.

In October – December 2014 there was an increase in the amount of negative assessments of the effects of the U.S. and EU sanctions for the economy of Russia and the oblast (the share of pessimistic reviews increased from 20 to 24% and from 17% to 20%, respectively).

Opinion of the population about the consequences of the sanctions imposed by the USA and the EU for the Russian economy and the Vologda Oblast economy (as a percentage of the number of respondents)

Answer option	Vologda			Cherepovets			Districts			**Oblast**		
	Oct. 2014	Dec. 2014	Dynamics (+ -), Oct. 2014 to Dec. 2014	Oct. 2014	Dec. 2014	Dynamics (+ -), Oct. 2014 to Dec. 2014	Oct. 2014	Dec. 2014	Dynamics (+ -), Oct. 2014 to Dec. 2014	Oct. 2014	Dec. 2014	Dynamics (+ -), Oct. 2014 to Dec. 2014
In your opinion, how will the sanctions imposed by foreign countries affect Russia's economy?												
The sanctions will have a positive effect, they will improve the situation	26.5	26.2	0	24.4	20.5	-4	26.8	25.3	-2	26.1	24.3	-2
The sanctions will have a negative effect, they will aggravate the situation	28.0	31.4	+3	30.8	44.7	+14	9.9	9.4	-1	20.1	24.4	+4
Nothing will change, everything will remain as it has been	17.2	21.6	+5	20.5	15.7	-5	25.8	27.3	+2	22.1	22.7	+1
It is difficult to answer	28.3	20.8	-8	24.4	19.2	-5	37.5	38.0	+1	31.7	28.6	-3
In your opinion, how will the sanctions imposed by foreign countries affect the economy of the Vologda Oblast?												
The sanctions will have a positive effect, they will improve the situation	22.0	19.0	-3	22.8	16.9	-6	24.2	23.1	-1	23.3	20.7	-3
The sanctions will have a negative effect, they will aggravate the situation	25.8	27.8	+2	26.2	33.8	+8	7.3	9.7	+2	17.1	20.4	+3
Nothing will change, everything will remain as it has been	21.7	29.3	+8	27.4	27.3	0	29.6	30.5	+1	26.9	29.3	+2
It is difficult to answer	30.6	23.9	-7	23.6	22.0	-2	38.9	36.8	-2	32.7	29.5	-3

The opinions of the oblast residents about the consequences of Russia's response to the U.S. EU sanctions are as follows: the share of those who believe that they will bring more good than harm amounts to 42%; 20% of the population think the opposite. At the same time, the share of pessimistic forecasts has increased over the last two months (from 16 to 20%).

Opinion of the population about Russia's reciprocal sanctions against the USA and the EU (as a percentage of the number of respondents)

In your opinion, will the ban on the import into Russia of certain foreign foodstuffs do Russia more good or harm?												
Answer option	Vologda			Cherepovets			Districts			**Oblast**		
	Oct. 2014	Dec. 2014	Dynamics (+ -), Oct. 2014 to Dec. 2014	Oct. 2014	Dec. 2014	Dynamics (+ -), Oct. 2014 to Dec. 2014	Oct. 2014	Dec. 2014	Dynamics (+ -), Oct. 2014 to Dec. 2014	Oct. 2014	Dec. 2014	Dynamics (+ -), Oct. 2014 to Dec. 2014
Sooner more good	46,0	42,2	-4	60,8	53,0	-8	36,0	36,5	-1	45,1	42,3	-3
Sooner more harm	16,4	23,4	+7	16,9	27,3	+10	15,1	14,3	-1	15,9	20,1	+4
It is difficult to answer	37,6	34,4	-3	22,3	19,7	-3	48,9	49,2	0	39,0	37,6	-1

Conclusion

The results of the surveys conducted in December 2014 show that, despite the deterioration of Russia's standing in the international arena and the increased difficulties in its socio-economic development, the society maintains a high level of support to public authorities.

At the same time, the surveys point out that the structure of social self-identification is deteriorating, consumer sentiment index is declining, which requires appropriate action on the part of the federal and regional authorities.

The decrease in consumer activity also indicates that the Russians are becoming less and less confident about the fact that their financial situation may improve. This is largely due to the fact that the oblast residents are not sure whether this international policy of imposing sanctions can have a favorable outcome. Despite the vigorous information campaign and regular assuring statements by government representatives claiming that the anti-Russian economic sanctions will give a new impetus to economic development, the share of pessimistic forecasts regarding the effect of the sanctions policy on the national and regional economy is growing. This indicates that the people have anxious expectations concerning the trends in their financial situation in the near future.

DEVELOPMENT STRATEGY

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National economic interests of Russia in modern geopolitical conditions*

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Abstract. The article considers national economic interests that form the basis of national security (food, raw materials, finance, infrastructure including transport) and set the priorities for the development of economic sectors (industry, scientific and technological development, entrepreneurship, social sector and innovation development). The authors carry out brief analysis for each type of national economic interests and find out how they are reflected in the national

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documents on socio-economic development and in international documents on economic cooperation with Russia's participation. These interests in the national aspect are reflected in the Concept for long-term socio-economic development, and in the strategies and state programs for development of economic sectors. As for the international economic aspect, the authors consider Russia's contracts with individual countries on trade and/or cooperation, the Agreement on the Eurasian Economic Union, the Declaration and agreements of the BRICS countries, the Program for Trade and Economic cooperation between the SCO countries, and international standards relating to socio-economic ratings and indexes.

The analysis shows that the country requires the development of a unified conceptual project that would link strategic priorities of socio-economic development of the Russian Federation with changing geo-economic conditions. This independent project should represent a set of system strategic guidelines on different levels, enhancing the role and increasing the importance of Russia in the new architecture of the geo-economic world order, the country's participation in the joint strategies implemented by the Russian Federation together with other interested countries and new integration groups, and also defending conceptual interests of national development.

Key words: new geo-economic conditions; national socio-economic development spheres; coordination of priorities.

The Presidential Decree "On the national security strategy of the Russian Federation until 2020" of May 12, 2009 No. 537 defines the national interests of the Russian Federation as a combination of internal and external needs of the state in ensuring the protection and sustainable development of individuals, society and the state.

However, the interests of individuals, society and the state are so diverse and, at the same time, they are formulated by the elite on the basis of value preferences with regard to various circumstances that it is difficult to talk about the balance of interests. In addition, one usually defines national interests in different areas: for example, as for the international sphere, they include the strengthening of Russia's position as a great power and one of the most influential centers of the multipolar world. There is a certain separation of the national and geo-economic vectors, which hinders the formation of a single coherent system of national interests and priorities of the country. In this connection it is necessary to consider a geo-economic approach of E. Kochetov, who proposes the term "geo-economic national interests" and defines it as a system of long-term targets, goals, priorities, and directions of activities in the geo-economic space. The current geopolitical situation demonstrates, first, the strong influence of geo-economic challenges on the country's economic policy and, second, the opportunity to expand significantly the implementation of economic policy with regard to the geo-economic progress.

E.G. Kochetov characterizes the underestimation of the geo-economic factor in determining the country's national interests and priorities as follows: "Russia is content with its supporting role; it ignores global economic realities and continues to waste its resources on export-import operations, thus structurally undermining

its economy. The world economy has imposed this role on Russia and fixed it, and Russia accepts it and does not put a question of its geo-economic interests point-blank before the international community" [10, p. 97].

Russia should adopt a new geo-economic doctrine that would correspond to its national interests and that would link them to global development trends; this idea was voiced by the RF President in his National Security Address to the Federal Assembly back in 1996. It stated that Russia should move to a new geo-economic equilibrium, proclaim its national economic interests, project its strategic objectives and integration alliances, and identify its geo-economic bridgeheads on the global geo-economic map" [12].

It seems that after almost a decade the declared tasks are now being implemented. Russia's geo-economic situation has entered a new phase characterized by the following geo-economic shifts:

— revival of the Eurasian economic integration (Eurasian Economic Union);

— development of economic cooperation within the SCO and BRICS due to the community of geo-economic interests of their members;

— strengthening the role and importance of Russia in shaping the global economic order.

Let us consider these aspects in more detail.

Eurasian economic integration is characterized by economic prerequisites that have historical roots:

— in Soviet times the economy of the USSR was a highly integrated complex; the Russian, Kazakh and Belarusian economies were its parts;

— from the Soviet economy the CIS inherited the division of labor common for its constituent economies, and also technological interdependence and common technical standards [11, pp. 325-327]; a free trade zone was established in the framework of the CIS;

Eurasian economic integration in its current composition has been evolving for several years: it emerged in 1995, when the Customs Union of Russia, Belarus and Kazakhstan was established gradually in its initial design. In 1997–1999 Kyrgyzstan and Tajikistan joined the Union. In 2000 the Eurasian Economic Community (EurAsEC) was established; its purpose was to promote the formation of the customs union and of the common economic space. The current Customs Union of Russia, Belarus and Kazakhstan was established on the basis of the EurAsEC in 2010. In 2011 the Eurasian Economic Council adopted the Decision "On entry into force of international treaties that form the Common Economic Space…". Finally, the agreement on the establishment of the Eurasian Economic Union (EEU) was signed May 29, 2014 and it will come into effect January 1, 2015.

As for the groups of the largest rapidly growing economies, such as the *SCO* and the *BRICS,* though they are not international economic integration associations, they have great potential for economic cooperation between their members [17]. The goal of the Program for Multilateral Trade and Economic Cooperation of the SCO countries (approved by the Decision of the Council of Heads of Governments (Prime Ministers) of SCO member states dated September 23, 2003 No. 1) is to implement gradually (up to 2020) the set of measures

to support such cooperation, to develop industrial and investment cooperation of the leading sectors of their national economies and on this basis – to improve people's standard of living.

One of the objectives of the Program is to search for common approaches and ways of mutually beneficial economic and scientific-technological cooperation between the member states, to develop mutual target programs for economic cooperation and so on.

In accordance with the Concept of Russia's participation in the BRICS (approved by Russian President V. Putin February 9, 2013) [5], Russia pursues the following goals in several areas of economic interaction:

1. In monetary and financial cooperation: the enhancement of the role of national currencies in mutual settlements between the BRICS. It is also necessary to note that the Treaty for the Establishment of a BRICS Contingent Reserve Arrangement and the Agreement on the New Development Bank of the BRICS were signed at the 6th BRICS Summit (July 15–16, 2014).

2. In trade and economic cooperation: provision of conditions to promote Russian export and to develop investment cooperation with BRICS partners.

3. In industrial cooperation: enhancement of Russia's export opportunities in aviation, electronic industry, power engineering, metallurgy, machine building, transport and special machinery; import of modern equipment and technologies from the BRICS countries; geographical diversification of Russian export of mineral resources and attraction of investment from the BRICS countries to the Russian mining industry for the purpose of its modernization; and in other fields of cooperation (scientific-and-technological, agricultural).

Here it can be also noted that, according to the results of the 6th BRICS summit contained in the Fortaleza Declaration, the members of the Group welcomed the proposal to develop the BRICS Economic Cooperation Strategy and the General Principles for Deepening Economic Cooperation between the BRICS countries, which set out the activities to develop economic, trade and investment cooperation within the Group. The Group also expressed its intention to promote the dialogue between the BRICS and South America, including that in the interests of economic progress and sustainable development.

As for this direction of geo-economic changes, it directly determines the next aspect: enhancement of Russia's participation in the formation of a new model of global governance. The innovative nature of the BRICS consists in the emergence of a prototype of a new model of international relations in which differences are not an obstacle to mutual cooperation. The Chinese article, published after the 4th summit in New Delhi, called the BRICS "the key force in the resolution of the old world order".

All this substantiates Russia's urgent necessity to determine its own historical path; it was noted many times by leading Russian and foreign scientists. Academician D.S. L'vov, an outstanding Russian economist, in his 1999 work "Economic manifesto – the future of the Russian economy" made a key conclusion that Russia must follow its own path. Samir Amin, one of the founders of the world-systems approach, writes: "The periphery countries, including Russia, will not be able to develop if they fail to work out their own sovereign project" [1].

Moreover, it should be done without delay. According to S. Gubanov, "economic and geopolitical contradictions are intertwined now in the Gordian knot of a system crisis so acute that it can be resolved only with extreme and alternative outcomes" [7].

G. Vechkanov characterizes the current stage of Russia's development as a situation "when the country is facing a historically responsible choice of its future" [4].

These approaches in many respects determine the reflection of Russia's national economic interests in the national and international normative documents *(table)*.

National economic interests form the basis of national security (food, raw materials, finance, infrastructure, transport) and set development priorities for national economic sectors (industry, scientific and technological development, entrepreneurship, social sphere and innovation development).

Let us consider in detail the highlighted components of national economic interests with regard to the formulation of their goals and objectives both within the country and taking into account the emerging new geo-economic bridgeheads in the current geopolitical conditions.

The provision of the population with safe agricultural products, products of aquatic bioresources and other foodstuffs is the goal in the sphere of **food security**, according to the Food Security Doctrine of the Russian Federation (January 30, 2010).

The Doctrine takes into account (Section 1, Item 5) the recommendations of the Food and Agriculture Organization of the United Nations on the maximum permissible share of import. The Doctrine points out the following in the sphere of foreign economic policy:

— the need to balance exports and imports of agricultural and fishery products;

— the need to implement protective measures if the import of these products grows;

— the need to gradually reduce the dependence of the domestic agro-industrial complex on imported technologies and equipment (Section 4, Item 15).

Thus, this document corresponds to the fact that in the ***geo-economic field*** in August 2014 Russia adopted sanctions against food supplies from a number of EU countries, which should create conditions for development of domestic agriculture, agricultural engineering and food industry. There are certain reserves for this: agriculture and fishery play an important role in the economy of a several Russia's regions [16, pp. 92-94]. Of course, import substitution will require time and certain investment terms. So far, in order to achieve equilibrium of supply and demand in August – September 2014 Russia concluded agreements with several countries about increasing supplies of these goods to the Russian market.

The Chinese firm Baorong is opening the sites for direct shipments of fruit and vegetables to Russia's market in the Far East (Dili Corporation is planning to do the same) [9]. Russia and Belarus are planning to develop a long-term strategy for supplies of Belarusian agricultural products; Belarus is planning to increase its deliveries [3]. Several agreements with Latin American countries on the supply of food have been signed and are already implemented.

In the sphere of raw materials security, and in particular, energy security, the goal is to use natural energy resources efficiently for promoting sustainable economic

Reflection of Russia's economic interests in national and international documents

National economic interests	Reflection in the documents	
	in national documents (on socio-economic development)	in international documents (on economic cooperation with Russia's participation)
Food security	Food Security Doctrine of the Russian Federation dated January 30, 2010, Section 1, Item 2	Agreements (August – September 2014) on the increase of food supplies on the Russian food market concluded with China ("Baorong", "Dili"), countries of East Asia, Belarus, Serbia, Brazil, Tunisia, Morocco, Iran, Georgia, Argentina; planned abolition of restrictions on the supply of livestock products from Mongolia in the near future
Raw materials security	Energy Strategy of Russia for the Period up to 2020, Section 1	Agreement between Gazprom and the Chinese company CNPC on gas supplies for 30 years (2014) Agreement between Rosneft and Cuban oil companies on the joint work to increase oil recovery in Cuban deposits and on the joint development of fields in the Cuban shelf
Financial security	Concept for Long-Term Socio-Economic Development of the Russian Federation for the Period up to 2020, Section 4, Item 3 "Long-term development priorities of financial markets and the banking sector"	Agreement on the New Development Bank of the BRICS (2014); Treaty for the Establishment of a BRICS Contingent Reserve Arrangement (2014). mutual settlements in national currencies between the BRICS member states (Appendix 1 to the EEU Treaty dated May 29, 2014, Section 15, Item 3). China's assistance in the creation of the Russian national payment system, competing with American systems Visa and MasterCard; Agreement on settlements in national currency in Russia-Vietnam trade
Infrastructure security	Transport Strategy of the Russian Federation for the Period up to 2030, Section 4; Strategy for Development of Information Technology in the Russian Federation for 2014–2020 and for the Period until 2025	EEU Treaty, Article 86 "Coordinated (correlated) transport policy"; modernization of Ulan Bator railway; participation in the construction of the Transatlantic canal in Nicaragua; Project for creation of a transport hub in Cuba and modernization of the port of Mariel
Information security	Federal Law "On information, information technology and information protection» dated July 27, 2006 No. 149-FZ, Article 9, Item 1; State Program "Information society", the Decree of the RF Government dated April 15, 2014 No. 313	53rd, 54th and 55th sessions of the General Assembly of the United Nations. Resolution A/RES/54/49 of the General Assembly of the United Nations; the Fortaleza Declaration (following the 6th BRICS Summit) dated July 15, 2014, Item 49 "ICT"; EEU Treaty, Section 5 "Information interaction and statistics"
Industrial development	State Program of the Russian Federation "Development of industry and enhancement of its competitiveness in the period up to 2020"; Meeting of the State Council of the Russian Federation of September 18, 2014, (on the plan promoting import substitution in industry and agriculture for 2014–2015)	Treaty on the Eurasian Economic Union (EEU) dated May 29, 2014, Article 92 "Industrial policy and cooperation"; Concept of Participation of the Russian Federation in the Association of BRICS dated February 09, 2013, Item 19 "Cooperation in the sphere of industry"; Program for Multilateral Trade and Economic Cooperation of the SCO countries dated September 23, 2003, Section 1 "Main goals and objectives of the Program"
Development of science and technology	State Program of the Russian Federation "Development of science and technology" for 2013–2020, the passport of the Program	EEU Treaty, Article 92, Paragraph 4, Item 7 (implementation of joint research and development works in industry; Article 95, Paragraph 7, Item 11 (and in agriculture); Concept of Participation of the Russian Federation in the Association of BRICS, Item 23 "Cooperation in the sphere of science, technology and innovation"; the Fortaleza Declaration, Item 23 (on promotion of scientific research), Item 49, Item 53 (on scientific research into new technologies of obtaining energy); Program for Multilateral Trade and Economic Cooperation of the SCO countries, Sections 1 and 2 (about the ways of mutually beneficial cooperation in science and technology)

End of table

Entrepreneurship development	Decree of the RF President dated September 10, 2012 No. 1276 "On the performance assessment of the heads of federal executive authorities and senior officials (heads of the highest state executive authorities) of the Russian Federation subjects on the creation of favorable conditions for entrepreneurial activity"	the Fortaleza Declaration (following the 6th BRICS Summit) dated July 15, 2014, Item 23 Doing Business Rating Global Entrepreneurship Monitor – GEM.
Social development	State Program of the Russian Federation "Social support of citizens" for 2013–2020	Saint Petersburg Declaration of the G-20 leaders, September 2013 Human Development Index, Social Progress Index
Innovation development	Decree of the RF President dated May 7, 2012 No. 596 "On the long-term state economic policy".	Financing Innovative Development, UNECE European Innovation Scoreboard

growth and for strengthening Russia's foreign economic positions. International documents in this sphere include an agreement between Gazprom and the Chinese company CNPC on gas supplies for 30 years. Under the agreement, the Russian side plans to invest 55 billion U.S. dollars in the construction of a gas pipeline and in the establishment of necessary infrastructure – factories for the production of helium and chemical utilization of natural gas. The Chinese side will invest up to 22 billion U.S. dollars. [14].

The goal in the sphere of **financial security** is to create a financial system that would be efficient, globally competitive, capable of providing a high level of investment activity in the economy, and financial support to innovation activities. The recent ***international documents*** contain a very clear objective to establish Russia's financial independence with the participation of strategic partners in the framework of the EEC, BRICS, and a number of countries, such as Vietnam. This target is reflected, for example, in the Agreement on the New Development Bank of the BRICS, which aims to mobilize resources for funding infrastructure projects and projects in the field of sustainable development; and in the Treaty for the Establishment of a BRICS Contingent Reserve Arrangement, which is to function as an insurance mechanism in case of short-term problems with financial balance in the countries of this group.

In the field of **infrastructure security** we can distinguish the transport component and the component of information technology. In particular, the aim of transport development according to the Transport Strategy of the Russian Federation is to satisfy the needs of innovation socially-oriented development of economy and society in high-quality transport services. The EEU Treaty ***(as an international document)*** recognizes the formation of a common transport space as one of the main priorities in coordinated transport policy. The development of information and communication technologies (ICT) is also recognized as an important area within the Treaty and also within the Fortaleza Declaration of the BRICS.

Information security in modern conditions is gaining particular importance because information becomes an instrument of ideological manipulation. Limited access to information is established by federal laws in order to protect the constitutional system, morality, health, rights and legitimate

interests of other persons, national defense and security (Federal Law "On information, information technology and information protection" dated July 27, 2006 No. 149-FZ, Article 9, Item 1). The State Program "Information society" (Decree of the RF Government dated April 15, 2014 No. 313) has been adopted for the implementation of the Law. At the same time, the improvement of the quality of life by using information and communication technology, which is the goal of the program, does not reflect all the importance of this aspect.

Information security began to be governed by ***international*** law back in the end of the 20th century. For instance, the 53rd, 54th and 55th sessions of the General Assembly of the United Nations adopted the standard "Achievements in the field of information and telecommunications in the context of international security". In 1999 the UN General Assembly adopted the resolution A/RES/54/49, which highlighted the growing danger of disseminating and using information technology for destabilizing the global cooperation and violating international security.

The state program of the Russian Federation on the development of industry and enhancement of its competitiveness was adopted in the field of **industrial development**. However, no significant changes have been observed so far. According to E.M. Primakov, "neo-liberals, in fact, ignore the necessity to restore Russia's industries (first of all, mechanical engineering) ruined in the 1990s. Post-industrial society is not just high technology and services. For instance, in the current post-industrial United States there is a trend of restoration to cover domestic demand of the industries previously displaced into developing countries" [13]. The current course of events is such that the transition to neoindustrialization is not to be delayed anymore, it is "the most critical problem of our time" [2].

This national priority was considered at the meeting of the State Council of the Russian Federation on September 18, 2014 that was dedicated to the promotion of import substitution in industry and agriculture for 2014–2015. The Government set out specific and ambitious goals: to increase the share of Russian products in total retail trade turnover at least by a quarter, the amount of substitution has to be not be less than 100 billion U.S. dollars, or 4 trillion rubles; implementation period – from two to three years; the number of new jobs – not less than 1 million; additional revenues of all the levels of taxes – about 500 billion rubles. New incentive mechanisms set out in the draft law on industrial policy include tax concessions, special investment contracts, R&D subsidies, repayment financing through the Russian Foundation for Technological Development [8].

International documents such as the Treaty on the Eurasian Economic Union (EEU) dated May 29, 2014, and other documents (see table) on economic cooperation with Russia's participation set out priorities for industrial development. The aim of the coordinated industrial policy, according to the EEU Treaty, is to accelerate industrial development of its member states and enhance the competitiveness of their industrial complexes.

The goal in the field of **science-and-technology development**, according to the appropriate state program, is to develop a competitive and efficient research and development sector and to ensure its leading role in the implementation of technological

modernization of Russia's economy. As for the reflection of this goal in international documents, it can be pointed out that the EEU stipulates, among other things, the possibility of conducting joint R&D (Article 92, Paragraph 4, Item 7) for achieving the goals of coordinated industrial policy. The goals of implementing a coherent agro-industrial policy also include the coordination of joint research and innovation activities in the agricultural sector by the Eurasian Economic Commission (Article 95, Paragraph 7, Item 11).

The interaction of the Russian Federation with the BRICS member states of in the field of science, technology and innovation implies goals such as cooperation in priority sectors (aeronautics, nanotechnology, food security, biotechnology, exploration of minerals, and others), drafting of programs on scientific and technological cooperation and its legal support (Concept of Participation of the Russian Federation in the Association of BRICS, Section 4, Item 23).

The Fortaleza Declaration of the BRICS member states:

— recognizes the need to promote international exchange and cooperation and to foster innovation, research and development for strengthening intra-BRICS dialogue (Item 23);

— agrees that particular attention should be given to small and medium-sized enterprises, with a view to fostering innovation, ICT research and development. (Item 49);

— recognizes the importance of scientific research in the field of new energy technologies (Item 53).

The goals set out in the Program of Multilateral Trade Economic Cooperation of the SCO Member States (of September 23, 2003), another international document with Russia's participation, include the establishment of mutually beneficial cooperation in science and technology. The priority areas of cooperation include, among other things, the opportunities for mutually beneficial cooperation in the sphere of geological exploration, information and communication technology, the establishment of mechanisms for the development of innovation cooperation, the general interaction in science and new technology (Sections 1 and 2).

Development of entrepreneurship. Russia has recently started to assess the ease of doing business according to the criterion "Russia's position in the Doing Business ranking" (Decree of the President of the Russian Federation dated September 10, 2012 No. 1276). The country's position in the ranking is calculated on the basis of the following 11 indicators that reflect the parameters of arrangement of entrepreneurial activity [6]: starting business, obtaining construction permits, grid connection; property registration; obtaining loans; protection of investors; taxation; international trade; contract performance security; dealing with insolvency (bankruptcy procedure). Russia lagged behind the approved plan by 24 positions in this ranking in 2013 and 2014. By 2015, in order to implement the plan, Russia has to improve its place in the ranking by 42 positions, which, taking into account the sanctions (in particular, those restricting access to the cheaper Western capital) is practically unattainable.

Numerous ***international*** documents emphasize the priority of small and medium enterprises (in particular, the Fortaleza

Declaration, adopted at the 6th BRICS Summit, dated July 15, 2014, Item 23). The comparable international studies in the field of entrepreneurship include projects such as Doing Business and the Global Entrepreneurship Monitor (GEM). The results of the first one are already used in Russia to assess the achievement of national interests. The second project evaluates the readiness of working-age population to do business and it is not used as a criterion, but has the potential to be used as such.

According to its results, 4.7% of respondents plan to start their own business in Russia in the next three years – again this indicator is the lowest among the 70 countries participating in the project. This result in the BRICS was 22% on average, and in Eastern Europe – 21% [5].

Social development. The main objectives of the state program "Social support of citizens" (Decree of the RF Government dated April 15, 2014 No. 296) are as follows: creation of conditions for promotion of welfare of the citizens who receive social support; improvement of social services availability. The target indicators of the program: 1) the number of population with money incomes below the subsistence level in per cent to the total population; 2) the percentage of citizens who received social services in the institutions that provide social services, in the total number of people who applied to social service agencies for obtaining social services, in %. In the ***international context*** we should point out the initiative of Russia as part of G-20: in 2013 the Saint Petersburg Declaration of the G-20 Leaders was adopted at the G-20 summit in Saint Petersburg; the declaration established the goal of "strengthening growth and creating jobs", including "higher performance" jobs, as a priority [15].

In order to make international comparisons, we can look at some well-known studies, for example, the Human Development Index (HDI), and specialized studies like the Social Progress Index developed in 2013 under the leadership of M. Porter. The Index takes into consideration over 50 indicators, arranged into three main groups: basic human needs (food, medicine, dwelling, etc.); fundamentals of human welfare (literacy, information, ecology, etc.); human development opportunities (freedoms, rights, realization of potential, etc.).

Innovation development. The Decree of the President of the Russian Federation dated May 07, 2012, No. 596 sets out five "areas" (directions) of economic policy (Article 2) and five indicators (Article 1) to assess the achievement of economic policy goals. One of the areas is "modernization and innovation development of the economy". The following indicators are adopted to be implemented: a) establishment and modernization of 25 million highly productive jobs by 2020; b) increase in the volume of investment not less than up to 25% of GDP by 2015 and up to 27% by 2018; b) increase in the share of high-tech and science-intensive industries in GDP by 2018 in 1.3 times as compared to the level of 2011; d) increase in labor productivity by 2018 in 1.5 times as compared to the level of 2011 (Decree of the President of the Russian Federation "On the long-term state economic policy" dated May 07, 2012 No. 596).

It is widely recognized internationally, in particular, by the United Nations, that "innovation is one of the main factors that promote economic growth and address environmental and social challenges, and that innovation contributes to the creation of conditions for sustainable development" (Financing Innovative Development, UNECE).

The European Innovation Scoreboard rating published by the European Commission is used as a landmark for innovative development of the country; the rating includes 29 indicators (number of patent applications, the availability of highly qualified personnel and scientists, expenditure on research, etc.). Thus, the U.S. and Japan remain leaders according to the latest data of this study. The EU is still lagging significantly behind them. China, with its focus on technological upgrading and considerable investments, is close to catch up with Europe. Other BRICS countries, including Russia, are still lagging far behind even China.

Thus, the analysis shows that the country requires the development of a unified conceptual project that would link the priorities of socio-economic development to the strategic objectives of Russia's national economic development with changing geo-economic conditions. At that, one should not neglect the positive experience of the USSR and COMECON, when the tasks of ensuring the country's security were a powerful impetus to consolidation of various resources (financial, intellectual, industrial). This sovereign project should represent a set of comprehensive strategies on different levels, and enhance the role and importance of Russia in the new architecture of geo-economic world order; it should provide the country's participation in collective strategies implemented by the Russian Federation together with other interested countries and new integration groups, and defend conceptual interests of national development.

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Management of the regional economy on the basis of partnership interaction between the authorities and business structures

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Abstract. The article studies the theoretical and practical aspects of the management of the region's economy on the basis of interaction between the authorities and business structures. The authors prove that partnership is an optimal form of such interaction under the conditions of chronic budget deficit. Partnership facilitates the achievement of strategic goals of the territory's development and structural adjustment of domestic economy; it also enhances the interest of the parties in achieving successful results of cooperation, and helps attract innovation technology and significant extra-budgetary investments in the economy. In addition, as world experience shows, public-private partnership is an effective tool to remove infrastructure constraints to economic growth, to improve the availability and quality of public services. The article shows that at present the development of partnership between the government and business is hindered by a number of organizational, legal and financial-economic problems and barriers. The authors identify priority directions for regional public policy and propose several measures to use the available potential of cooperation for dealing with territorial development issues.

Key words: regional economy, partnership cooperation between the authorities and business structures, public-private partnership (PPP), investments, infrastructure.

Decentralization of power and increase of autonomy of the territories in the solution of socio-economic development tasks turn them into full-fledged economic entities that compete for human, financial, investment and other resources. These processes emphasize the task to find ways and new sources of growth of the regional economy for ensuring a high quality of life.

Under the circumstances a most important condition for the solution of these specific tasks is to consolidate the limited resources through the development of active cooperation between the authorities and business structures. The current world practice shows that partnership is an effective model of interaction between the authorities and business, because it helps to use competitive advantages of the parties (public and private sectors) more efficiently, to increase their interest in the successful achievement of the results of joint activities, to attract significant extra-budgetary funds and innovation technologies in the sphere of competence of the state [3, 5, 12].

Partnership is characterized by coherence and a certain balance of interests of the authorities and business structures, by regulation of their rights, responsibilities, cross risk-sharing, and joint and several liability. The economic nature of partnership implies close interaction between the participants to achieve their goals and perform all of their obligations. Only in this case there is the possibility to use synergistic effect that is achieved as a result of this cooperation due to the fact that each party has certain resources, access to which can be useful for the partners [10, 13, 16].

Thus, public-private partnership (PPP) is based on the use of competitive advantages of the parties and on a mutually beneficial exchange of available resources to achieve strategic goals for the territory's development *(fig. 1)*.

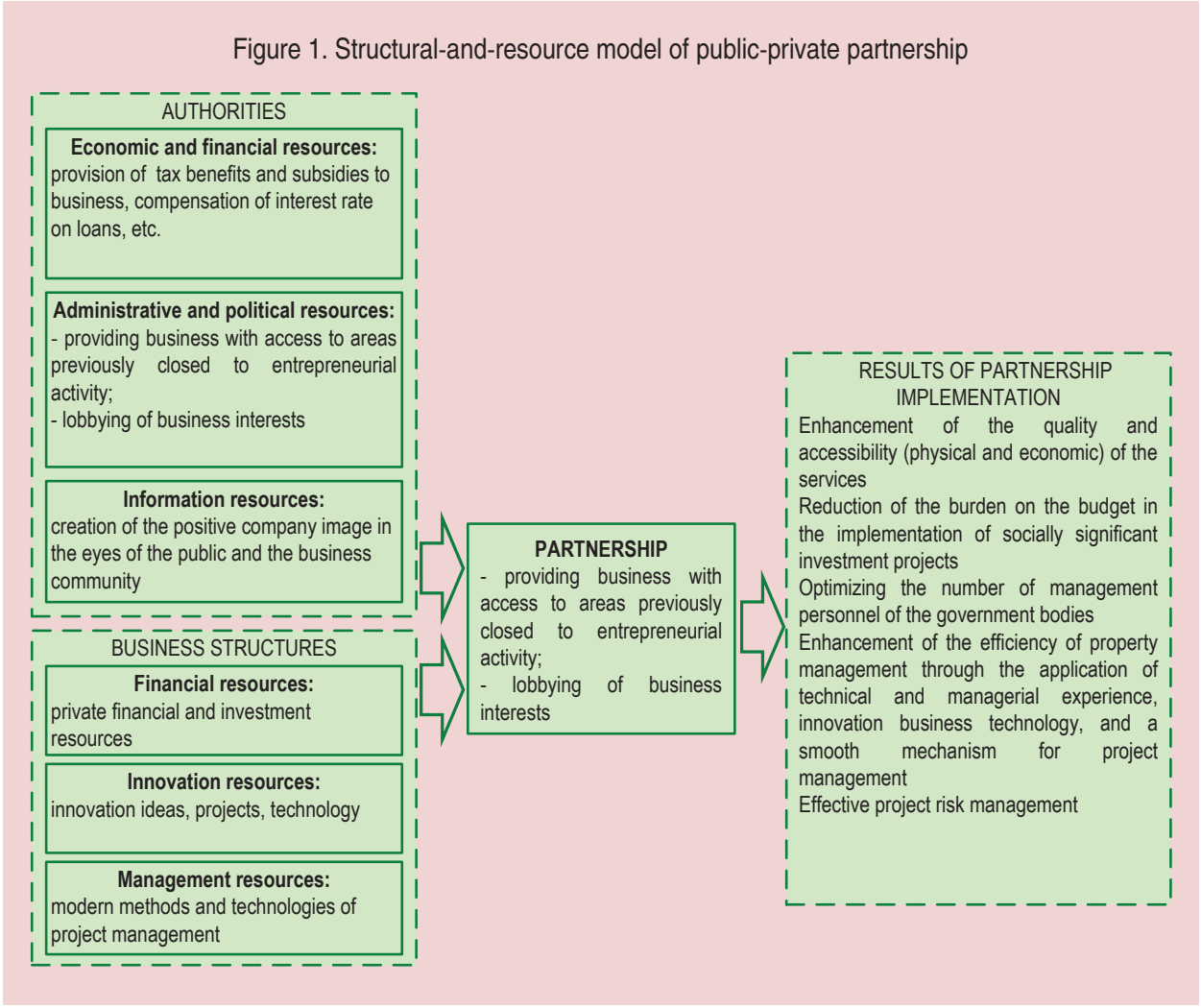
Currently, public-private partnership is used most widely in neoliberal countries (U.S., UK, Ireland, Australia) in order to attract private business to provide services in the spheres that are traditionally within the competence of the public sector.

The United Kingdom is, undoubtedly, the leader by to the number of concluded projects and scope of partnership agreements. It accounts for more than half of PPP projects implemented in Europe. The Private Finance Initiative (PFI), a national program adopted in 1992 for attracting private investment in the economy, promoted the successful development of public-private partnership. Seven hundred and twelve agreements with a total cost of 54.3 billion pounds were implemented under PFI during 1992–2011.

Currently, the cost of completed joint projects under PFI is about ¼ of the overall government investment in the country. At that, the social sphere is top priority in the implementation of PPP projects. Two hundred and sixty two projects in education and healthcare (which is 71% of the total number of partnership agreements) have been concluded during the implementation of PFI [5].

Other major PPP markets in Europe in 2011 comprised Spain (the value of partnership projects was 4.3 billion euros), Portugal (3.1 billion euros), France (1.8 billion euros) and Belgium (1.7 billion euros) [15]. The majority of the implemented projects are agreements in the transport sector, healthcare, defense, education, and telecommunications [1].

Figure 1. Structural-and-resource model of public-private partnership



The aim to develop partnership relations between the authorities and business due to a great demand for investment resources for economic modernization has been put in legal form in Russia.

The adopted Concept for socio-economic development of the Russian Federation until 2020 considers public-private partnership as a promising tool for innovation development of the key sectors of Russia's economy (energy, agriculture, education) and for improvement of the quality of life. Besides, the majority of federal, regional and municipal strategies and programs for development of territories and industries provide for the use of partnership mechanisms.

Public-private partnership is applied mainly in the infrastructure sectors that experience considerable shortage of investment for their functioning and stable development in the long term[1]:

– transport infrastructure (motor ways, railroads, bridges, pipeline transport);

[1] According to expert estimates, the investment required for the development of the global infrastructure up to 2030 is 35 trillion U.S. dollars. *(A World Economic Forum Global Risk Report 2010.* Geneva, 2010. P. 18.).

– energy and utility infrastructure (power grids, water, heat and gas supply, sewerage and facilities for solid waste disposal);

– social infrastructure (healthcare, education, culture and tourism facilities).

Judging by successful international experience, partnership raises the quality and availability of these types of infrastructure services.

The development of partnership is now a very relevant task for the Vologda Oblast authorities. This can be explained by a high demand for financial resources for the modernization of the region's economy and for technological upgrade of fixed assets, which are characterized by the high degree of wear – in 2012 it was 41% and 12% of the funds were completely worn *(fig. 2)* [9].

At the same time, limited budget resources do not make it possible to change the situation radically. In particular, the comprehensive modernization of housing and utilities, according to the Vologda Oblast Department of Construction and Housing and Utilities Services, requires about 53 billion rubles, which is comparable to the total expenditures of the region's consolidated budget in 2013.

Besides, the situation is aggravated by the fact that the oblast's budgetary system is characterized by a significant excess of expenditures over revenues. Moreover, these processes have intensified after the 2008–2009 global financial and economic crisis. In 2008 the consolidated budget of the Vologda Oblast was formed with a surplus, but afterwards its annual deficit was about 3–7 billion rubles *(tab. 1)*.

The deficit of the region's budget system is one of the main reasons for the growth of public debt, which increased from 1.8 to 29.2 billion rubles in 2008–2012 and is now more than 92% of the total volume of its own revenues in 2012 *(fig. 3)*.

Figure 2. Depreciation of fixed assets (at the end of the year), %

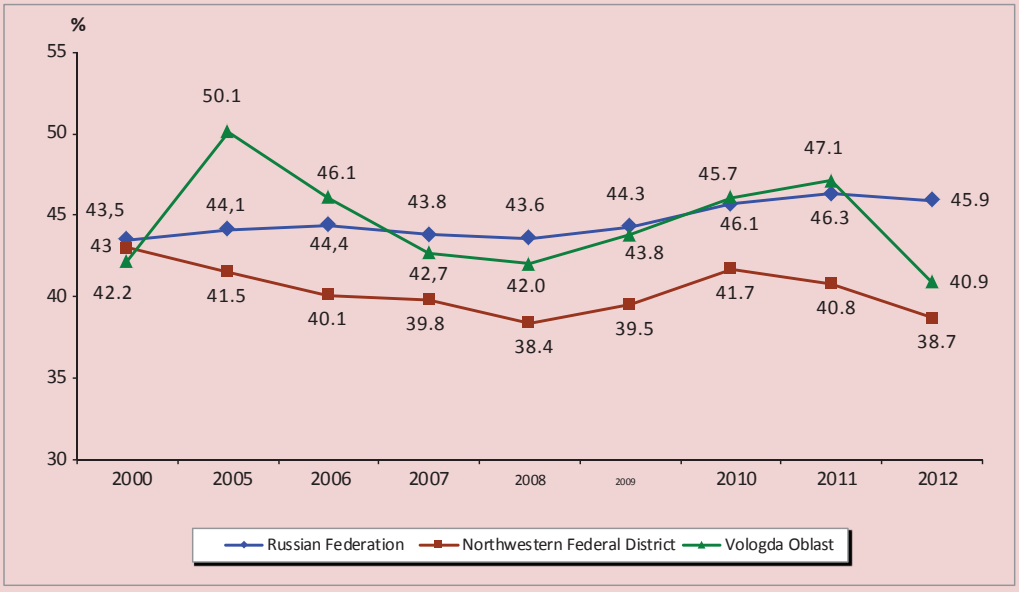
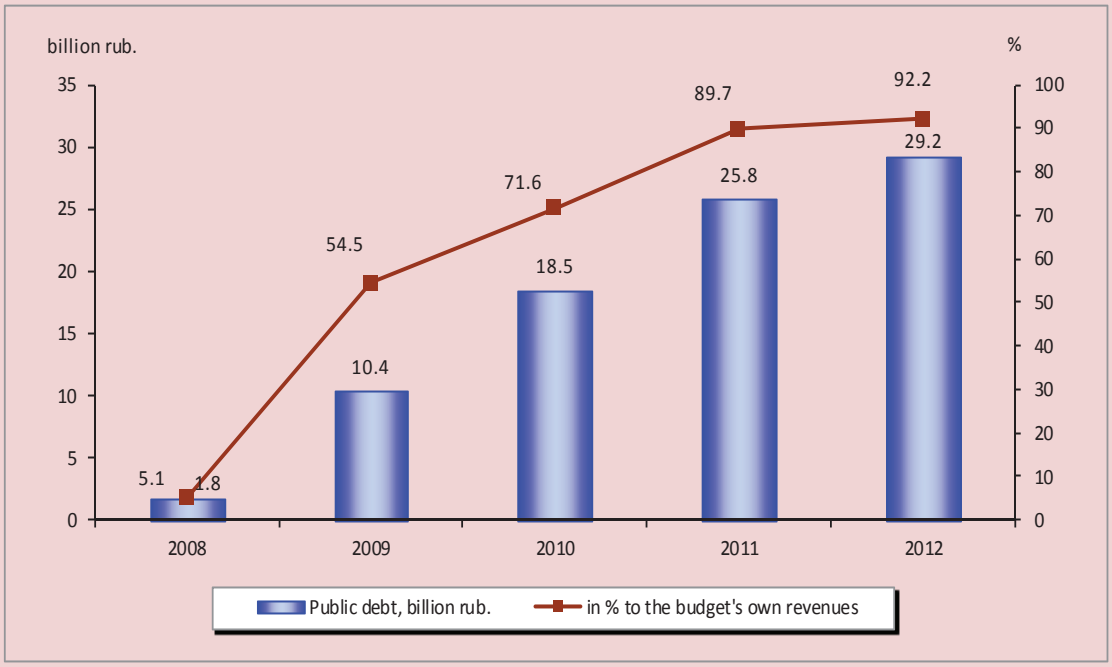


Table 1. Surplus (deficit (-)) of consolidated budgets of the territories in 2008–2012, million rubles

Territory	2008	2009	2010	2011	2012	2012 to 2008, fold
Vologda Oblast	**273.74**	**-6516.65**	**-6824.81**	**-7460.31**	**-3153.19**	-
NWFD	-20544.7	-32034.9	-20881.2	-10993.5	-21518.7	1.05
Russian Federation	-48715.9	-328543	-99251.1	-14473.3	-273295	5.61

Source: Reporting statements on the execution of budgets of the RF subjects and local budgets. Available at: http://www.roskazna.ru/reports/mb.html

Figure 3. Dynamics of public debt of the Vologda Oblast in 2008–2012



Due to the sharp increase in the debt burden, the oblast is unable to repay it on its own; that is why it is necessary to attract federal resources.

It follows from the above that the region's demand for resources for economic modernization and restructuring, the development of industrial and social infrastructure, and the acute shortage of budget funds to solve these problems prove that it is necessary to find ways to govern the region's economy on the basis of public-private partnership.

The region has certain prerequisites for the use of partnership as an effective tool of economic modernization. According to the rating of the Russian Federation subjects that assesses how they develop and implement public-private partnership, the Vologda Oblast, in comparison with

other Russia's regions, has relatively high investment attractiveness for business and many opportunities concerning the use of partnership mechanisms in the implementation of socially significant investment projects. In 2014 the oblast ranked 18th among all the subjects of the Russian Federation in this rating. However, public-private partnership in the region is not widespread, and these opportunities are not used to the fullest extent.

At present, according to the initiative of the regional authorities and with their active support only several major pilot projects of public-private partnership are being implemented (greenfield projects: Industrial Park Sheksna, Sokol). The Severstal–Sheksna tube-rolling mill LLC (production of closed fabricated sections, the volume of investments – 4.6 billion rubles), the biotechnology plant for the disposal and recycling of livestock and poultry waste CJSC NPO Severny Standart (648.9 million rubles), a hot-dip galvanizing plant (342.8 million rubles) are now operating on the territory of the Industrial Park Sheksna.

If these companies reach their full capacity utilization, the number of new jobs in the Park will reach 5000 (project capacity: 2500 tons of steel structures per year; 15000 tons of industrial fat and meat-and-bone meal; 2000 tons of medical cotton; 26400 tons of galvanized metal; 40 million square meters of nonwoven fabrics per year). However, the project's implementation is hampered by many problems, including the necessity to attract additional funding for further development of infrastructure facilities of the Park.

The Industrial Park Sokol faces similar problems. It is planned to build the plywood factory LLC Ustyeles, and the energy forest industry cluster Sokol–Vytegra on its territory, and the construction works are already in progress. It is planned to invest 4.7 billion U.S. dollars in these projects, and it is expected to create 800–1000 new jobs [6].

In order to support the development of partnership relations between government and business, the oblast is forming appropriate legal, organizational and institutional support.

For instance, OJSC Vologda Region Development Corporation was established in 2012; its main goal is to attract private investment in the implementation of socially important investment projects in the key sectors of the region's economy, with priority use of public-private partnership.

The Corporation provides support services for these projects that include:

– marketing (marketing research, development of marketing plans, information support and advertising);

– business planning (development and expert assessment of business plans);

– fundraising (search and attraction of financial resources: loans, leasing, factoring);

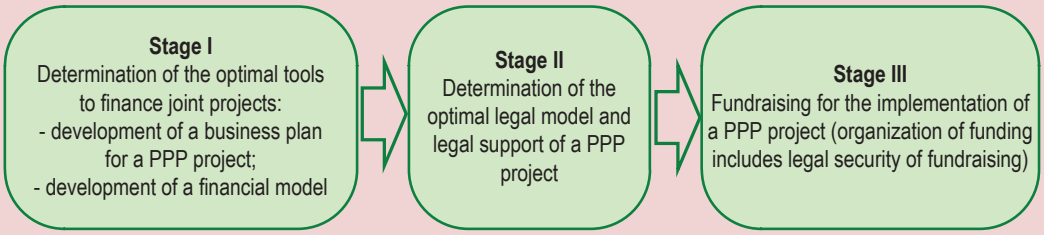
– development (preparation of the documents to make an entry for an object in the cadastral registration, obtaining a construction permit);

– assessment services (assessment of real estate);

– accounting and legal services.

However, the primary function of the Corporation is its direct participation in the legal and financial support of PPP projects *(fig. 4)*.

Figure. 4. Functions of the Vologda Region Development Corporation in support of the projects of public-private partnership [7]



The Center for Development of Public-Private Partnership, and regional Investment Fund were established on the basis of the Corporation in 2013 to perform these functions. The main task of the latter is to provide financial support to socially significant investment projects in the oblast with the use of PPP mechanisms.

To date, a pool of 60 priority investment projects for a total of 33.5 billion rubles has been created. If they are implemented successfully, the number of new jobs by 2016 will have reached 4200, and the budget effect will be over 117 million rubles. The projects for construction of a plywood mill in Sokol, for construction of several boilers, for turf development, for integrated processing of wood, for establishing a network of fast food restaurants and a network of roadside service, and for modernization of the Center for Renal Replacement Therapy [7].

However, the performance of the Corporation in the development and support of PPP projects in the region can be assessed as insufficient. For instance, its interaction with local government is carried out primarily on the subject of advisory support and training of employees of local authorities in the sphere of work with investors (this was noted by 50% of the heads of municipal districts, 11% of heads of urban districts and 8% of heads of rural settlements in the region), on the subject of evaluating the territory's investment potential and priority areas for attracting private investment (44.4% of district heads and 2.7% of rural settlements heads; *tab. 2*).

Significantly fewer respondents pointed out the experience of direct development with the participation of the Corporation, and also the support for the implementation of joint business investment projects on the territory of the municipal formation.

Thus, a large amount of potential PPP projects is currently only at the stage of development and feasibility study. Therefore, we cannot speak about the performance efficiency of these institutions for support of public-private partnership. This is confirmed by the results of annual surveys of heads of the Vologda Oblast municipal formations; the surveys were conducted by the Institute of Socio-Economic Development of Territories of the Russian Academy of Sciences. For example, in 2013 only 6% of municipal districts heads and 2% of rural settlements heads in the region pointed out the high efficiency of cooperation between local authorities and

Table 2. Distribution of answers given by the heads of municipal formations on the question: "What kind of support was provided by the Vologda Region Development Corporation for the investment development of your municipality in 2013?", in % of the number of respondents

Answer option	Municipal entities		
	municipal districts	urban settlements	rural settlements
Representatives of the Corporation provide advisory support and/or trained representatives of local authorities to work with investors, and to interact with business	50.0	11.1	8.0
With the participation of the Corporation's representatives the potential, competitiveness and prospects of development of the municipality were assessed, priority areas for attracting investors were determined, etc.	44.4	0.0	2.7
The implementation of the investment project, which was originally developed without the participation of the Corporation, was supported,	27.8	0.0	2.7
The implementation of the investment project was initiated with the participation of the Corporation (a business plan was prepared, a land plot was allocated, a project documentation was developed, etc.)	22.2	11.1	2.7
The investment project was developed with the participation of the Corporation	16.7	11.1	2.7
Representatives of the Corporation implemented marketing activities with regard to the municipal entity	11.1	11.1	2.7
Source: the results of the 2014 survey of the Vologda Oblast municipal formations' heads.			

the Development Corporation. At that, more than half of the rural settlements heads considered the effectiveness of such cooperation to be low *(fig. 5)*.

Foreign and domestic research into this issue shows that today there are many problems that hamper the efficient use of public-private partnership in the management of the region's economy. The most important of them are as follows:

– low level of trust between the main subjects of the interaction (government and business);

– desire of economic entities to individual interaction with the authorities, which leads to abandonment of consolidation of their interests with the business community in general;

– lack of a strategy clearly defined by the authorities for building partnership relations with business structures;

– flaws in the legislation that regulates the joint activities of the authorities and business (tender, concession, etc.);

– mechanisms of redistribution of resources that have been preserved from the Soviet economy now define the essence of the administrative market and also complicate the establishment of transparent and efficient relations between government and business [2, 4].

The survey of the Vologda Oblast municipal formations heads has revealed similar problems. According to its results, at present there are several factors, including legal and financial, that hamper the development of partnership *(fig. 6)*.

These factors are caused by the difficulties in attracting financial resources to implement PPP projects. Thirty-two per cent of municipal districts heads and 17–18% of the oblast settlements heads

Figure 5. Distribution of answers of municipal entities' heads to the question: "How do you assess the effectiveness of interaction with the Vologda Region Development Corporation?", in % of the number of respondents

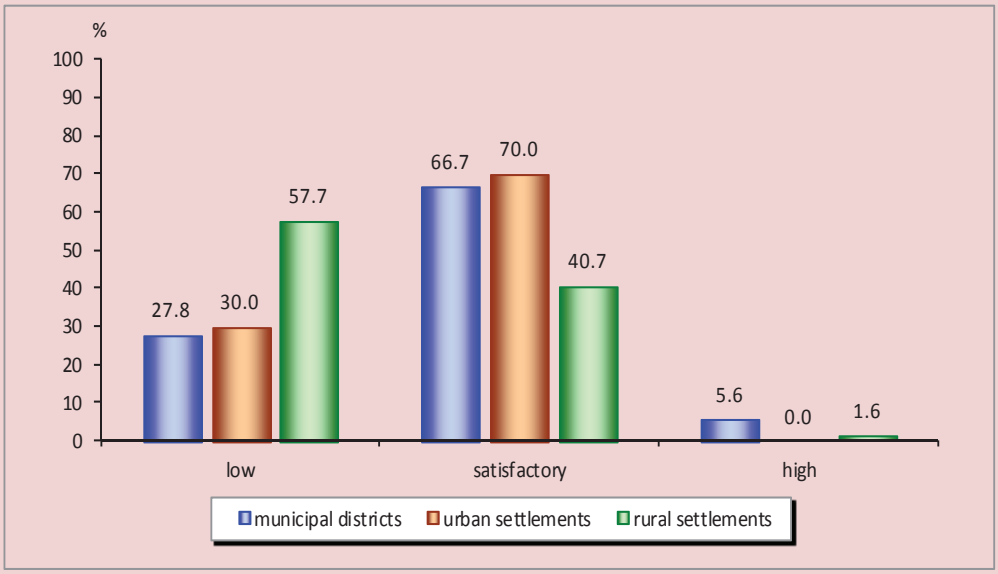
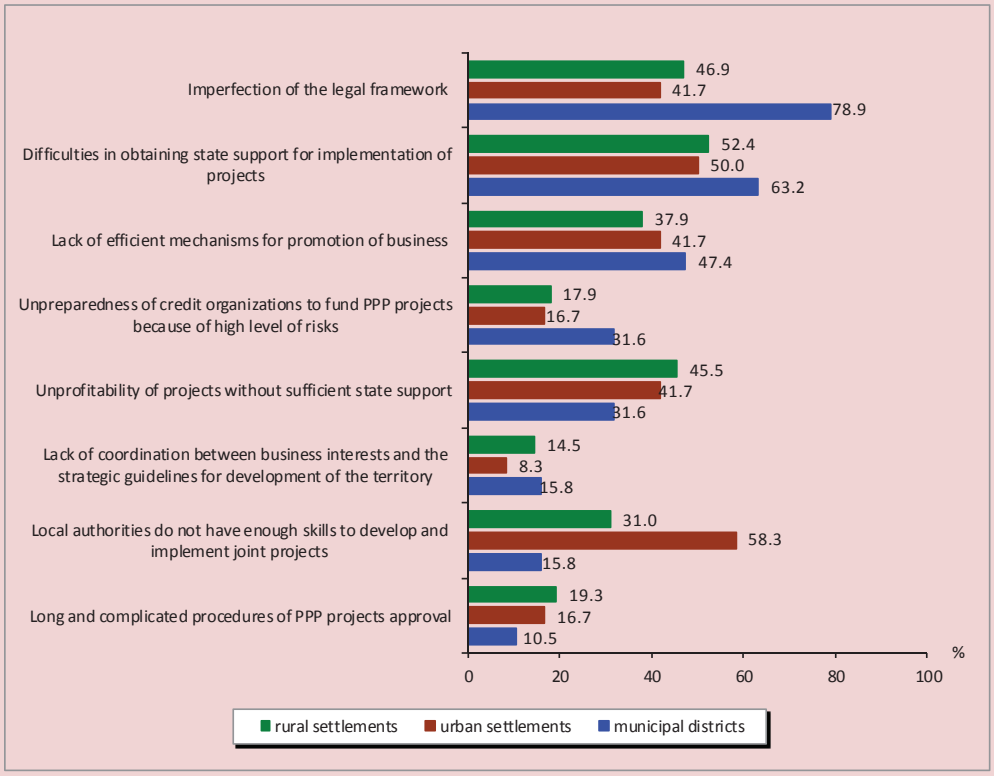


Figure 6. Factors that impede the development of partnership between the authorities and business structures, in % of the number of respondents



pointed out that credit institutions are not ready to finance them because of the high level of risk. A similar situation can be observed with the provision of state support, without which these projects are unprofitable and unattractive to business (this was mentioned by about half of the rural and urban settlements heads).

Another group is legal factors.

1. Imperfection of the legal framework for partnership (acute shortage of bylaws and enforcement regulations). In particular, there is no federal law on public-private partnership, and the regional legal base is of a framework nature. For example, the Vologda Oblast has adopted the Law "On participation of the Vologda Oblast in public-private partnership" dated May 26, 2010 No. 2308-OZ (as amended on October 06, 2013, the Law No. 3154-OZ)) and the Resolution of the Vologda Oblast Government "On the procedure of participation of state executive authorities in public-private partnership" dated August 1, 2011 No. 914 (as amended on October 13, 2014 No. 904); these documents define only general concepts, forms and mechanisms of participation of the authorities in the development and implementation of joint projects.

2. The local authorities do not have enough skills to develop and implement partnership projects (this was pointed out by 58.3% of urban settlements heads and 31% of rural settlements heads in the region).

3. The PPP projects approval procedures are long and complicated (17% and 19% respectively).

4. There is no coordination between business interests and the strategic guidelines for development of the territory (8% and 15%).

In this regard, a priority task for the government should be to address the above issues, to eliminate existing barriers and to establish favorable conditions for the development of partnership relations through the implementation of the following activities.

First, the strategic objectives for the government activities on the development of partnership in the strategies and programs, guidelines, roadmaps for the development of state-private partnership in the region should be put into legal form.

In addition, it is necessary to integrate the institute of partnership in existing documents of program-target planning and budgeting; these documents should set out specific actions for the application and development of public-private partnership mechanisms.

Secondly, it is necessary to establish an open dialogue between business and government on key development issues of public-private partnership.

The main ways to address this challenge are as follows: to promote activity of existing business associations (chambers of commerce, business associations, etc.) in this sphere; to create working groups, which are advisable to include representatives of authorities, business entities, civil society institutions and financial-and-credit organizations.

The organization of such forms of dialogue between the parties will agree on the strategic objectives for the development of the territory and the long-term interests of the business structures.

Third, it is necessary to develop regional and municipal regulatory framework for public-private partnership, to develop

legislative acts regulating the relations of the parties under various forms of PPP[2]. Such normative legal acts adopted for the development of the regional law on public-private partnership, should contain the following provisions:

– interagency cooperation in the implementation of public-private partnership projects;

– procedure of selection, preparation and support of PPP projects, which shall not conflict with the federal law.

Fourth, it is necessary to develop a mechanism to encourage the participation of private investors in the implementation of PPP projects. It is advisable to use financial instruments to support business structures (tax benefits, reimbursement of business entities expenses on connection to engineering networks, direct co-financing of the projects, assistance in obtaining mortgages and loans, participation as their guarantor), and to use non-financial instruments (provision of free-of-charge advisory services to potential private partners, granting them free access to information about the implemented PPP projects, etc.).

Finally, the proposed tools to support partnership between the authorities and business structures should be adapted to the territorial and sectoral specifics of its application.

We think that these measures will contribute to the development of public-private partnership and to its transformation into an effective instrument of economic management in the region, to the removal of infrastructure constraints to economic growth, to the expansion of the range, improvement of accessibility (physical and economic) of public services and, ultimately, to the enhancement of the quality of life of the population of the territory.

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[2] As of June 2014, the regional PPP laws are adopted in 69 constituent entities of the Russian Federation; however, they have only a framework nature.

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Investment and trade attractiveness as the factors in economic development of the regions

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Abstract. The article discusses performance indicators of trade and investment attractiveness of the regions that comprise the Siberian Federal District; it also considers the consequences of the 2008 global financial crisis and the emerging trends of economic development. Investment attractiveness of the territory is defined by a set of its socio-economic development indicators. The level of investment attractiveness is the most important condition for investment activities and it promotes the quality of life.

The authors identify a number of factors that determine the level of infrastructure development and the formation of favorable business climate in the business environment.

The article provides a detailed analysis of the growth rates and the volume of investment in fixed capital, which are the main evaluation indicators of investment attractiveness. The attraction of investment contributes to the development of trade relations, services and social sphere.

The analysis of trade attractiveness makes it possible to rank the regions of the Siberian Federal District according to the indices of trade attractiveness, which will enable to use available resources most efficiently under the conditions of tough competition and to consider projects that enhance the attractiveness of business entities.

Key words: investment attractiveness; outflow of capital; trade attractiveness; national factors; business environment; business climate; competition.

Economy has historically been one of the pillars of the society. Thanks to the achievements of economic thought the humanity has outstanding achievements in the field of engineering, manufacturing and technology. Economy has contributed to the development of social and spiritual components of the society. Economy as a dynamic system is undergoing characteristic changes over time: the development of new forms and methods of interaction between subjects of economic relations requires enhancements of the existing theoretical principles and laws.

Despite the fact that the economic system is becoming more reliable and perfect, for the last 100 years several crises have occurred thus revealing the existence of cycles in the context of economic systems development.

The 2008 global financial crisis has shown the fragility and vulnerability of the seemingly perfect economic systems of the leading world countries. Long recession and further stagnation in many countries has resulted in a natural decrease in the level of industrial production and then in a catastrophic rise in unemployment and uncontrolled growth of budget deficit.

Although Russia, unlike many countries, has suffered from the crisis to a lesser extent, we can not be sure that the country's economic system is invincible. The emerging trend of slowing growth and weakening of the Russian ruble indicates the formation of negative systemic trends.

In 2008–2013, according to the Bank of Russia, there was annual capital export from Russia, totaling about 400 billion U.S. dollars in the period under review. It clearly indicates a low investment attractiveness of the Russian market [10].

The deterioration of the situation can be prevented by improving trade and investment attractiveness of the regions. The article considers the assessment and impact of these characteristics.

The authors define the investment attractiveness of the country or region as a set of economic indicators, indicators of political, social, legislative development. Investment attractiveness determines the direction of movement of financial, intellectual and human capital in the country or abroad. This approach is similar to the definition proposed by the L.C. Valinurova and O.B. Kazakova [5, p. 35]: "Investment attractiveness is a combination of different objective characteristics, features, funds, possibilities of an economic system, promoting effective demand for investment". In the works of the Russian economists there are various interpretations of the considered concepts. For example, I.B. Maksimov [8, p. 14] believes that investment attractiveness (or unattractiveness) is an investor's subjective assessment of the country, region or enterprise in terms of making decisions about investing funds, respectively, in the country, region or enterprise. N.V. Kiseleva [7, p. 382] considers investment attractiveness as "an integral characteristic of single companies, industries, regions, countries as a whole in terms of prospects for development, investment yield and a level of investment risk".

In turn, in the modern economic science the commercial attractiveness issue has not been studied deeply, there is no definition of this notion. In the article the authors disclose their point of view on the region's commercial attractiveness as an economic category.

The 2013 Presidential Address highlighted the policy to improve business and investment climate as necessary elements of comprehensive economic and socio-political development of the country. The accomplishment of the given tasks requires the detailed analysis of each region in the federal districts as integral parts of the RF single economic space and the implementation of innovative, mainly non-resource projects.

For Russia and the Siberian Federal District, in particular, it will be extremely difficult to attract serious investments in non-resource industries and projects. In terms of investment capacity the primary industries are more attractive, but investment yield and dividends receipt are delayed for an extended period of time due to the specifics of the relevant projects implementation. Across the world there is a widespread practice to invest in the projects that develop the consumer market and are commercially attractive.

One of the tasks relevant to the modern society is to create favorable conditions in order to stimulate economic growth, improve the quality of life of the population. The tasks can be achieved by investing in the real sector of the economy. Commercial attractiveness as an aggregate indicator helps assess the prospects of investing in retail trade of the region.

The article describes the regions of the Siberian Federal District, analyzes a number of factors that determine commercial and investment attractiveness and calculates and compares indices of commercial and investment attractiveness of the regions.

In modern conditions the attraction of investments into the real sector of the economy ensures the development of production, creates the conditions for research and innovation, reduces the likelihood of social tension. In order to provide a significant breakthrough in the sphere of production, raise the level of education, health and science it is necessary to create a favorable climate for long-term investment.

The choice of indicators used in the calculation of indices is based on the article of Doctor of Economics Yu. L. Aleksandrov [3]. The method, published in "Kommersant" [9] was modified and presented as an experimental version, in accordance with the author's understanding of commercial and investment attractiveness. The given below methods help conduct a preliminary comparative analysis of commercial and investment attractiveness of the regions without special economic-mathematical tools. The results of such an analysis can be used both by state bodies and commercial entities as an initial stage to identify promising investment markets.

The index of region's investment attractiveness is calculated on the basis of a ratio of industrial output (Io) and a number of enterprises and organizations (Ne), a number of economically active population (Neap) and investment in fixed capital per capita (Ifc).

The formula to calculate the investment attractiveness index (IA) is the following:

$$IA = \sqrt{\frac{Neap}{Ifc} \times \frac{Io}{Ne}} \ .$$

According to the analysis of investment attractiveness of the Siberian Federal district regions, the Krasnoyarsk Oblast is

on the lead by the indicators, such as a number of economically active population (1513 thousand people), industrial output (983862 million rubles), investment in fixed capital per capita (132313 rubles) *(tab. 1)*. These indicators are achieved due to the current measures to improve the investment climate. However, the Kemerovo Oblast is characterized by high investment attractiveness. The 2012 data analysis indicates that the Kemerovo Oblast (IA=16.3), the Omsk Oblast (IA=16.0), the Irkutsk Oblast (IA=13.4) are the Siberian Federal District regions that are most attractive for investment.

Investment attractiveness serves as a characteristic to conduct an analysis at the regional level, commercial attractiveness – to identify a commercial aspect of the regional economy. For the most effective analysis it is better to use both indices. The commercial attractiveness index is calculated on the basis of the following ratios: a number of the economically active population (Neap) and retail trade turnover per capita (Rtt), average income per month (I) and subsistence minimum per month (Smin).

The formula to calculate the commercial attractiveness index (CA):

$$A = \sqrt{\frac{Neap}{Rtt} \times \frac{I}{Smin}} .$$

Table 1. Indicators of investment attractiveness of the Siberian Federal District regions (as of January 1, 2013) [11]

Subject of the Siberian Federal District	Number of economically active population (Neap)		Indicators of investment attractiveness						Index of region's investment attractiveness (IA)
			Number of enterprises and organizations (Ne)		Industrial output (Io)		Investment in fixed capital per capita (Ifc)		
	People	Rank	Units	Rank	Million rubles	Rank	Rubles	Rank	
Altai Republic	99 000	12	7772	11	3923	12	43 118	9	1.1
Republic of Buryatia	462 000	9	18 733	8	78 591	10	42 239	10	6.8
Tyva Republic	120 000	11	3774	12	7241	11	35 464	11	2.5
Republic of Khakassia	261 000	10	10 942	10	116 693	8	71 592	4	6.2
Altai Krai	1 195 000	5	53 684	4	240 583	7	34 888	12	12.4
Krasnoyarsk Krai	1 513 000	1	72 659	2	983 862	1	132 313	1	12.4
Irkutsk Oblast	1 246 000	4	62 285	3	582 533	4	64 572	5	13.4
Kemerovo Oblast	1 401 000	3	51 953	5	944 350	2	96 278	3	16.3
Novosibirsk Oblast	1 441 000	2	144 327	1	367 641	5	60 024	6	7.8
Omsk Oblast	1 049 000	6	48 623	6	649 505	3	54 989	7	16.0
Tomsk Oblast	494 000	8	34 987	7	288 369	6	101 725	2	6.3
Zabaykalsky Krai	532 000	7	16 145	9	86 574	9	52 975	8	7.3

The commercial attractiveness index of the Siberian Federal District regions reveals the following leaders: the Kemerovo Oblast (CA = 6.3), the Irkutsk Oblast (CA = 5.7) *(tab. 2)*. Krasnoyarsk Krai and the Novosibirsk Oblast shared third place by this indicator (CA = 5.4). Despite this, by all the commercial attractiveness indicators Krasnoyarsk Krai ranged the 1st (in this situation the third place by CA is caused by the indicators ratio included in CA). It is important to note that average income per month over 20 thousand rubles was reached only in Krasnoyarsk Krai and the Novosibirsk Oblast. These regions had similar results by retail trade turnover per capita (149 and 147 thousand rubles, respectively). According to the analysis, though Krasnoyarsk Krai and the Novosibirsk Oblast are undoubtedly a driving force in the Siberian Federal district, the Kemerovo Oblast and the Irkutsk Oblast have high potential for it, that is why the correct policy in the development of this direction can promote economic growth.

As mentioned above, the used formulas are experimental. The limited indicators used in the indices calculation definitely leads to inaccurate results due to the omission of factors which can have a high impact on the analyzed attractiveness indices. At the same time, this approach reflects the principle of ease-of-use analysis tools.

Table 2. Indicators of commercial attractiveness of the Siberian Federal District regions (as of January 1, 2013) [11]

Subject of the Siberian Federal District	Number of the economically active population (Neap)		Indicators of commercial attractiveness						Commercial attractiveness index (CA)
			Average income per month (I)		Subsistence minimum per month (Smin)		Retail trade turnover per capita (Rtt)		
	People	Rank	Rubles	Rank	Rubles	Rank	Rubles	Rank	
Altai Republic	99000	12	14277.7	10	6505	7	75583	11	1.7
Republic of Buryatia	462000	9	17119	8	6766	5	116893	4	3.2
Tyva Republic	120000	11	11932.6	12	6462	8	48949	12	2.1
Republic of Khakassia	261000	10	15991.4	9	6405	9	106164	6	2.5
Altai Krai	1195000	5	13628.9	11	6257	10	105754	8	5.0
Krasnoyarsk Krai	1513000	1	22137.6	1	7715	1	149112	1	5.4
Irkutsk Oblast	1246000	4	17720.3	6	6557	6	103165	9	5.7
Kemerovo Oblast	1401000	3	18385.5	4	5698	12	115686	5	6.3
Novosibirsk Oblast	1441000	2	20637.1	2	6989	3	147816	2	5.4
Omsk Oblast	1049000	6	19468.8	3	5773	11	133668	3	5.1
Tomsk Oblast	494000	8	17875.6	5	7077	2	99139	10	3.5
Zabaykalsky Krai	532000	7	17335.6	7	6784	4	105860	7	3.6

The analysis allows us to consider Krasnoyarsk Krai from the point of view of trade and investment attractiveness. The programs to develop consumer market adopted at the level of a RF subject and at the level of the city of Krasnoyarsk will encourage the increase in the economically active population and the growth of economic performance of the region in the near future.

The positioning of Krasnoyarsk Krai as an innovation center that can build up new high-tech production, focused not only on raw material industries, but also on social development will help the region attract investments, including foreign ones, in different sectors of the economy.

In the conditions of high competition Krasnoyarsk Krai should use available resources reasonably and elaborate strategic projects that can radically change its economic position as a resource region, thus enhancing its commercial and investment attractiveness.

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Assessment of the level of socio-economic development in municipal formations of the Vologda Oblast

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Abstract. Socio-economic development of regions depends to a great extent on the state of economy and social sphere in its constituent municipalities, because this level of government provides basic services to the population, and ensures comfortable living conditions, which determines the growth of the standard of living and quality of life. Under the conditions of the increase in the differentiation of socio-economic development of territories it becomes especially important to identify and study groups (types) of territories with similar development factors, conditions and parameters in order to implement specific measures of regional policy. The authors propose and test a methodology of comparative analysis, which used different techniques of standardization of indicators, which makes it possible to assess the level of socio-economic development of municipal and urban districts in the Vologda Oblast, and to distinguish 5 types of territories on the basis of calculation of the integral index that aggregates 18 initial statistical indicators. The article shows that the highest level of socio-economic development is characteristic of the cities of Vologda and Cherepovets and adjacent areas; the farther from the oblast center, the lower this level.

The typological classification of the municipalities makes it possible to propose main directions and instruments of regional policy for territories with different levels of development.

Key words: Vologda Oblast, municipality, municipal district, urban district, level of socio-economic development, territorial differentiation, grouping, typological classification of territories.

One of the most important tasks of regional development is overcoming uneven socio-economic development of municipalities. Objective inequality of resources, conditions and development possibilities leads to territorial differentiation, and to significant differences by basic indicators of socio-economic development of the RF subjects and municipalities. Uneven development causes disparities in the standard of living of the population, its migration to more favorable territories, decline in development and "extinction" of communities. Such problematic areas require special support measures from the state and local governments.

The study of socio-economic processes has indicated that the differentiation of Russian regions is one of the highest in the world, and it is even more significant at the local level. The Vologda Oblast follows the trend. As of January 1, 2014, there were 283 municipal structures, including 2 urban districts (Vologda and Cherepovets), 26 municipal districts, 22 urban and 233 rural settlements. *Table 1* presents a number of indicators clearly describing uneven socio-economic development of the region's municipalities.

The table discloses that the gap between 26 municipal districts by per capita volume has increased from 30 times in 1991 to 733 times in 2013 in industrial production, from 10 to 19 times in agricultural production, from 2.5 to 160 times in investment. During the study period the social sphere is characterized by multidirectional changes, according to a number of indicators (in particular, wage rate, provision with doctors, housing, and retail trade turnover); however, differentiation is still hindering the region's development.

Table 1. Ratio of maximum and minimum values among the municipal districts of the Vologda Oblast, times

Indicator	Year						
	1991	1996	2001	2006	2011	2012	2013
Volume of industrial production per person	29.9	40.6	78.8	47.7	537.3	366.2	733.5
Volume of agricultural production per person	10.1	10.1	9.7	20.1	19.6	19.6	19.1
Volume of investment in fixed capital per person	2.5	14.7	26.8	35.3	22.2	83.8	160.4
Average monthly nominal accrued wage	1.3	2.2	2.0	1.5	2.1	2.9	1.9
Retail trade turnover per person	1.3	3.0	2.8	2.5	1.7	1.8	1.9
Provision with doctors per 10000 people	2.8	2.8	3.6	3.5	3.4	3.4	3.0
Provision with housing, square meters per person	1.5	1.5	1.4	1.8	1.6	1.6	1.6

Note. The calculations hereafter are conducted by the authors on the basis of official statistical information on the regions and cities of Vologda region [6; 10; 11].

At the end of 2013 90% of the industrial production and 63% of all investment in value terms was concentrated in two urban districts of Vologda and Cherepovets, while 2/3 (63%) of agricultural production – in five territories surrounding these urban areas. This situation results in decreased possibilities and prospects for development of most peripheral areas, a lower life standard of the population and low investment activity.

However, the municipal government, being aware of the population's specific needs and interests, provides the necessary conditions. Moreover, most problems of socio-economic development are geographically localized at this level (municipalities, urban and rural settlements, urban districts, intra-city areas of federal cities) [3]. Therefore, the development of municipalities, where the specific features of territories, local resources and conditions can be assessed, largely determines socio-economic development of the territorial units of a higher level (a RF subject and the country in general).

Current regional mechanisms to manage the territorial differentiation of socio-economic development mainly aim to align the budget capacity of municipalities and they do not take into account the specifics of their socio-economic development, resources and potential. In order to ensure integrated and effective development it is necessary to elaborate a graded approach to regulatory impact, including the search for new forms and methods, on municipal formations on the part of a federation subject and on settlements on the part of municipal districts. This approach can be based on the typology of territories that identify administrative units with similar resources, characteristics, trends and problems of socio-economic development.

The analysis of Russian economists' works has shown that there are two key approaches to make typological characterization: qualitative and quantitative. The first approach involves the selection of regions with similar quality characteristics, resources and development conditions (for example, cross-border, distressed, depressed and underdeveloped; old industrial, regions – "driving forces of growth", strong, etc.). The second approach proposes making different integral ratings of territories[1] using a variety of socio-economic indicators and selecting groups of regions or municipal formations on this basis [1].

Nowadays the scientists have developed the method to assess the level of socio-economic development in regions and municipalities, as well as their potential, competitiveness, investment attractiveness, life quality of the population. Their main differences lie in the composition of the indicators used and the mathematical tools of their aggregation in the integral index. The original indicators in most cases are standardized (normalized) relative to the average or best value (standard).

[1] At the official level some documents have methods that calculate an integral index of the development level and the authorities' performance, etc., in particular, "Methodological recommendations "On the allocation of budgetary appropriations from the RF subject budget, grants to municipalities in order to promote and/or encourage the best performance values of local government, urban districts and municipal areas" [7], which calculate an integral index of local authorities' performance on the basis of 11 specific indicators. For the RF subjects in the early 2000s the "integral index of the deviation of the level of the RF subject's socio-economic development from the national average" was calculated in order to identify the amount of financing by the federal program "Reduction of differences..." [8].

However, most methods have shortcomings, such as a great number of indicators used for evaluation and complexity of the mathematical tools of their processing. This can complicate the interpretation of results; cause the alignment of obvious differences between actors when making standardization of initial indicators relative to better values, which in most cases are outlying data (significantly higher than in other regions) in some raw material regions [2].

In our opinion, it is worthwhile considering the methodological approach that uses multidimensional comparative analysis to assess the level of socio-economic development. It is an average degree of the region's (municipality's) achievement of values relative to the average, benchmark or best values [2]. The similar approach was used in the studies carried out by ISEDT RAS, reflected in [1; 4; 9; 12; 14].

This method is more preferable as it estimates the development level of regions [2] and municipalities [1].

The method presupposes the calculation of the integral indicator characterizing the level of socio-economic development of municipalities and aggregating initial statistical indicators and on this basis selection of five groups of territories. The algorithm we suggest using [2] for municipalities development estimation is presented below.

At *the first stage* on the basis of available official statistical information the list and blocks of indicators reflecting different aspects of socio-economic development of territories are formed. All data for all municipalities over a long period (not less than 10 years) are collected during the stage. *Table 2* presents the list and blocks of data (considered in the monograph [9]), with some changes being made.

Table 2. List and blocks and indicators to calculate the integral index of the socio-economic development level

Block of indicators	Indicator
R_1 Demographic indicators	1. Fertility rate, ‰ 2. Mortality rate ‰ 3. Population density, people/square km (indicator only for districts)
R_2 Provision of amenities	1. Provision of housing – living space per person, square meters 2. Share of housing equipped with running water, in % of total 3. Share of housing equipped with sewerage, in % of total 4. Share of housing equipped with central heating, in % of total 5. Availability of places in institutions of culture and leisure type, number of places per 1000 people
R_3 Standard of living	1. Retail turnover per capita, rubles 2. Volume of paid services per capita, rubles 3. Ratio of average wage and subsistence minimum, times 4. Officially registered unemployment rate, % 5. Provision with doctors per 10000 people, people 6. Provision with hospital beds per 10000 people, units
R_4 Economy	1. Volume of industrial production per person, thousand rubles 2. Volume of agricultural production per person, thousand rubles (indicator only for districts) 3. Volume of investment in fixed capital per person, thousand rubles 4. Budget capacity (revenue) per person, thousand rubles

At *the second stage* the indicators that make up the blocks content are standardized relative to the average:

$$k_i = x_i / x_{cpi} , \quad (1)$$

$$k_i = x_{cpi} / x_i , \quad (2)$$

where k_i is a standardized coefficient, which is calculated by Formula 1 for direct indicators[2] and by Formula 2 for opposite[3]; x_i is a value of the i-th indicator in the municipality; Xcpi is an average value of the i-th indicator for all municipal districts and urban districts in the region (regional average) or municipal districts.

The indicators can be standardized (normalized) relative to the best and worst value for all studied territories:

$$k_i = \frac{x_i - x_{min}}{x_{max} - x_{min}} , \quad (3)$$

$$k_i = \frac{x_i - x_{max}}{x_{min} - x_{max}} , \quad (4)$$

$$k_i = x_i / x_{max} , \quad (5)$$

$$k_i = x_{min} / x_i , \quad (6)$$

where k_i is a standardized coefficient, which is calculated by formulas 3 or 5 for direct indicators and by formulas 4 or 6 for opposite; x_i is a value of the i-th indicator in the municipality; x_{max} is a maximum value of the i-th indicator for all analyzed municipalities in the region; x_{min} is an average value of the i-th indicator for all municipalities.

When normalizing the values of standardized coefficients by formulas 3 and 4 and the synthetic indices by blocks, the integral index can be in the interval from 0 to 1.

To make different indicators comparable and eliminate "outlying data" (extreme minimum and maximum values) it is possible to use the z-transformation:

$$k_i = \frac{x_i - \bar{x}}{\sigma} , \quad (7)$$

where x_i is a value of the i-th indicator in the municipality; x_{cpi} is an average value of the i-th indicator for all municipalities; σ is standard (RMS) deviation by the indicator.

On the basis of standardized indicators *the synthetic index* was defined for each of the blocks (Rj) by the following formula:

$$R_j = (\sum_{i=1}^{n} k_i)/n , \quad (8)$$

where n is s number of indicators in the block.

At *the third stage* the integral index of the level of the RF subject's socio-economic development is calculated (I_{total}):

$$I_{total} = (R_1 + R_2 + R_3 + R_4)/4 , \quad (9)$$

where R_1 is an integral index by the block "Demographic indicators"; R_2 is an integral index by the block "Provision of amenities"; R_3 is an integral index by the block "standard of living"; R_4 is an integral index by the block "Economy".

At *the fourth* (final) *stage* the municipalities are grouped according to socio-economic development, which is defined by the following interval estimates of the integral indicator I_{total}:

[2] The increase in the direct indicators values indicates positive trends and enhancement of the situation.

[3] The increase in the opposite indicators values indicates deterioration of the situation and problems in the development (mortality rate, registered unemployment rate).

Level	Range I_{total}	
	standardization by formulas 1 and 2	standardization by formulas 3 and 4
High	$I \geq 1.15$	$0.8 \leq I \leq 1.0$
Above average	$1.05 \leq I < 1.15$	$0.6 \leq I < 0.8$
Average	$0.95 \leq I < 1.05$	$0.4 \leq I < 0.6$
Below average	$0.85 \leq I < 0.95$	$0.2 \leq I < 0.4$
Low	$I < 0.85$	$0.0 \leq I < 0.2$

The selection of five gradations of the development level helps simplify the results interpretation and identify the similarities and differences in the development of municipalities. The interval span of 0.1 units (for standardization by formulas 1 and 2), in our opinion, is fairly optimal, since the regions of each group in this case are different from the regions of the neighboring groups by 10% on average by all indicators (for example, by the wage rate the districts differed by 25127 rubles on average in 2013. 0.1 is equal to 2513 rubles that amounts to one third of subsistence minimum in the region, which is rather significant).

This method was tested by means of state statistics of the Vologda Oblast; it gave the opportunity to evaluate the socio-economic development level (hereinafter SEDL) as a whole. The study results are presented in figures 1–3, tables 3 and 4. *Figure 1* shows the grouping of municipal districts and urban districts (Vologda and Cherepovets) region as of year-end 2013 (18 initial indicators are standardized relative to the regional average by formulas 1 and 2), which again clearly confirms the fact that the main economic activity is concentrated in two urban areas and their surrounding areas. Nineteen out of twenty-six districts were in the group with the low level of development (the majority of the indicators in these areas lag behind the regional average and the urban districts values significantly). It gives the opportunity not to consider these cities in the study and focus only on municipal districts.

Figure 2 (see also tab. 4) presents the grouping of the Vologda Oblast municipal districts by SEDL in 2000 and in 2013 (18 initial indicators are standardized relative to the regional average by formulas 1 and 2).

Figure 3 shows the grouping of municipal districts in 2013 (18 initial indicators are standardized relative to the maximum and minimum values by formulas 3 and 4). So, there are no regions in the group with high and low level of socio-economic development. The leaders of the industrial production, Sheksninsky District and Kaduysky District are in the group with the above average development level, 11 districts – in the group with the average level, 13 – in the group with the below average level.

Table 3 shows the grouping of the Vologda Oblast municipal districts by SEDL. The initial 18 indicators are standardized using the z-transformation by Formula 7.

The integral index characterizing the socio-economic development level of the Vologda Oblast districts (by 18 initial statistical indicators, standardized relative to the regional average) discloses that, in general, the situation has deteriorated in the region for 2000–2013. If in 2000 the group with the low level of development consisted of 8 regions, in 2013 – of 12 (*tab. 4*, see fig. 2). The number of districts with the high level of development remained unchanged; there were 6 districts in the group.

Figure 1. Grouping of municipal districts and urban districts of the Vologda Oblast in terms of socio-economic development in 2013 (standardization of the initial indicators relative to the regional average)

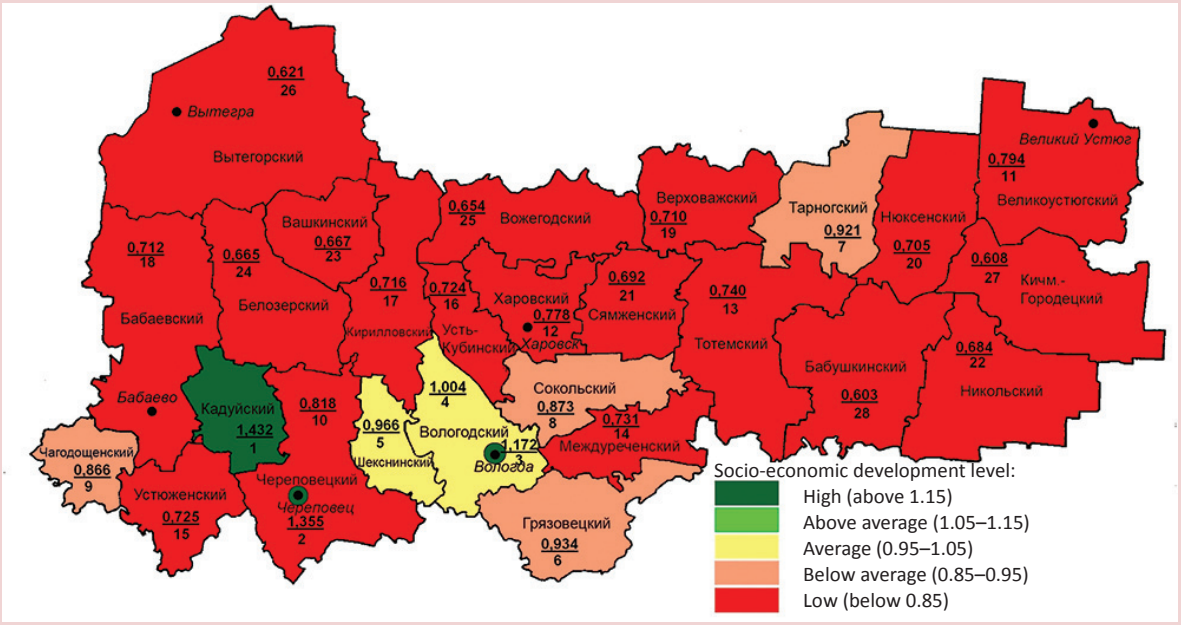


Figure 2. Grouping of the Vologda Oblast municipal districts in terms of socio-economic development in 2013 (standardization of the initial indicators relative to the region average)

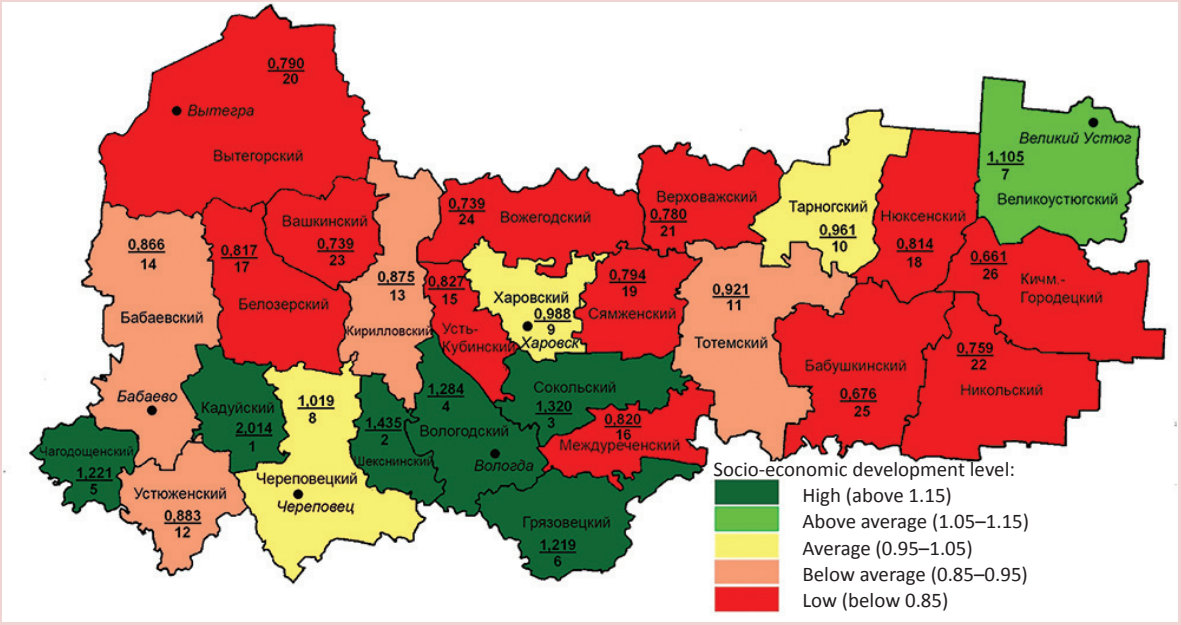
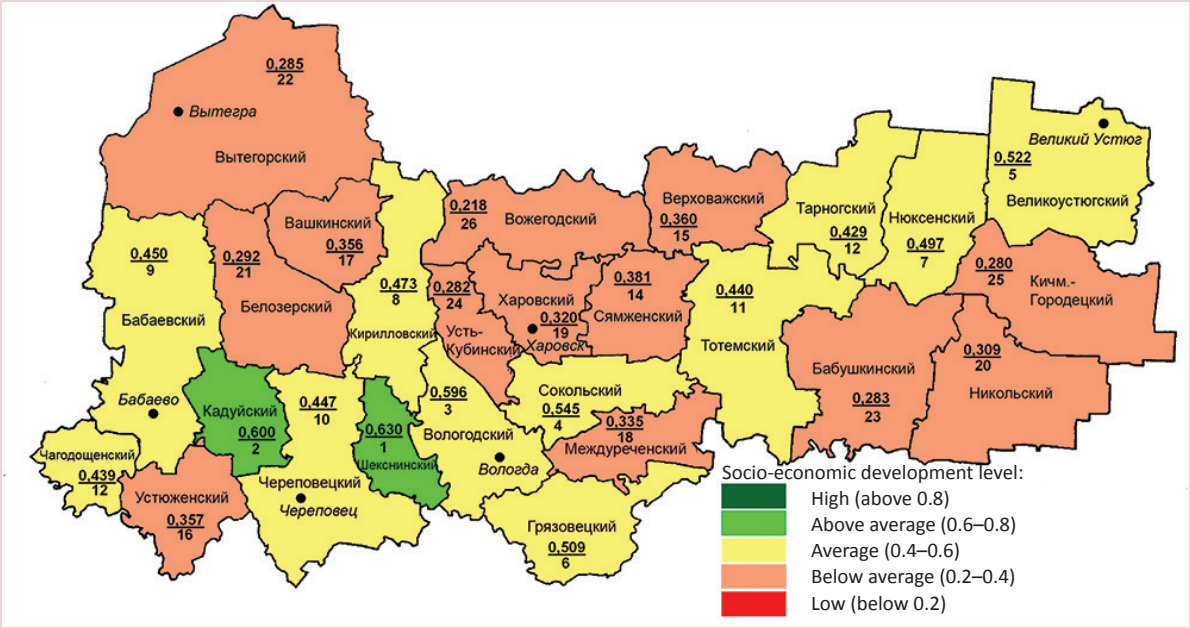


Figure 3. Grouping of the Vologda Oblast municipal districts in terms of socio-economic development in 2013 (standardization of the initial indicators relative to the maximum and minimum values)



As a whole, during the study period the deterioration of the socio-economic situation was observed in 6 municipalities (Cherepovetsky District, Totemsky District, Belozersky District, Nyuksensky District, Vytegorsky District, Vashkinsky District). Three districts (Gryazovetsky District, Kharovsky District, Tarnogsky District) moved to the group with the higher level of development.

In 2013 the group with the **high level** of socio-economic development consisted of Kaduysky District, Sheksninsky District, Sokolsky District, Chagodoshensky District, Vologdsky District and Gryazovetsky District. The first 4 districts are the region's leaders by per capita volume of industrial production (the value is 2.5 times higher than the regional average). Vologdsky District, Gryazovetsky District and Sheksninsky District are leaders in the agricultural production.

All municipalities, included in this group, are quite attractive for investment; Kaduysky District, Chagodoshensky District and Gryazovetsky District range the 1st, 3rd and 4th, respectively, among the districts in terms of investment per person. In these areas the unemployment rate is low (except for Chagodoshensky District where it is above average). The share of housing equipped with water supply, sewerage and central heating (provision of amenities is above average), all the districts of this group take places not lower than tenth.

In 2013 the group with the **above average** level consisted of Velikoustyugsky District, with the values of individual indicators

Table 3. Grouping of the Vologda Oblast municipal districts by SEDL in 2013
(standardization of the initial indicators is carried out using the z-transformation)

SEDL	Municipal district
High	1. Sheksninsky (0.627); 2. Kaduysky (0.599); 3. Sokolsky (0.433); 4. Vologodsky (0.403)
Above average	5. Velikoustyugsky (0.359); 6. Gryazovetsky (0.333); 7. Tarnogsky (0.164)
Average	8. Kirillovsky (0.049); 9. Nyuksensky (0.046); 10. Totemsky (0.042); 11. Babaevsky (-0.019); 12. Cherepovetsky (-0.048)
Below average	13. Chagodoshchensky (-0.098); 14. Kharovsky (-0.171); 15. Syamzhensky (-0.184); 16. Verkhovazhsky (-0.248); 17. Ustyuzhensky (-0.275); 18. Nikolsky (-0.292)
Low	19. Mezhdurechensky (-0.380); 20. Belozersky (-0.380); 21. Vashkinsky (-0.395); 22. Ust-Kubinsky (-0.454); 23. Vytegorsky (-0.463); 24. Kichmengsko-Gorodetsky (-0.506); 25. Babushkinsky (-0.525); 26. Vozhegodsky (-0.556)
Note. In brackets next to the district name there is an integral index value indicating the level of socio-economic development.	

Table 4. Distribution of the Vologda Oblast by the value of the integral index of socio-economic development

District	Symbolic notation	2000		2013		2013 to 2000, +/-
		Absolute value	Place	Absolute value	Place	Place
Kaduysky	Ka	**1.655**	**1**	**2.014**	**1**	0
Sheksninsky	She	**1.222**	**5**	**1.435**	**2**	3
Sokolsky	So	**1.265**	**4**	**1.320**	**3**	1
Vologodsky	Vol	**1.405**	**2**	**1.284**	**4**	-2
Chagodoshchensky	Cha	**1.202**	**6**	**1.221**	**5**	1
Gryazovetsky	Gr	1.149	7	**1.219**	**6**	1
Velikoustyugsky	Vel	1.141	8	1.105	7	1
Cherepovetsky	Che	**1.354**	**3**	1.019	8	-5
Kharovsky	Kha	0.895	14	0.988	9	5
Tarnogsky	Ta	0.861	17	0.961	10	7
Totemsky	To	1.036	9	0.921	11	-2
Ustyuzhensky	Us	0.857	18	0.883	12	6
Kirillovsky	Ki	0.872	16	0.875	13	3
Babaevsky	Bb	0.930	12	0.866	14	-2
Ust-Kubinsky	UK	0.813	21	0.827	15	6
Mezhdurechensky	Me	0.840	19	0.820	16	3
Belozersky	Be	0.878	15	0.817	17	-2
Nyuksensky	Nyu	0.928	13	0.814	18	-5
Syamzhensky	Sya	0.755	24	0.794	19	5
Vytegorsky	c	0.957	10	0.790	20	-10
Verkhovazhsky	Ver	0.766	22	0.780	21	1
Nikolsky	Ni	0.693	26	0.759	22	4
Vashkinsky	Va	0.937	11	0.739	23	-12
Vozhegodsky	Vozh	0.818	20	0.739	24	-4
Babushkinsky	Bsh	0.756	23	0.676	25	-2
Kichmengsko-Gorodetsky	KG	0.709	25	0.661	26	-1
Average	-	*0.988*	x	*0.974*	x	*x*
Socio-economic development level is shown in the table as follows:						
High	Above average		Average		Below average	Low

being lower than those of the regions-leaders. However, this district is characterized by high per-capita volume of industrial production, retail trade turnover and paid services and, at the same time, by a high unemployment rate (2.5 per cent). The latter is primarily caused by the shutdown of Krasavinovo flax-processing factory.

In 2013 Cherepovetsky District, Kharovsky District and Tarnogsky District areas belonged to the group with the average level of socio-economic development. The per capita volume of industrial and agricultural production in these municipalities (except for Cherepovetsky District) is below the regional average. In Kharovsky District per capita investment in fixed capital of the district's enterprises is one of the highest (2nd place) among the districts. The economic situation in this district is characterized by a high unemployment rate – 1.8% in 2012, with the regional average being 1.7%.

The demographic situation in Cherepovetsky District, Kharovsky District and Tarnogsky District areas remains poor. Thus, the mortality rate in Kharovsky District and Tarnogsky District is above average (18.0‰). The provision of the population with doctors and hospital beds per 10 thousand people is above average there. However, the provision of houses with water in Cherepovetsky District and Kharovsky District, sewerage in Kharovsky District and central heating in Tarnogsky District area does not exceed the regional average. In this group in 2013 the wage rate amounted to 1.9–2.6 of the subsistence minimum value of the working age population (the regional average – 2.3 times).

The situation in Totemsky District, Ustyuzhensky District, Kirillovsky District and Babaevsky District is a little worse. As of year-end 2013 they had the level **below average**. The per capita volume of industrial and agricultural production (except for Ustyuzhensky District) and investment in fixed capital is lower than the regional average. In two municipal formations in this group the registered unemployment rate is above average: 1.8% in Kirillovsky District and 2.0% in Ustyuzhensky District. Three districts out of these four (except for Totemsky District) are characterized by a low level of amenities provision: the share of housing equipped with water supply, sewerage and central heating is less than 43%.

The group with the **low level** of socio-economic development consisted of 12 districts (Ust-Kubinsky District, Mezhdurechensky District, Belozersky District, Nyuksensky District, Syamzhensky District, Vytegorsky District, Verkhovazhsky District, Nikolsky District, Vashkinsky District, Vozhegodsky District, Babushkinsky District, Kichmengsko-Gorodetsky District) in 2013. In these municipalities the per capita volume of industrial production does not exceed 23% of the index value, characteristic for the leading region. In ten districts the agricultural production and investment per person are also below average. In these areas the mortality rate is the highest (above 18.0‰); the provision of amenities and the per capita volume of paid services are low. The wage rate in all the districts (except for Nyuksensky and Vytegorsky) does not exceed 2.5 of the subsistence minimum value, indicating a low living standard.

It should be noted that the districts with low and below average levels of socio-economic development have a number of problems. However, by some indicators, several municipal formations of these groups were among the leaders. For example, in 2013 Mezhdurechensky District ranged the 1st in terms of housing equipped with running water and Ust-Kubinsky District – 4th in terms of per capita investment, Nyuksensky District – the 1st by the wage rate and Verkhovazhsky District, Nikolsky District and Kichmengsko-Gorodetsky District areas – the 1st–3rd by the fertility rate.

To identify the spatial differentiation of development of the Vologda Oblast territories we have studied the radial dependence of the socio-economic development (the integral index value, calculated by the ISEDT RAS method; see fig. 2) on the distance from a district center to the city of Vologda (by the shortest route by road).

Thus, the average correlation index between the distance from district centers to Vologda and the 2000–2013 average integral index value is very insignificant (less than 0.4). There are districts with the high and above average level of development located at a considerable distance from the regional center (Velikoustyugsky District, Chagodoshensky District) and, on the contrary, there are districts with the low development level (Ust-Kubinsky District and Mezhdurechensky District) located at a short distance (less than 100 km). Though the general pattern is confirmed: the integral index value decreases if the district is located further from Vologda (*fig. 4*). A similar study has been carried out, for example, in the Moscow Oblast [5], where this dependence is much higher.

Figure 5 presents the dependence of the slope of the integral index trend (a slope coefficient of the linear trend for each district for 2000–2013) on the distance to the regional center. It should be noted that the relationship between the dynamics of the integral index in the districts and the distance from the district center to Vologda is practically absent.

Thus, the used methodological approaches reveal roughly the same picture: the level of socio-economic development and life quality is above average in the territories, "tending" to the emerging agglomeration "Vologda – Cherepovets". The trends of these areas development are positive.

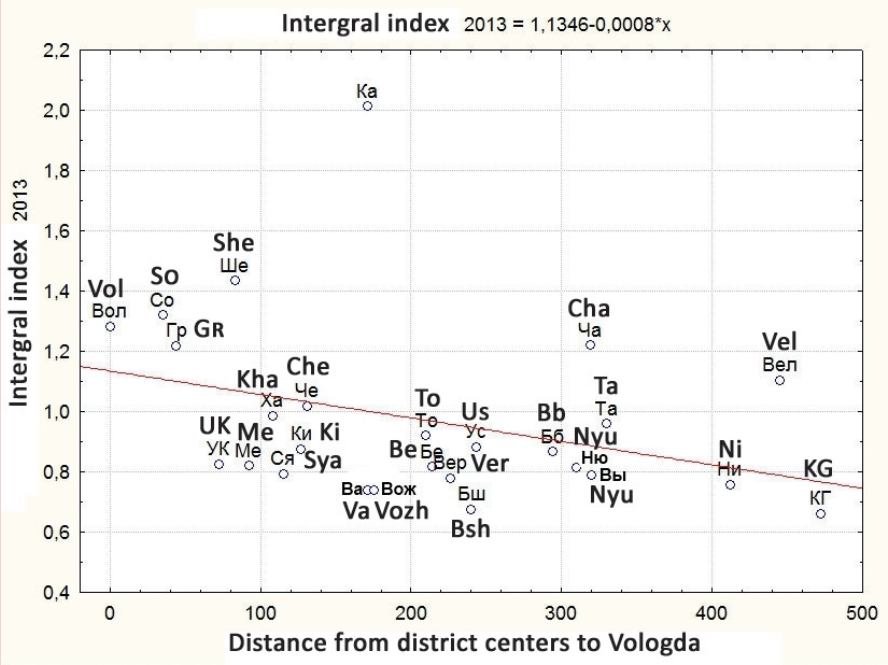
The districts are characterized by a significant proportion of the region's production, investment and immigration. Most peripheral areas of the region (except for Velikoustyugsky District) have a low level of development and low investment attractiveness. Thus, the development is hindered and the population's migration to cities and more favorable districts is encouraged.

To sum it up, the typology of the Vologda Oblast municipal formations in terms of socio-economic development helps identify the problem areas and determine the reserves, which can improve the sustainability of municipalities' development.

We believe that the districts with different level and potential of socio-economic development require differentiated measures of support from regional authorities.

It will give the opportunity to outline priorities clearly, use allocated funds more efficiently and take into account the development specifics of such areas.

Figure 4. Dependence of the level of socio-economic development of the Vologda Oblast districts on the distance to the regional center



Note. Symbolic notations are given in table 4.

Figure 5. Dependence of the dynamics of the district centers' development level on the distance to the regional center

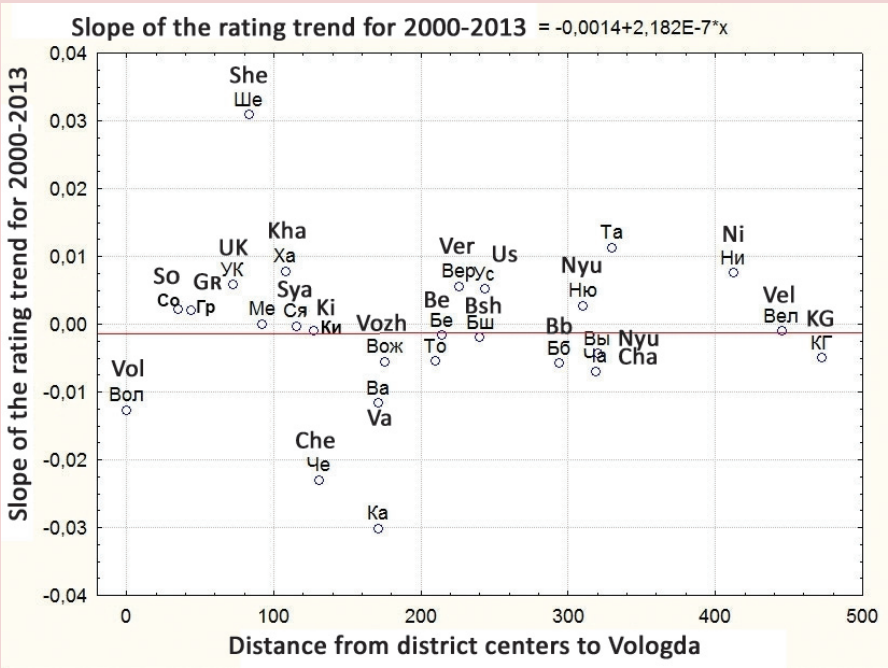


Table 5. Directions and tools of the state influence on the development of municipal formations

SEDL of a municipal formation	Direction and support from regional authorities
1. High and above average	Directions 1. Creating clear incentives for municipal authorities to support economic growth and ensure its comprehensiveness and balance. 2. Providing opportunities for large investment in municipal and social infrastructure, which largely depends on the rates and prospects of development. 3. Refusing subsidies for greater financial independence and prospects for sustainable growth. 4. Ensuring the availability funding sources to implement significant for public investment projects for opening new production facilities, as well as the implementation of infrastructure projects.
	Tools 1. Supporting the transfer to result-oriented budgeting and program-target management. 2. Creating business incubators in the municipality. 3. Improving inter-budgetary relations. 4. Monopolists' prices control. 5. Exhibitions, fairs, using the media to broadcast experience. 6. Creating investment funds for the development of territories and support for civic initiatives and promoting promising development projects.
2. Average	Directions 1. Supporting budget financing to implement promising projects. 2. Organizational support for marketing of the territory, interaction with investors, other aspects of municipal and project management.
	Tools 1. Subsidies and fiscal guarantees. 2. Creation of business incubators in the municipality. 3. Risks insurance. 4. Exhibitions, fairs. 5. Supporting the development of projects aimed at municipality's economy restructuring.
3. Low and below average	Directions 1. Providing the population with necessary minimum infrastructure and social services. 2. Maintaining the opportunity for the territory to be restructured (i.e. the opportunity to expand existing and opening new production facilities with more complex and efficient use of all available development resources), which involves the provision of financial and organizational support. 3. Supporting the maintenance, reconstruction and construction of roads, ensuring transport accessibility, in general.
	Tools 1. Grants, subsidies, subventions. 2. Tax remissions. 3. Creating business incubators in the municipality. 4. Subsidies for the staff training. 5. Expert examination of the development projects and budgets. 6. Creating specialized structures and organizational units in the system of region's management. 7. Using rewards and sanctions for state support measures. 8. Providing consulting services. 9. Enhancing the legislative acts regulating certain activities and the legal field.
Source. Compiled by the authors with some data being taken from the monograph by I.V. Starodubrovskaya "Problems of rural development in terms of the municipal reform in Russia" [13].	

Table 5 presents the directions of support and tools for three groups of territories (this grouping simplifies the interpretation of its results).

The districts of the first group that have relative opportunities for self-development require mainly indirect support from the state authorities, while the areas of the third group require direct support and regulation. In addition, it is advisable to elaborate specific tools and mechanisms aimed at the implementation of differentiated policy for the municipal formations development, the reduction of territorial differentiation and overcoming its consequences.

These issues will be discussed in further publications.

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Reflections on the concept "crisis"

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Abstract. In the preface to the book "The Crisis of Our Age" its author Pitirim Aleksandrovich Sorokin argues that "every important aspect of the life, organization and the culture of Western society is in extraordinary crisis". And he continues his words of prophecy: "Its body and mind are sick and there is hardly a spot on its body which is not sore" [Sorokin, 1948 (1942): 7]. Sorokin, of course, was not the only one who perceived their modernity as being in a crisis. T.G. Masaryk wrote about many aspects of the "crisis" of his time in the late 19th century. Georg Simmel studied the crisis of culture in the beginning of the 20th century [Simmel, 1983]; Sigmund Freud warned about the dangerous potential of human destructiveness, Oswald Spengler announced the "decline of the West" [Spengler, 2011], and Joseph Alois Schumpeter argued that cyclical manifestations of economic crises1 relate to the economy like heartbeat to a living organism. While Adolf Hitler was consolidating his power, Edmund Husserl [Husserl, 1972] lectured on "the crisis of the European Sciences", and Georges Friedmann spoke about the "crisis of progress" [Friedmann, 1937]. The subject of "crisis" is still relevant and it continues to hold a special position in the context of the social sciences after World War II, when political and international crises become a frequently discussed issue. Since the 1970s the energy crisis and environmental crisis have been widely discussed. The late 1980s witnessed the collapse of the socialist system, and the onset of postmodernism emphasizes the issue of identity crisis. And that is not all: the warnings and critical visions of that time are highlighted also due to other concepts, which easily become an integral part of the conceptual luggage of social scientists from many countries – the concepts of "risk", "catastrophe" and "collapse".

Key words: concept of crisis, manifestations of crisis situations, cycles of development, crisis in society, theories of social change, resolution of crisis situations.

[1] The French economist Clément Juglar was the first to discover and describe economic cycles in the 1860s.

On the etymology and semantics of the concept "crisis"

The roots of the concept "crisis" come from the Greek language. The expression "krisis" is derived from the verb "krino" which meant to separate, to choose and to decide between two opposing choices, life and death, success and failure [Koselleck, 1992: 47; Koselleck, 2006: 203]. The word "krisis" itself indicates a hazardous condition, a heavy decisive moment, a fundamental moment in which a crucial issue (concerning the result, subsequent existence or subsequent development) should be handled, a moment in which people feel uncertainty, confusion and difficulty.

The spread of the concept "crisis" is a merit primarily of Hippocratic medicine, which with the help of this concept denotes a brief period in the course of illness when the question is decided whether the patient would live or die.

Thucydides used this concept to depict political events and military conflicts [Prisching, 1986: 19; Koselleck, 2006: 204]; it has also become one of the main components of a drama or literary work which contains the climax of the plot; in classical drama it comes from the collision of opposing forces and trends.

In the 17th and 18th centuries, the concept of "crisis" is spread under the meaning of a difficult decisive moment in the debates about politics and war of that time. Not later than before the French Revolution this concept, according to Reinhart Koselleck, becomes the central interpretive tool of political and social history and, therefore, finds itself between the main historical concepts [Koselleck, 2006: 206]. The expression "economic crisis" emerges in the 19th century and it refers to a radical, pronounced deterioration of the economy.

Koselleck who is interested in the crisis primarily as one of the basic concepts, by which we try to understand history, highlights three semantic models, which contained this notion [ibid: 207-213; Koselleck, 1992: 50-52].

The author explains the first model by citing Schiller: "World history is the trial of the world", which, in his opinion, expresses "a kind of temporary inherent similarity of the last court held constantly and tirelessly" [Koselleck, 2006: 208]. History in this concept is viewed and interpreted as a continuing crisis. The very concept of "crisis" here becomes a procedural category, which expresses a constant, immutable feature of human history.

Crisis in the second case is associated with the intersection of different eras, with rapid transition from one stage to another. We are talking about the iterative conception, according to which crisis periodically appears in history as a driving force of development or progress. In this case, crisis is perceived as a one-time, accelerating process, in which a new situation arises and develops out of the destruction of the existing system.

Historian Jacob Burckhardt dwelled upon the matter of historical crises in the 19th century in the framework of this concept [Burckhardt, 1971 (1873): 125-160].

In the third case crisis is perceived as the final crisis of history, metaphorically speaking, as its "judgment day" or "Grande Crise Finale" [Koselleck, 2006: 212].

Koselleck states that in this case crisis, in contrast to previous concepts, is the notion of "pure future nature", associated with a specific anticipated "final solution", after which history would look very different than before. This notion, according to Koselleck, in the 19th century had utopian character, but "with modern tools that allow for self-destruction, it has all the chances to come to be" [Koselleck, 1992: 51].

Risk, crisis, catastrophe and collapse

In today's social science crisis is particularly close to concepts such as "risk", "catastrophe" and "collapse". We are talking about the terms that are often used for the expressing concerns that in certain cases even take apocalyptic dimensions.

Risk is usually associated with what may precede a crisis and influence its appearance; disaster or collapse, on the contrary, are associated with the result, which arise out of the development of risk factors or uncontrollable crisis.

Thus, a crisis is perceived as what directly precedes a catastrophe or collapse, what creates and invokes them. Catastrophe and collapse, in turn, are perceived as a higher phase or the final phase of crisis, as a negative climax of crisis development. Actually, catastrophe can be perceived as a synonym of collapse, or collapse can be considered as a disaster that is absolutely destructive in nature.

The concept of "risk" became popular and this problem became widely known in the second half of the 1980s, due primarily to Ulrich Beck [Beck, 2004 (1986)], who postulated that modern industrial society produces, as an unconscious consequence of its economic growth and technological development, such risk, which exceeds the measure of tolerance and becomes self-destroying passion. A society that creates danger and risk on a massive scale, is a "risk society".

British sociologist Anthony Giddens [Giddens, 2000: 33-50] states that the idea of risk originates in the insurance system, which was born in connection with sea voyages in the 16th and 17th centuries. Risk is a potential hazard, it is something that may, but need not necessarily happen.

Originally this notion referred to the danger connected with covering long distances. Later it was applied to banking operations and investment activities, which are associated with time and with consequences of economic decisions.

Thus, risk is associated with the recognition of probability and uncertainty. Capitalism that emphasizes the scope of the future in such a way that continually calculates prospective profits and losses, is inextricably linked to risk, and so it is widely used in the sphere of insurance systems.

Thanks to insurance, people start believing that they have the opportunity to influence the future and to manage it.

Thus, the idea of risk was from the beginning an integral part of modernity,

however, the nature of today's risks is new and substantially different. The industrialism of the 19th century, which established an insurance system against its risks, which is based on the exact calculation of the level of risk and on the substantiated calculation of the compensation for the losses incurred, tried to introduce certain rationality in the field of uncertainty and potential threats.

However, with regard to current risks, such protective measures of the past years are inefficient. These are the risks that cannot be limited socially; their new feature is that the threats concern not just some specific place (e.g., industrial enterprise), but the life on our planet in all its manifestations as a whole – in short, these are global risks.

A characteristic feature of modern risks is their "insuperability", which is connected with the way they spread: they become "stowaways in normal consumption. They travel with the wind and water, they hide in everything and with everything that is most necessary for life – the air we breathe, food, clothing and household – they overcome every strictly controlled security zone of the present" [Beck, 2004: 11].

Another important characteristic of these risks is their "latency", i.e. their certain "invisibility". It makes us face a problem that was not known in the conditions of industrial society of the 19th century: how to distinguish risks? They are incomprehensible for our inherent feelings, their detection requires measuring instruments and scientific equipment.

The threat and destruction that people experienced during the disaster at the Chernobyl nuclear power plant on site and in remote areas are beyond human perception.

Thus, first of all, risks need to be identified and named. This is a task that is often complicated not only by the very fact of their latency, but also by the fact that we are talking about multilayer complexes of causes and effects beyond the boundaries of everyday knowledge.

Science plays a key role in their identification and determination. In this regard, Beck modifies the well-known statement of Marx and says that in the risk society "it is consciousness that determines being". Risks become what they are only because they are recognized by experts. However, it is true that while they are "not recognized scientifically, they do not exist, at least not in the legal, medical, technological and social sense".

So they are not suppressed, not overcome or compensated" [Beck, 2004: 95].

Beck states that the emergence of the risk society, which is a consequence of existing modernization risks, represents a radical social change, which, however, happened not openly, but secretly, in the form of a "quiet revolution"; it is a revolution without a subject and without a change of elites; it is an overthrow that affects the common destiny of all living beings on our planet. And if today, as a result of global interdependence and global context, certain types of threats are intertwined and amplified, then it is necessary to talk about the "world society of risk" [Beck, 1999].

Catastrophe – a word of Greek origin – indicates an event that adversely modifies the previous state of affairs and leads to large damage. Catastrophe theory is developed as a branch of mathematics (its founders include René Thom [Thom, 1989]), which is also applied in other disciplines, such as biology, psychology and medicine.

Therefore, the conceived theory examines, first of all, the problem, how important events of a catastrophic nature can happen as result of the accumulation of small effects [Buchanan, 2004]. In the field of social sciences the interest to disasters, particularly environmental ones, was caused by the work of Charles Perrow "Normal Accidents: Living with High Risk Technologies" [Perrow, 1984] and was further developed due to the focus on the problems of modernization risks, which was initiated by the work of Ulrich Beck.

René Thom highlights and examines, inter alia, the question of whethe crisis is manifested through any visible signs or morphological symptoms. He states that risk factors in the case of living beings remain relatively invisible and sometimes even non-existent.

This is due to the fact that usually, while the function is amenable to adverse effects during the crisis, the structure often remains intact [Thom, 1992: 23].

From this point of view, according to the author, it is necessary to make a clear distinction between crisis and catastrophe. Catastrophe "is a phenomenon that is, by its nature, visible; it is a definite observed discontinuance, an obvious "fact".

Crisis can be latent or it can sneak up insidiously. Quite often it is manifested only in a quantitative (but not qualitative) failure of a specific regulatory process: this is < ... > the case of inflationary crisis in the economy.

However, there is an obvious correlation between crisis and catastrophe: a crisis often informs about a catastrophe, anticipates or provokes it" [ibid].

If disasters are characterized by a decline or system failure which occurs as unmanaged and uncontrolled fall, then we can talk about collapse. In 1988 American archaeologist Joseph A. Tainter in his book "The Collapse of Complex Societies" raised a question: why in the past there was a fall of many civilizations, governments or other complex forms of organization of human society? The author provides nearly two dozen cases of public collapses that occurred in the past (Maya cities is the most famous among them) [Tainter, 2009 (1988)]. The topic raised in this work, has become popular, especially thanks to the book by Jared Diamond [Daimond, 2008], and it has been discussed in scientific literature [Taylor, 2008; McAnany, Yoffee, 2010; Bárta, Kovář, 2011]. It is obvious that the motivation for such a broad interest in the issue of collapses is supported by the fear of possible danger that something similar would happen to our modern civilization as well.

One concept – many different manifestations

It has been said that the original meaning of the term "crisis" is connected with the last, decisive moment of development in

which the question of existence or nonexistence is decided. People confront crises and must overcome them for centuries. They represent something like "conditio humana" [Úvodem: 5] – that, which people face from time immemorial. At that, we can talk about the crises of a single and unique character, and the recurrent crises. Very often, crises can be a transitional stage between the two stages of development.

Moreover, the course of crises can be different. In some cases we can speak about a slow, smooth or approaching process, in other cases – about a sudden and rapid turn of events. Crisis is perceived by some thinkers as an attribute of modernity, as something that is "genetically" related to its development and accompanies it from the very beginning. In this sense, the signs of crisis are identified by many theorists constantly, throughout the entire modern history.

Theories that study crises usually trace several major issues, which include their causes, driving forces, individual and collective actors, structures and functions, causality and interdependence, regularity and randomness [Prisching, 1986: 38-58].

We can consider crises on different levels. We can talk about the crises of individual human life [Lay, 1980: 175-181], which are studied by the natural sciences and psychology, or family crises or the crises of interpersonal relationships. The social sciences are interested, primarily, in the society crises. They can be limited in nature and concern only individual areas of society or individual social subsystems (economy, politics, religion, culture, science); we can also talk about crises of a holistic and complex (national, public) nature. Crises can be manifested on a wide-scale basis as international (global) crises.

Paul Ricoeur speaks of "regional" concepts and of a "general" concept of crisis. He points out several "foci" from which stems the "regional" use of that term and asks whether it is possible to move from them to the "general" or "global" concept [Ricoeur, 1992: 29-42].

The first "focus", which is the basis of one of the "regional" concepts, is medicine in which a crisis is the moment in the course of a disease when its "hidden pathology" is revealed and the question is whether the patient will recover.

The second focus lies in the area of psycho-physiological development, where this term is used not for expressing a threat of a disaster, but in order to emphasize those periods of development, which are characterized by higher imbalance and vulnerability (e.g., growing-up).

The third case, referred to as the "cosmopolitan" model, concerns the discourse on crisis in global political history.

The fourth, "epistemological" model is associated with the development in science (in the interpretation of Kuhn it is paradigmatic crisis). In the fifth case it is an economic concept. It is the economic crisis characterized by autonomy, periodicity and global nature, which, according to Ricoeur, is one of the main driving forces in the development of a general theory of crisis. The author, on the basis of analysis, comes to a general concept in which crisis is

defined as "the pathology of the process of history temporalization", which "consists in the dysfunction of normal relations between the horizon of expectations and the area of experience" [ibid: 42].

In this regard, it is appropriate to recall the idea of Knut Borchardt (inspired by Marx) that it is useful to distinguish between crises "in themselves" and crises "for themselves" [Borchardt, 1992: 105]. The crises "in themselves" is an objective reality that people are not (yet) aware of, while the crisis "for themselves" is a situation in which its manifestations become an integral part of human experience and self-perception.

We add that, nevertheless, in the framework of this self-perception, crisis can be viewed in different ways: it can be perceived as a "warning" (in the sense that something has to be done to avoid the worst, i.e., catastrophe or collapse); as a "malignant disease", which must be treated in order to live a healthy life; as a "benign disease", which it does not make sense to treat, and it is necessary to suffer through this disease in order to strengthen the immune system of our "organism"; and also as a "fate", against which it is useless to do anything. The awareness of a crisis is characterized by a sense of threat or even fear of death. The thought of a crisis is often associated with a moment of surprise, because moments of crisis usually occur suddenly, unexpectedly and with strong intensity. This causes an acute necessity to search for a solution, which, however, is associated with a feeling of lack of time and with uncertainty.

Attempts to resolve crisis situations can assume a form of intervention that relates to their real sources and problems and tries somehow to overcome them, but it happens that, in particular in the cases of political crises, a search for their "spare" solutions is undertaken. Lewis Coser in this context speaks of "fake" or "unrealistic" conflicts that can take place in two ways [Coser, 1965: 57-66].

In the first case a "venting" institution, according to Kosher, is used. Their task is to maintain the system by weakening excessive pressure originating from hostile and aggressive emotions so as to move it to another sphere, for example, to dramatic mass spectacle or satire and joke, which can contribute to relaxation without any serious consequences.

The second method of solving unrealistic conflicts is called the method of "scapegoat" and it entails much more harmful consequences.

In this case a conflict situation develops in such a way that the enemy's emotions turn against the "substituting" object in the form of a certain group of people who are called persons responsible and on whom others vent their anger. This "scapegoat" is usually represented by ethnic minorities or religious groups.

Pluralism of the framework for interpretation

A look at the crises, catastrophes and collapses in historical-sociological study depends on the fact, what is the frame of interpretation that contains the problems associated with these concepts, and also on the fact in which theoretical and spatial-

temporal relationships they are discussed. All these notions can be referred to the general concept of social change. The way, in which the very problem of social change is reviewed and interpreted in the context of various concepts, largely determines and differentiates the perception, as well as the use, of these concepts.

Maureen T. Hallinan, asking the provocative question whether is it possible to develop a theory of social change, provides three arguments that could be voiced by those who deny this possibility [Hallinan, 2000: 181].

The first argument is put forward by historical relativists who argue that the conclusions that can be drawn from the analysis of a certain specific historical event can not be generalized and used for explaining other specific events, because they never happen under identical conditions.

The second argument uses the idea that every social change is so complex a phenomenon that it is virtually impossible to take into account all significant relations that may affect the causes and process of change.

The third argument concerns the fact that the formula of changes, which is usually contained in the corresponding theory, can not be derived directly from the facts that are used by historical science and that it is always the result of the definite intellectual imagination.

These examples show that the arguments against theorizing about social change are provided mainly by historical science. Sociology, on the contrary, considered from its very beginning the historical view to be, in a sense, a narrow and limited description devoid of the desire to generalize.

If we do not take into account the chronology of how the topic of social dynamics and change appeared and again disappeared in the history of sociological thinking, then we can conclude that several types of theories of social change can be defined from the viewpoint of the principles of interpretation.

The first type is cyclical theories, according to which social change has a cyclic way of development.

The second type contains the theories, which emphasize the aspect of discontinuity that may be a revolutionary jump or turning point.

The third type includes the theories of linear and continuous development, which are mostly (but not always) related to the idea of evolution.

The theories of cyclic development and change have two main options for development. The first option, which considers history in a monistic way, suggests that it represents a single stream internally divided into recurrent periods.

The second option considers history in a pluralistic way: history is not uniform, it is formed due to the existence of separate cultures or civilizations, each of which undergoes its own development, following the circle from birth through maturity, toward decline and disappearance.

The first option can be demonstrated on the example of the theory of the circulation of elite by Italian sociologist Vilfredo Pareto [Pareto, 1968], and the concept of change

of cultural super-systems formulated by Pitirim Sorokin [Sorokin, 1937–1941].

The second option contains the approach developed by German philosopher Oswald Spengler [Spengler, 2011], and, in particular, by British historian Arnold Joseph Toynbee in his monumental twelve-volume treatise "The Study of History" [Toynbee, 1934–1961].

Crisis has its important place in both cases of the cyclical theories. In the first case it is associated with the situation that precedes the transition to another phase of development (see [Sorokin, 1948: 10–20]), in the second case – with the transition to the declining, decadent phase of the historical cycle, directed toward disappearance.

The theories that emphasize the aspect of discontinuity, which may have the character of a revolutionary jump or turning point, include Marxism and some historical sociology concepts that develop it [Moore, 1966; Skocpol, 1979].

However, the concepts of revolution and turning points in development can be found in some other approaches.

An example is Michel Foucault's post-structuralism [Foucault, 1987] that considers historical gaps, and Thomas Kuhn's theory of scientific revolutions [Kuhn, 1997]. In all these cases crisis is that what indicates the end of one historical period and announces the arrival of a new and qualitatively different period.

The theories of linear development emphasize the continuing course of history, which flows in a linear manner. Change in this case is usually perceived as a process and result of shifts that gradually lead to an increase or decrease in a particular area or traceable parameter.

These theories in the 19th and the first half of the 20th century were largely influenced by the idea that human history has a rising development and follows the path of progress. This view is consistent with the original theory of evolution, which was born in the 19th century. In the framework of sociological thinking we can distinguish classical evolutionism, which is represented by Herbert Spencer and Emile Durkheim, and neo-evolutionism, especially developed in the framework of structural functionalism and systems theory (Neil Smelser, Talcott Parsons, Niklas Luhmann).

Manfred Prisching considers the theme of crisis in his book from the perspective of the theory of evolution. This author connects evolution with the problem of the need for social equilibrium and adaptation in the sense of adjustment to life conditions in which the society functions, and he considers the crisis in this context as the "adaptation deficit" [Prisching, 1986: 66].

The notion of crisis, perceived in this way, in turn, refers to a variety of public events such as the economic and financial crisis, the environmental crisis, the crisis of growth, the crisis of the social state, the crisis of public administration, the crisis of legitimacy and the crisis of identity.

In addition to various concepts of the theory of social change, the point of view of spatial-temporal framework also plays

an important role in the subject matter of crisis, catastrophe and collapse. French historian Fernand Braudel notes that in the variety of times, which reveals the study of history, we can distinguish: a) short time processes, "courte durée" associated with individual lives and individual events; b) cyclic processes, the examples of which are economic cycles ("environments"); c) (very) long periods of time – "longue durée" [Braudel, 1972: 189-215].

Similar to the three types of time, we can distinguish three different speeds of historical movement:

a) rapid movement related to chronology ("temps individual", in: "histoire événementielle");

b) slower, but still visible, rhythm related to changes in the political, cultural and economic system ("temps social", in: "histoire conjoncturelle");

c) almost invisible flow of "geohistory", i.e., the history of relations between man and environment ("temps géographique", in: "histoire structurelle"); a history as if without movement, a history of constant repetition and constantly returning cycles [Baert, 1992: 42].

Braudel's views were later supplemented by Immanuel Wallerstein's views, who emphasizes that time and space cannot be analyzed separately, because each time has its place, and every place has its time, so certain kinds of time and space are related to each other.

Wallerstein creates the concept of the five different types of space-time: 1. "Occasional geopolitical space-time"; 2. "Environmental-ideological space-time"; 3. "Structural space-time"[1]; 4. "Eternal space-time"[2]; 5. "Transformational space-time" [3] [Wallerstein, 2000].

What is important in Braudel's and Wallerstein's typologies is that different historical events, including crises, catastrophes or collapses, can be viewed from different perspectives, which are uncovered at different levels of time or space-time. Each perspective offers a slightly different view on the studied events. While from the perspective of "histoire événementielle" we consider crisis as a specific historical event or series of events, from the point of view of "histoire conjoncturelle" the same crisis can be presented in a different light, namely, as part of a larger whole of long-term ups-and-downs development cycles.

[1] Wallerstein's notions of "occasional-geopolitical", "environmental-ideological" and "structural space-time" correspond to Braudel's ideas concerning the different dynamics of historical movements that occur at the level of "histoire événementielle", "histoire conjoncturelle" and "histoire structurelle".

[2] Wallerstein's idea of eternal space-time was, no doubt, influenced by a concept of Pitirim Sorokin, whose work "Sociocultural Causality" (1943) discusses three levels of socio-cultural time, which, inspired by medieval philosophers, he names by the notions "tempus" (time), "aevum" (century), "aeternitas" (eternity) [Sorokin, 1964: 216]. "Tempus" refers to such phenomena that are in the process of change. The sphere of "aevum" is associated with the majority of socio-cultural realities, truths and values, for which it is assumed that they will (like "semi-eternal") act for an indefinitely long time. "Aeternitas" represents the level at which there are eternal realities, truths, pure meanings and values; it is the light of their eternal, unchanging and timeless existence.

[3] Transformational space-time is connected with the question: are there any historical transitions, revolutions or moments of choice, and how do they exist? The author states that "transformational space-time" is associated with the concept of "structural space-time", because it can emerge only if there are patterns of development that lead to a bifurcation with an uncertain end. At this point the question arises whether the events under discussion are the very moment in which such a bifurcation takes place. And if so, what historical alternatives does this system have?

Finally, from the perspective of "histoire structurelle" this event can be also viewed a bit differently: either as a manifestation of a certain long-term recurring structural pattern, or, on the contrary, as a moment when the current development is violated and referred to the establishment of another pattern, another structure.

Wallerstein himself studied this problem on the example of the Soviet Union collapse [ibidem: 114–116]. At the level of "histoire événementielle" we can consider it as a chain reaction of certain historical events, which have been already analyzed in detail in a number of studies.

However, "histoire structurelle" is given several opportunities simultaneously depending on the explanatory framework ("structural space-time") we will follow. They can be:

a) historical development of the world economic system (expressed by means of the categories "center", "periphery" and "semi-periphery");

b) history of the part of the world, which takes the path of modernization and development;

c) or that part which was industrializing;

g) and space-time, defined by the religious and cultural way (Constantinople, Byzantium, Moscow).

However, at the same time, there appear the approaches, which are based on the "eternal space-time" assumption; they consider the USSR collapse as an inevitable event, which was, in essence, preceded by the vain attempt to confront natural human inclination to private property. And, finally, you can also follow the "transformational space-time" approach, which, according to Wallerstein, is associated with the structural concept of space-time, as it occurs only when there are development structures that lead to branching (bifurcation) with the uncertain end. In this case, you need to ask yourself whether the issue under consideration is a moment when bifurcation occurs and what historical alternatives can follow it.

Conclusion

The sociologists are not unanimous on the issue of crises. Economics is unique in this sense, it has been studying crises since the late 19th century [de Soto, 2009].

However, according to K. Borchardt, many economists do not view this phenomenon as something unusual, due to the frequent nature of crises in the capitalist economy. From the perspective of cyclic development the crisis seems to be something that, in essence, is "as normal" as every other phase of the cycle [Borchardt, 1992: 95].

In addition, many theorists consider them healthy, as the subsequent process can transfer to a new upward phase, state of affairs. In that context there was the only exception– the 1929 world economic crisis, which differed from its predecessors and had unprecedented destructive consequences [Smiley, 2009; Vodička, 2009]. Borchardt warns against exaggerated optimism and hope for the functionality of economic crises. He emphasizes the necessity to study crises for the "adjustment of structural dissonance" [Borchardt, 1992: 104].

In this regard, today the key issue is how much attention should be given to modern

manifestations of the economic crisis [Foster – Magdoff, 2009; Varoufakis, 2013; Lynn, 2013]. Does it entail one of many descending phases within the recurring economic cycles? Or is the crisis nature different, more profound and meaningful? P. Robejšek believes that the recent financial industry crisis has been only "intermission in the growing global crisis".

To support this thesis he advances 4 important reasons:

1. There is an increasing trend to create too large economic units (conglomerate firms) for democratic management.

2. Today authoritarian regimes "can promote its economic potential more effectively than western democracies".

3. In the developed western countries "for a long time there has been a decrease in the number of jobs that will feed on average gifted people", who, thus, lose hope for the preservation of existing living standards.

4. "Developing countries can achieve western levels of prosperity neither through division of labor, nor through developed economies" [Robejšek, 2010: 38-41].

Immanuel Wallerstein, Randall Collins, Michael Mann, George Derluguian and Craig Calhoun [Wallerstein - Collins - Mann - Derluguian - Calhoun, 2013: 163-192] are even more radical in their forecasts. These authors state that in the modern world the light is at the end of the middle-term historical phase, which goes back to the 1970s crisis. They agree that we have entered into a stormy and dark period of history, which will last for several decades and can lead to significant structural changes worldwide. They believe that there are three development alternatives as a minimum: one of them is an ultimate crisis of capitalism as a world system; the second is a decline of the capitalist hegemons and their replacement with new ones; the third alternative is a global environmental shock, causing other subsequent changes [ibidem: 178].

According to the authors' data, it can be expected that the systemic crisis of such scale will bring destruction and encourage violent actions.

So, it is high time to think about the possibilities of collective strategies in order to address the challenge and prevent violent acts.

Let us add that these opinions represent only some forecasts, which are discussed nowadays. These forecasts are often different in concrete aspects, but many of them suggest that the problems of today are obviously deeper than we often admit. And this can be dangerous: if the modern phase of modernity development is associated with the premise of reflexivity (reflexive modernization), the insufficient and inadequate reflection of the processes can contribute to the fact that the crisis can become a warning of break-up, i.e. collapse.

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

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

MAIN RESEARCH DIRECTIONS

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

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

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Convergence regions in European Union: features and the evaluation

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Abstract. The process of alignment of socio-economic development of countries and regions in the European Union (EU) – is an important aspect of European integration, which is ambiguous. Common Market Act, which is aimed at improving the economic efficiency of the entire EU, became the subject of many discussions of European researchers, which claimed that its viability on the political and socio-economic levels depends on the ability to fairly distribute the resulting gains between countries and regions in the EU. As the result of these discussions there was a significant increase in funds allocated for the development of the regions of the EU Structural Funds, the Cohesion Fund and consolidation goals to equalize levels of development of the regions in the first section of the Single European Act. How effective are these efforts shows the presented analysis and assessment of regional convergence (by GDP per capita at purchasing power parity) during the economic boom of the EU (1995–2004) and in the period 2004–2011, when 12 countries in Central and Eastern Europe joined the EU at the same time.

Key words: alignment, development, convergence, divergence, region, European Union.

Introduction. To increase the degree of the EU member states cohesion is an important aspect of the European integration and consolidation process. At the same time, the effectiveness of this policy for regions of different levels is still doubtful. Is there the regions' convergence at all levels in the EU? Does it have a selective character and its own features in regions of different levels? Therefore, the analysis is aimed at evaluating the regions of NUTS level 1, 2 and 3 in 1995–2011.

The European scientists' studies have argued that the viability of the European Union at the political and social levels depends on the ability to fairly divide the

realized gain between the countries and the regions. These discussions resulted in the significant increase in the EU budget funds allocated to regional policy, as well as in the elaboration of the goal to equalize the level of regions' development in the first section of the Single European Act (1989). The European Union provides over a one third of the budget expenses on regional development from the structural funds and the Cohesion Fund. After the 2008 crisis the policy to align the imbalances in the EU regions development has been mainly focused on the support of the new EU members that can ambiguously affect the differentiation of the development of "new" and "old" EU countries.

Uneven economic development is a fundamental principle of the modern market society. The inequality follows from a different scale of production and funding, belonging to different economy sectors. It also has historical roots. The EU has been implementing an active regional policy for decades, resulting in the adjustment of all existing EU regions. In 2003 in order to perform statistical accounting on the basis of a legal act (regulation) of the European Parliament the union introduced a Nomenclature of Units for Territorial Statistics, i.e. NUTS (for French *nomenclature des unités territoriales statistiques*, NUTS – a standard of territorial division in the countries and within the countries of the European Union for statistical purposes) [1]. The author considers a "region" as statistical regions of the EU, selected on the basis of the specified regulation. There are three levels of NUTS regions and two levels of local administrative units. There are regions of the 1st level (NUTS 1) in Germany (16 Länder (Federal States) and several other large countries, while several smaller EU countries (Denmark, Luxembourg, Ireland, Cyprus, Malta, Slovenia, Slovakia, the Czech Republic and three Baltic States) are divided only into the regions of the 2nd level (NUTS 2) or of a lower level. While implementing regional policy in the EU the authorities pay more attention to the 1st and 2nd levels than to the 3rd. The main criterion to identify the region's levels is a number of the population. So, there is the following division: NUTS level 1 – the population amounts to 3–7 million people (reflects the national level for all EU member states), NUTS level 2 – from 800 thousand to 3 million people (reflects the level of sub-regions included in each EU country, except for Lithuania, Latvia, Estonia, where the NUTS level 1 coincides with NUTS level 2), NUTS level 3 – from 150 thousand to 800 thousand people (this is a level of small regions included in the subregions). In the EU as of December 31, 2011 there were 97 regions of NUTS level 1, 271 regions of NUTS level 2 and 1303 of NUTS level 3.

The main provisions of the convergence theory. Social sciences consider convergence ("converge" – lat.) as contingence, concurrence of similar but not identical objects. In the second half of the 20th century the Western scientists understood convergence as contingence of capitalism and socialism as two types of industrial society on the similar technological basis, for example, D. Bell [2], J. Galbraith [3] and others. To date the theoretical content and practical meaning of the notion "convergence" in social science has lost its political aspect and expanded due to the deepening differentiation of the branches

of sociological and economic sciences. Social scientists (experts in economic and regional sociology), economists (experts in econometrics, regional economics) actively use this notion in the studies of uneven socio-economic development of territories, territorial differentiation and regional integration for their cohesion and consolidation. Consolidation of territories is analyzed on the basis of different convergence concepts. There are the following types of convergence: inter-regional and inter-country, convergence in terms of growth rates or income levels, absolute and conditional, club, β-convergence and σ-convergence [4]. The Russian science usually interchangeably uses terms "contingence", "concurrence" "reducing disparities", "alignment" and "convergence", views "discrepancy", "differentiation", "polarization", 'split", "divergence" as their antonyms. The studies of European sociologists and economists have adopted the terms "convergence" and "divergence". The author follows this tradition, using Russian terms, where it is justified. In the work the term is interpreted in the following way: *convergence is a process of contingence of the regions' economic parameters to a certain level.*

Convergence from the point of view of growth is defined as alignment of various regional economies to a single trajectory of growth. This approach stems from the assumptions of the neoclassical growth theory [5]. Conditional convergence implies the existence of fundamental differences and the overwhelming heterogeneity of the studied objects, which leads to different economic growth trends. Absolute convergence assumes the homogeneity of the objects and the presence of a single growth trend for all economies. Club convergence as opposed to absolute one suggests that there is no growth trend common for all economies but one for a group of similar economies according to the initial level of development and other characteristics.

β-convergence determines the presence of a negative correlation between the growth rate and the initial level of economic development. It is conceptualized as a process of "replacement" when poor countries or regions have higher rates of economic growth. And σ-convergence is a more general case; it implies reduced time for the spread of the studied objects characteristics in the sample of countries or regions.

The studies of β-convergence and σ-convergence are more widely spread in the scientific literature [6, pp. 50-51; 7, pp. 715-756]. In the term "β-convergence" the first letter indicates the coefficient given initial GDP per capita in the estimated equation [8; 9]. The hypotheses of β-convergence and σ-convergence are interrelated but not equivalent. Absolute β-convergence is not a consequence of σ-convergence [10, pp. 50-51]. Therefore, the researchers have proposed the interpretation of the relations between absolute β-convergence and σ-convergence [11]. The first indicates the trend to narrow the gap in GDP per capita. At the same time, random shocks affecting regional economy can counteract this trend and temporarily increase the distribution of GDP per person.

Methods of research. In the mid 1960s English economist J. Williamson stated that the national development creates increasing regional differences at the early stages, while

at the later stages of economic development that creates convergence regional levels, i.e. regional convergence, which leads to an inverted U-shaped curve [12, pp. 1-84]. At the early stages the region has multiple poles of growth that concentrate capital and skilled workers. The more rapid productivity growth accelerates economic growth in these poles and results in the increase in regional disparities (divergence). At the later development stages the costs are raising in the growth pole, that is why the funds can be transferred to other regions with lower labor costs. This, together with the uniform knowledge distribution outcomes, can increase the productive factors reallocation in the sectors and regions, which leads to the convergence of their regional development. The model "β-convergence", based on the neoclassical growth theory developed by R. Solow, is a starting point for the analysis of alignment [13, pp. 312-320].

According to this theory, the economic growth rates are positively correlated with the GDP gap per capita of this region and GRP per capita of the region characterized by constant growth rates. Therefore, weaker regions should grow faster than stronger ones, and in the long term the regional levels of economic development will align [14]. Thus, the β-convergence theory shows that relatively weak regions in the initial period of development are usually characterized by higher growth rates.

The assessment of β-convergence requires models of "regression of growth to its initial level" ("growth-initial level regressions"), with the growth rate being a dependent variable and the initial index – independent. The simple regression of this type is the following: $y_i = a + \beta\, ln(x_{it-T}) + e$, where x_{it-T} is an indicator at the moment preceding the current time t by T periods (as usual, the initial period of integration or the other moment significant for the integration grouping development), β is an estimated coefficient, y_i is an average growth rate in the i-th country for T periods, calculated as $ln(y_{it})/ln(y_{it-T})$, e is a random deviation [15, pp. 58-73]. The convergence indicator is a sign of the β-coefficient. If $\beta < 0$ is less than 0, the high level of the indicator in the initial moment of time correlates with the lower growth rates.

Unlike β-convergence, σ-convergence reveals a decrease in the number of indicators characterizing smoothing divergence between regions over time. Not always β-convergence implies σ-convergence. When the group of stronger and weaker regions is constantly changing (due to the worsening economic situation in stronger regions and the improving situation in weaker ones), but the overall gap between stronger and weaker regions is constant, then σ-convergence is missing [16; 17, pp. 1325-1352; 18, pp. 1019-1036].

To identify σ-convergence in the presence of the trend in the time series it is possible to use such indicator as dispersion or relative indicators of variation: a range coefficient (K_R) and a variation coefficient (V_σ). The increased range and variation coefficients directly testify the intensification of the factor variations in the studied population. Thus, analyzing these factors dynamics in terms of the key parameters, we can give a qualitative and quantitative characterization of the growing differences by GRP per capita in the EU regions.

The Theil index is another indicator to identify σ-convergence [19]: $T = \sum_{i=1}^{n} y_i \ln(y_i / p_i)$,, where y is a share of the country's GDP in the GDP of the entire EU, p is a share of the population in the EU population as a whole. The index value amounts to zero in the case of full equality and increasing with the inequality growth. Thus, the decrease in the value of this index over time indicates convergence, the increase in the index – divergence, i.e., the differences growth.

Discussion on the processes of convergence in the EU. The EU territory is divided in the "periphery" and "core" on the basis of the study of 12 countries (EU–15, except for Austria, France and the UK), carried out by S. Dall'erba, J. Le Gallo in 1989–1999. The core includes the EU most developed countries. The significant convergence among the periphery countries is established, but they do not receive the same development effort, as the core. According to these scientists, the investment projects of the EU structural funds undoubtedly yield benefit to those regions that get it, but mostly the main regions (the core) profit due to the EU structural funds. The possible reason for this is that the core regions are less in size, and better connected to each other through the transport network and trade. The researchers consider two groups of countries: four countries – Greece, Portugal, Spain and Ireland – as less developed and three – Germany, the UK and Italy – as more developed. There are multiple poles of growth, while other regions are lagging behind. It results in increasing inequality [20].

The Italian scientists C. Brazili and L. Gutierrez have investigated 15 EU countries, representing 140 regions of NUTS level 2 in 1980–1999 and found out significant convergence. According to the distribution analysis, the level of income per capita in poorer countries tends to converge, i.e., the convergence process is more intense among the regions of the low-income population [21]. The income analysis (LIS) for the Czech Republic (1992, 1996), Hungary (1991, 1994), Poland (1992, 1995, 1999) and Russia (1992, 1996) shows that the regional income inequality within countries of the CEE region increases, especially in the capitals and main urban areas. Probably, the inter-regional differences within EU countries will even aggravate in the future, especially between the major urban agglomerations and the economic periphery with the "old" economic specialization. Even good economic dynamics of some major peripheral regions will be ensured mainly due to the local growth points [22].

The study of the EU-25 and their 1214 regions of NUTS level 3 in the 1995–2002 period indicates that the regions with lower GDP per capita developed faster in 1995–2002. The convergence speed was higher for regions of NUTS level 3 in the EU-15 than for regions of NUTS level 3 in the new EU countries. Convergence was observed within the regions of the EU-15, and was not in the new EU [23]. These findings reveal a more serious problem: when aligning regional differences at the level of large regions the disparities in smaller regions tend to remain outside the mechanisms of territorial development regulation. Even wealthy countries can have poor regions. The EU regions of NUTS level 3 can be objects of regional policy aimed at boosting competitiveness

and employment if they meet a number of indicators. The EU regional programs do not cover local administrative units.

Based on the analysis of 19 out of 27 EU member states in 1995–2004 (both at the national level and within each country at the NUTS level 2) B. Szörfi states that the date of entry into the EU influences the degree of regional differences. The new member states have a higher level of regional variation [24, pp. 100-121]. The study of 10 new EU countries over the 1995–2005 period identifying economic systems convergence by GDP (on the basis of quarterly data on real GDP per capita in this period) reveals the trend to align these countries to the EU average level of GDP [25, pp. 157-166]. In the last 15 years scientists pay more attention to the study of differences in the development of EU regions using different econometric methods. Most studies of convergence are focused on the analysis of β-convergence and σ-convergence (spatial convergence).

The comparative analysis shows that the research results depend on methods, a period and studied regions. However, despite the fact that the authors of the considered studies use different methods to assess convergence the obtained results are comparable and allow us to draw the following preliminary conclusions. For a quarter of a century there has been convergence of the development between relatively rich and poor countries of the EU. This convergence occurred when the countries of Southern Europe and Ireland (1980–1999) and the countries of Central and Eastern Europe (1995–2005) were the poorest EU countries. The convergence process at the level of individual regions (NUTS 2 and NUTS 3) was complex.

If the Scandinavian countries and Italy were, in general, characterized by convergence and the differences in the economic development level between different regions was reducing, in other EU countries the process was controversial and the convergence periods were followed by divergence periods. The last EU countries of Central and Eastern Europe have a higher level of regional differences in comparison with "old" EU countries. At the same time, inequality between large and small regions in many "new" EU countries is growing due to more rapid development of metropolitan areas and large cities compared to other, especially small regions. Let us consider this in more detail.

Assessment of regions' convergence processes at NUTS level 1. We used Eurostat 1995–2011 data for the empirical analysis. In 2009 in the EU countries GDP per capita based on purchasing power parity for the regions of NUTS level 1 ranged from 44% of the average EU-27 (10300 US dollars by PPP per capita) in Bulgaria up to 266% (62500 US dollars by PPP per capita) in Luxembourg. The disparities of the EU regions of NUTS level 2 are even sharper: GDP per capita by PPP in 2009 ranged from 27% (6400 US dollars by PPP) in the Northwestern region of Bulgaria to 332% (78000 US dollars by PPP) in the metropolitan area (Greater London) of Great Britain. Among "new" countries, the leader is Prague (the Czech Republic) – 175% (41200 US dollars by PPP) and the region of Bratislava (Slovakia) – 178% (41800 US dollars by PPP) of the average for the EU-27. However, these two regions should be considered as an exception among the new states that joined in 2004. The most prosperous regions in

the new countries follow then: Bucharest in Romania – 111% of the average level for the EU-27 (26100 US dollars by PPP), Central Hungary (Hungary) – 109% (25500 US dollars by PPP), Western Slovenia (Slovenia) – 105% (24600 US dollars by PPP), Cyprus – 100% (23500 US dollars by PPP) of the average for the EU-27. Except for Masovian Voivodeship in Poland – 97%, Malta – 82%; in all other regions of the new member states GDP per capita by PPP amounted to 75% or less of the EU-27 average level.

The increase in GDP per capita in poor areas is a primary objective of the EU regional policy – convergence. To get assistance the country's development should be below 75% of GDP at PPP from the average in the EU. Accession of Central and Eastern European countries (CEE) to the EC has immediately reduced the EU average value; therefore, less developed regions of the "old" countries (East Germany and middle-income regions of Greece) can not get this assistance. The increase in GDP per capita according to NUTS 1 indicator in the poorest EU regions leads to the reduction of disparities in GDP [26]. G. Petrakos, A. Rodríguez-Pose and A. Rovolis, having analyzed this process in France, Great Britain, Italy, Portugal, Spain, Belgium, Greece and the Netherlands in 1981–1997, state that the long-term development processes tend to align in the resources allocation. Although the more rapid GDP growth leads to a greater increase in regional inequality. The regional differences at the national level in the European Union are cyclical: they rise in the periods of rapid GDP growth and reduce in the periods of slow [27, pp. 1837-1855].

The analysis of the GDP per capita indicator shows that the differentiation level of the NUTS level 1 regions that are EU member states had declined steadily throughout the period. The slow reduction of differentiation, characteristic of 1995–1999, was followed by rapid convergence in 2000–2009 The accession of 10 new countries to the European Union in 2004 and two countries (Bulgaria and Romania) in 2007, most likely had a positive impact on the convergence process, but the impact was relatively small and the convergence rates were approximately the same in the first decade of the 21st century. However, the 2008–2009 economic crisis still exerted some influence on the convergence processes within the EU. The rate declined slightly in 2010, there was slight divergence, but then again the convergence processes began and in 2011 the Theil index almost returned to the 2009 level *(tab. 1)*.

This rapid convergence process in 1995–2009 was caused primarily by the reduced differentiation between "old" (EU-15) and "new" countries due to higher rates of GDP growth in "new" countries and lower rates of population growth there. The GDP growth and the convergence process were the following in the EU. The GDP growth rates in the poorer new EU countries significantly had exceeded the economic growth rates in the EU-15 up to 2008. In some "new" countries (for example, in Latvia in 2005–2007) the GDP growth rate reached 10% per year, while in most EU-15 countries this indicator amounted only to 2–3% *(tab. 2)*.

Such high differentiation in the economic growth rates, of course, resulted in the reduced differentiation between "rich" and "poor" countries of the EU.

Table 1. Dynamics of the Theil index in the European Union countries (EU-27) in 1995–2011

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Theil index	6.44	6.21	6.18	6.16	6.12	6.05	5.68	5.31	4.97	4.64	4.41	4.09	3.65	3.21	2.96	3.00	2.95
Source: the estimates are based on the 1995–2011 Eurostat (the data on Slovenia, the Czech Republic, Slovakia, Hungary, Poland, Lithuania, Latvia, Estonia, Bulgaria, Romania, Cyprus and Malta were taken into account during the entire period, regardless of whether these countries were the EU members or not during that period).																	

Table 2. Real GDP growth rates in the EU (1996–2011),%

Country	1996	2000	2004	2008	2009	2010	2011
EU-27	1.8	3.9	2.5	0.3	-4.3	2.1	1.6
EU-15	1.5	3.8	2.2	0.4	-4.4	2.0	1.4
Bulgaria	-9.0	5.7	6.7	6.2	-5.5	0.4	1.8
Czech Republic	4.5	4.2	4.7	3.1	-4.5	2.5	1.9
Estonia	5.9	9.7	6.3	-4.2	-14.1	3.3	8.3
Cyprus	1.8	5.0	4.2	3.6	-1.9	1.3	0.5
Latvia	4.3	5.7	8.9	-3.3	-17.7	-0.9	5.5
Lithuania	5.2	3.6	7.4	2.9	-14.8	1.5	5.9
Hungary	0.2	4.2	4.8	0.9	-6.8	1.3	1.6
Malta	:	:	-0.3	3.9	-2.6	2.9	1.7
Poland	6.2	4.3	5.3	5.1	1.6	3.9	4.5
Romania	3.2	2.4	8.5	7.3	-6.6	-1.1	2.2
Slovenia	3.6	4.3	4.4	3.4	-7.8	1.2	0.6
Slovakia	6.9	1.4	5.1	5.8	-4.9	4.4	3.2
Source: the 1996-2011 Eurostat data.							

Let us consider the hypothesis of the EU regions σ-convergence at NUTS level 1 according to GDP per capita based on purchasing power parity. The existence of σ-convergence is believed to a precondition for the existence of β-alignment [28, pp. 1325–1352; 29, pp. 1019-1036; 30]. The calculation of range and variation coefficients reveal that in 1995–2009 "polarization" of the EU regions at NUTS level 1 according to GDP per capita decreased. It is testified by the reduction of the variation coefficient by 9%. In this period the growth of standard deviation (σ) was not ahead of the growth of average GDP per capita.

Therefore, the differences in GDP decreased and the differences in GDP per capita in PPP terms were aligning, which proves σ-convergence of EU regions according to GDP per capita. The confirmation of the β-convergence hypothesis according to GDP per capita at purchaser's prices should follow the considered spatial convergence (σ-alignment follows β-convergence) [31, pp. 50-51]. When constructing regression of GDP growth in 1995–2004 to its original level in 1995 the growth rate is considered as a dependent variable and the initial index level as independent ($y = a + \beta x$, where y = ln (GDP 2004/ GDP 1995), x = ln (GDP 1995)).

The coefficient of initial GDP per capita in PPP terms is negative (β = -0.0000017<0, Beta = 0.588<0) and statistically significant (p=0.001). Therefore, the assumption of β-convergence in the period 1995–2004 GDP at PPP is correct.

While constructing regression of GDP growth in 2004–2009 to its original level in 2004 ($y = a + \beta x$, where y = ln (GDP 2009/ GDP 2004), x = ln (GDP 2004)), we get a negative (β = -0.00000078<0, Beta= -0.627<0) and statistically significant (p=0.000) coefficient. Therefore, the assumption of β-convergence in 1995–2004 according to PPP GDP is also true. So, in the 1995–2009period there were both σ- and β-convergence of the EU regions at NUTS level 1. Thus, the EU regions with weaker values of economic development increase it faster than stronger ones.

In 2010–2011 in the EU regions of NUTS level 1 there were both σ-and β-convergence. Spatial convergence was recorded in the 2010–2011 period, the variation coefficient decreased by more than 4% *(tab. 3)*[1].

Table 3. Dynamics of variation and range coefficients according to GDP per capita based on purchasing power parity by NUTS 1 regions in 2010–2011

Variation indicators	2010	2011
Range coefficient, (K_R)	2.26	2.17
2010 = 100%	100%	95.96%
Variation coefficient, (V_σ)	0.44	0.42
2010 = 100%	100%	96.49%
Source: calculations in SPSS.		

[1] The author expresses appreciation to O.Ya. Lavrinenko, Doctor of Economics, Senior Research Associate at the Institute for Social Research of the Daugavpils University for processing data and conducting calculations in SPSS (see tab. 3).

The EU regions with weaker values of economic development continue to increase is faster than stronger regions: β-convergence (β = -0.004<0, Beta = -0.491<0, p=0.009).

According to the author, it is important to take into consideration the issue on the role of the EU structural funds (Social Fund, Regional Development Fund and others) in the process of convergence. The scientists agree that the level of income in poorer regions should be raised, where its level is less than 75% of the EU average.

In terms of the endogenous theory public policy plays an important role in determining long-term growth: public infrastructure is a factor of the production function, and its growth increases the marginal product of private capital, which leads to a rise in capital accumulation and growth. In the framework of the neoclassical theory, such policy is also aimed at accelerating the convergence process, since the marginal product of private capital increases when public capital is provided. To consider the role of EU funds the right part of the regression equation should include an additional factor – a share of the EU structural funds' investments and the states' co-financing in GDP *(tab. 4)*.

The coefficient at initial GDP per capita is negative and statistically significant (-0.027). At the same time, the coefficient at the variable characterizing the impact of public investment is though positive, but statistically insignificant. The results can be interpreted as evidence that the EU experienced the convergence processes in 2000–2010; however, the impact of the financial support of the European structural funds on the integration processes cannot be evaluated unambiguously. Public investment

Table 4. Evaluation of β-convergence of regions of the EU member states with the inclusion of the public investment share in GDP, 2000–2010, [32, pp. 289-290]

Variable	Coefficient	Standard error	t-statistics	p-value
Constant β_0	0.129	0.016	7.809	0.000
Initial GDP per capita in 2000, logarithm	-0.027	0.003	-8.394	0.000
Public investment, share in GDP	0.002	0.001	1.253	0.222
Determination coefficient, R^2				0.82
Standard error				0.006

in less developed countries and regions of the European Union has increased due to the structural funds support. Therefore, we can assume that it should have a positive influence on the convergence process. Although the proposed model does not confirm it.

Assessment of the convergence processes of the EU regions at NUTS level 2 and NUTS level 3. Let us consider the problem of regions' development imbalance in the "old" and "new" EU member states at NUTS level 3 compared with the NUTS 2 level *(fig.)*.

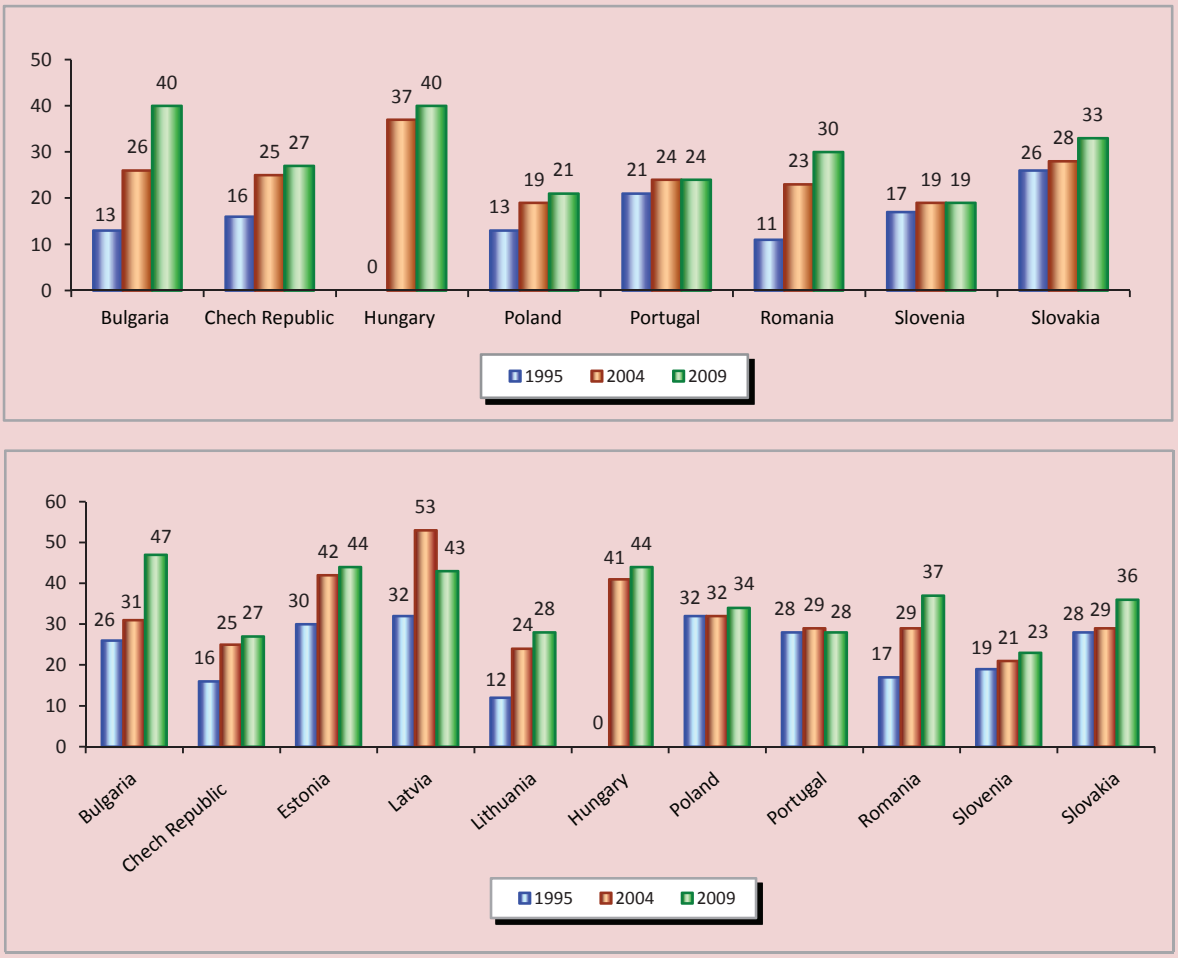
Disparities in development of the EU regions at NUTS level 3 by PPP GDP per capita in 2009 are very sharp and range from 22% in the regions of Silistra and Sliven (Bulgaria) and Vaslui (Romania) (664 US dollars by PPP and 1087 US dollars by PPP, respectively) to 596% in the city of London City-West in the UK (156661 US dollars by PPP). In the "new" EU countries the significant gap in the development of the NUTS level 3 region is not associated with politics but with the hypertrophic development of capitals, especially in small countries.

The differences within the regions of the "new" EU countries at NUTS level 3 are even sharper. For example, in Bulgaria GDP per capita in the capital exceeded Silistra and Sliven almost fivefold (105 to 22%). In 2009 in small Latvia this indicator in Riga exceeded Latgale, a peripheral region, threefold: 86% to 28% of the EU average, in Hungary the gap between Budapest and Novgrad was almost 5 times (147 to 30%).

In some states, such as Romania and Poland, the differentiation is also significant. In Ilfov County, which surrounds Bucharest, GDP per capita amounted to 115% of the EU-27 average, while in Vaslui, which is located on the border with Moldova, – only 22% (by 5.2 times); in Poznan the same indicator reached 121% to 35% in Biała Podlaska County, a unit on the border with Belarus (by four times). It is important to consider significant historical and economic differences when channeling funds from the EU structural funds for regional alignment, solving a tough dilemma of market "efficiency – equity".

For example, in Latvia it would be fairer to allocate EU structural funds resources to Latgale, but the return would be only 100 lats per unit of input. So, it would be better to invest in the Riga Central region, where the return would be 200–300 lats per unit of input, i.e. by 2–3 times higher [33, pp. 47-53]. In the market environment the priority is to develop efficiency, but not justice.

Dispersion in the "new" EU countries at NUTS level 2 (top) and NUTS level 3 (bottom) in 1995–2009, in %



Source: Eurostat data for 1995–2009.

The differentiation of large regions (NUTS level 1 and 2) in the "new" EU countries is not so significant: according to GDP per capita most developed Masovian Voivodeship in Poland surpassed Lublin Voivodeship only by 2.4 times (97 to 41%), and the Metropolitan area in Romania was by 3.8 times ahead of the Northwestern region of the country (111 to 29%). In Bulgaria the gap between the Southwestern and Northwestern regions was 2.7 times (75 to 27%). There was a greater gap in some Western European countries, such as the UK and France.

Let us make some conclusions. The study has revealed the presence of the β- and σ-convergence processes in the EU regions according to GDP per capita on the basis of purchasing power parity at NUTS level 1. During the past 15 years the convergence process in the EU has been fast enough, especially at the level of

certain countries, due to both the higher GDP growth in the "new" EU countries and the lower population growth rates there. In the "new" EU countries the gap in the development of individual regions at NUTS levels 2 and 3 is associated with hypertrophied development of the capitals, especially in small states. The accession of new countries to EU significantly promoted β- and σ-convergence there. Therefore, the identified reduction of differences according to GDP per capita in terms of PPP meets the interests of both "new" and "old" EU countries and indicates the fairly positive EU policy towards the development of the regions of NUTS level 1.

The convergence processes in the EU regions at NUTS levels 1, 2 and 3 are of complex character and suggest that the goals to achieve regional convergence, parity ("equality") and maximize total product output ("efficiency") are not always compatible in the market environment. Under these conditions the negative impact of the reduced growth rate in the regions of the EU "core" will exceed the positive effect of the growth rate in the "periphery". Therefore, the GDP growth of the EU regions at NUTS levels 1 and 2 can be also ensured by the cost of deepening regional disparities (divergence) at NUTS level 3.

The analysis has showed that the larger the EU regions (NUTS levels 1 and 2) are, the shorter the period of time to align their differences is. On the contrary, the smaller the EU regions (NUTS level 3) are, the longer the period of time to align their differences is. Therefore, when selecting alignment objects we should focus on the regions of NUTS level 3 and the integration of regions. The last remark is very important for many regions of the European part of such a country as Russia, which requires necessary multidisciplinary production and economy's clustering to align the level of development.

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Quality of the population as a major driving force of systemic modernization of the Russian society

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Abstract. The article analyzes the state of the quality of life in modern Russia as a result of the increase in the standard of living and quality of life and as a major modernization factor. The author presents the indicators and trends describing the change in the quality of the population. The article proposes to combine the classical patronage (extensive) approach and the participatory (intensive) formation of a "participatory society" in the implementation of social policy. According to the author, one of the main directions of this approach is the redirection of demographic policy from the quantity to the quality of the population, and to the accumulation and realization of human potential.

Key words: quality of population, social policy, extensive and intensive approaches, social paternalism, "participatory society".

The majority of scientific works on socio-economic issues deal with the standard of living and quality of life, social inequality, poverty, and demography. The subsistence level, minimum wage (officially rated for some average "homunculus"), social support, pension provision, distribution relationships– the life of every person depends on how these and other issues are addressed. But, despite the fact that we recognize the unconditional basic significance of these issues, we should not ignore the quality of the population, which is an issue equally important for the development of Russia's society.

We agree with Pitirim Sorokin who wrote in 1922: "The fate of any society depends primarily on the properties of its members. A society of idiots or incompetent people will never become a prosperous society. A society of talented and strong-willed individuals will inevitably create more advanced forms of community living... Careful study of the rise and fall

of entire peoples shows that it happened mainly due to a drastic qualitative change in the composition of their population in one way or the other" [13].

It is the quality of the population that is the main strategic resource for the development of society, the main result of the rise in the standard of living and quality of life. The rise in the standard of living and quality of life does not have any directly proportional correlation with the improvement of the population quality. Here we see the functional dependence akin to the so-called Easterlin paradox (Easterlin, Richard), when happiness (a feeling of subjective well-being) grows rapidly along with income only up to a certain point of saturation. Residents of poorer countries often feel happier than people in rich countries. That is why, a concept of "happiness economics" is developed, and research into the happiness index is carried out in more than 140 countries.

It is logical that Russian President V.V. Putin highlights the strengthening of human potential in his policy statements: "We should build our social, economic, immigration, humanitarian, cultural, educational, environmental and legislative policies around the promotion of human capital in Russia – not just during election campaigns, but for the long term, a historical perspective in the true sense of the term". [11]. "Russia's main strength in this and future centuries will lie in its educated, creative, physically and spiritually healthy people, rather than natural resources or nuclear weapons" [4].

However, even if it is recognized openly that the development of positive abilities of an individual is a priority, in practice it often happens that there is a shortage of opportunities for the formation and implementation of these abilities. Economic determinism, for which the Bolsheviks were so frequently criticized, became the main ideological principle of neoliberalism. Therefore, many scientists point out a strange similarity between the activities of the Bolsheviks' activities aimed to establish the Soviet power and the neoliberal activities aimed to implant capitalism in Russia. For example, a British sociologist Archie Brown asserts that among the Russian radical Democrats there are a lot of "neo-Bolsheviks" who act under the principle "the end justifies the means" [19]. A.S. Panarin makes a direct analogy between the Bolsheviks and the neoliberals, believing that "the victory of the Bolsheviks, just as the victory of modern "liberalism", is associated with the superiority of an organized minority that among other things has powerful foreign support, over the fragmented provincial majority" [8]. Both are based on the "absurd state of mind" (J. Ortega y Gasset), when people are "only concerned with their own well-being. As they do not see, behind the benefits of civilization, marvels of invention and construction which can only be maintained by great effort and foresight, they imagine that their role is limited to demanding these benefits peremptorily, as if they were natural rights". [7].

Based on this "absurd state of mind", the reformers scarcely appreciate the positive and great things that were part of the former type of societal system. For them it is only an object that must be radically changed; as for the generations of people with their "great effort and foresight" spent for the development of this object, they are

almost a natural givenness, human material ready to undergo social experiment.

A set of ideas, political slogans, and myths that contradict each other and are situational in nature serve as a kind of "surrogate ideology". A worldview of "paradoxical man" is formed on the basis of social chimeras that are endowed with multicultural charm. The main role is given to patchiness, fragmentation, substitution of its components at the whim of an individual. Today you are an advocate of communism, tomorrow – an adherent of capitalism, and the day after tomorrow you support fascism; and it is quite all right, because all these labels are supposed to have no real meaning (or all of them have the same meaning), and after all, man has the right to search for identity. In "surrogate ideology" one can find a wide scope for any frills; but this chaotic, eclectic set of ideas is usually structured skillfully, so that at the level of values it could be possible to neutralize the possibility of consolidation of the people as a sovereign.

Some representatives of the modern Russian elite again feel like they were the avant-garde of "the entire progressive mankind", and they try to impose their "advanced" opinion of the key issues of national development on the majority of the citizens; for instance, they urge to move forward by the example of European and American civilization, as it was proposed by sociologist B. Grushin. This, in his opinion, requires the abandonment of "*Russism in general, Russism as such*, i.e., to speak not only about the change of political and economic "outfit", but also about fundamental changes in the very nature of the people, their habits, life practices, mentality and psychology" [6]. J.T. Toshchenko notes that the entire history of the 20th century did not give more wrong and primitive forecasts than those that were made in the perestroika period and the beginning of the 1990s [17]. Let me remind you one of the forecasts by Boris Yeltsin: "The situation will remain bad for everyone for about six months; after that the prices will lower, the consumer market will be filled with goods, and by the autumn of 1992 the economy will be stabilized and the people's lives will gradually improve" [5]. The Nobel prizewinner J. Stiglitz wrote: "Russia has gotten the worst of all possible worlds – an enormous decline in output and an enormous increase in inequality" [15].

Back in 1990 S.Shatalin, N.Petrakov and other authors of the program called "500 days" confirmed that all the existing structures were unsustainable, the fact that "up to a certain point was masked by extensive use of human and natural resources, but even this type of economic development has exhausted itself in the 1960s" [10]. The modern resource-based economy is no less exhausted.

And the main thing is that during the years of consecutive shocks the quality of the population has deteriorated: people's health, education, cultural level, working ability must be restored. Today there are no more illusions concerning the inevitability of progress; economic growth does not automatically solve problems of social development. The people appeared to be a resource as finite as nature; and the experience of our country, whose leaders were thoughtlessly and blasphemously trying to "catch up and overtake", suggests that we need to agree on the boundaries of reforms that are not to be crossed.

Physical, mental, and social health of Russia's population arouses great concerns.

Children's health is continuously and increasingly deteriorating: the health of each new generation is worse than the health of the previous one [12]. The analysis of the results of a longitudinal study (1995–2010) of child health and development, carried out by ISEDT RAS in the Vologda Oblast, leads to similar conclusions [18].

There is an ongoing process of gradual "rejuvenation" of child disability: it occurs both in absolute value and in terms of disability level. The share of children of the 1st health group with no deviation from all the health criteria selected for assessment has declined from 49 to 9% in the period of 25 years.

Social health of the population, defined by indicators of deviant behavior, often exceeds their maximum critical (threshold) values. Deviant behavior has become a large-scale phenomenon and it directly affects the growth of mortality, primarily among working-age men. Human losses due to accidents, poisonings, homicides and suicides are like death tolls during a war. For example, according to the WHO, 20 suicides per 100 thousand population is considered extremely critical. In Russia this threshold value in working-age men was 2–4 times greater.

Russia ranks first in the world by the number of smokers: the share is 39% of the adult population (2011). According to the Ministry of Health, about 288 thousand people die prematurely from tobacco use. As a result, Russia's economy looses about 1.5 trillion rubles annually.

More than 2 million patients with alcoholism are subject to regular medical check-up, 3.3 million Russians have mental health problems. According to various estimates, the number of Russians who regularly consume narcotic and toxic substances is over 3 million people. It is noteworthy that there is a "rejuvenation" of all forms of social diseases, and drug addiction is by 80% a disease of the Russians aged under 30. According to Rosstat, over 100 thousand people aged 15–30 die from drug abuse every year in Russia. Because of these premature deaths the society annually loses about 300 billion rubles of its investment in education and training, let alone profit lost due to the loss of workers[1] [1].

A team of researchers at the Institute of Psychology of the Russian Academy of Sciences has developed an index of macropsychological state of society, and its value is far from optimal *(table)*.

Judging by the forecasts, mortality from the diseases of the nervous system and sensory organs in the 21st century will significantly outstrip the diseases of the circulatory system, which today rank first among causes of death.

A negative trend is observed in the reduction of the level (quality) of education. A statement of V. Mau published in 2000 that "our problem consists in redundancy of education and natural resources" [2] regarding education is not so relevant today. The reduction of social obligations of the state is accompanied by commercialization of health care and education. In 2011, according to Rosstat, 15% of the Russians aged 15 and older could not get medical care because they could not pay for it. The proportion of students who pay for

[1] The cost of living in Russia and in other countries is growing. See: Aganbegyan A. Skol'ko stoit zhizn' cheloveka v Rossii? [What is the Cost of a Human Life in Russia?]. *Ekonomicheskaya politika* [Economic Policy], 2014, no. 1, pp. 54-66.

Macropsychological state of society

Indicator	Indicator's value	Ranking of Russia according to this indicator
Mortality from homicide per 100,000 inhabitants	16.7	1st place in Europe and the CIS
Mortality from suicide per 100,000 inhabitants	27.1	2nd place in Europe and the CIS after Lithuania, on the same level as Belarus and Kazakhstan
Mortality from accidental alcohol poisoning	16.9	1st place in Europe and the CIS
Mortality from road traffic accidents per 100,000 inhabitants	16.9	2nd place in Europe and the CIS after Latvia
The number of children left without parental care, per 100,000 inhabitants	88.8	2nd place in Eastern Europe and the CIS after Estonia
The number of divorces per 1,000 inhabitants	5	1st place among the countries with developed economy and economy in transition
The number of abortions per 1,000 women (aged 15–49)	36	1st place in Eastern Europe and the CIS
Proportion of children born out-of-wedlock, %	26.9	13th place in the Eastern Europe and CIS
Gini Coefficient (the index of income concentration)	0.422	1st place among the countries with developed economy and economy in transition
Corruption Perceptions Index, 2009 (from 0 to 10 points; the higher the score, the lower the level of corruption)	2.2	146th place in the world (along with Ukraine, Kenya, Cameroon, Ecuador, Zimbabwe and Sierra Leone) out of 180 countries

Source: Zhuravlev A.L., Yurevich A.V. *Makropsikhologicheskoe sostoyanie sovremennogo rossiiskogo obshchestva* [Macropsychological State of Modern Russian Society]. Moscow, 2012.

tuition increased to 30% in the system of secondary vocational education (2010), and to 63% in the system of higher professional education.

From the point of view of assessing the cultural level and values of the Russians, the accusations of most people are sometimes excessive. Some authors write that they have not been taught to think, that they "live their lives like vegetables" and produce nothing except for their own kind [16]. The people often hear accusations that they are prone to laziness and paternalism. This is what D.A. Medvedev said in his policy article "Come on, Russia!" in 2009: "The desire to "build oneself" and to achieve personal success step-by-step is not our national habit. Hence the lack of initiative and new ideas, unresolved issues, low quality of public debate and criticism. Public consent and support are usually expressed by saying nothing. Objections are very often emotional and scathing, but at the same time superficial and irresponsible".

The accusations that Russian citizens are prone to paternalism are actively supported by many politicians. For example, in 2009 N. Belykh, the then Governor of the Kirov Oblast, said: "One of the troubles, which I consider to be the major one, oddly enough, more important than corruption and economic backwardness, is paternalistic attitudes in the society". I. Yurgens, Chairman of the Management Board of the Institute for Contemporary Development, expressed his opinion just as definitely and openly in an interview in 2010: "There exist archaic and paternalistic attitudes in the majority of the population. By the way, this is what distinguishes our citizens from the Europeans. Such attitudes can be done away with only by 2025".

There can be more and more examples of such scathing judgments, but the situation is clear enough: part of the modern political elite wants to explain the modest results (putting it mildly) of ruling the country in the turbulent 1990s and 2000s by the grave legacy of tsarism, Sovietism and by a weak capacity of the Russian people to undertake vigorous social action. Perhaps, there is a germ of truth in this, but it is obviously small. The allegations concerning the broadness of paternalistic sentiments do not receive confirmation.

First, Academician D.S. L'vov pointed out the futility of the conflict between paternalism and liberalism. We can talk about the extent of using paternalism, which makes the functioning of a certain public sector more efficient. Second, reliance on the state support became long ago the privilege of a small part of Russians represented mostly by old people. According to many indicators of the scale of alienation, the mass consciousness of the population perceives the federal and regional authorities as a partner (at best) that should be influenced more through force than through persuasion or requests. The Russians, we mean the residents of all the federal districts and representatives of every age group, have a high level of consent with regard to the statement "the government understands only the language of force".

Analysis of sociological research findings leads to the conclusion that the mass consciousness, especially that of young people, is dominated by orientation toward social activity, personal success and local consolidation. Apathy and immaturity of the population is gradually replaced by social energy, willingness to protect one's own interests, relying primarily not on public support but on their own strength[2]. If we take negative characteristics of paternalism such as dependency, archaic clannishness, cult of the leader, then perhaps part of the ruling elite, rather than the majority of the population would find it useful to change their mentality and psychology radically.

The fact that Russia's citizens prefer "mild" forms of protest and their relative reluctance to participate even in such legal actions as protest marches and strikes, is explained by many reasons. Let us consider just two of them. On the one hand, it is the pressure on the part of the administration and employers, which makes the citizens excessively cautious in the choice of protest forms. Fear of job loss continues to increase among the population and it ranks first in the list of pressing social issues. Besides, the people lack trust in "organizers" of social protest such as trade unions and political parties, and their self-organization skills are inertial and poor. On the other hand, the mass protests of 1991 and 1993 are associated in the historical memory of the majority of Russians with political chaos and rampant crime. The "fear of chaos" that people feel against the background of the events in Ukraine allows the government to position itself as a "pillar of stability" and to rely on the support of the society in their efforts to restore order. The situation may change with the deepening of the crisis,

[2] We provide the analysis of the data obtained during the all-Russian sociological surveys conducted in 2007 (n=7119), in 2009 (n=2110) and in 2011(n=1531), under the supervision of RAS Academician G.V. Osipov, and RAS Corresponding Members V.L. Schultz and V.V. Lokosov.

the increase of natural and man-made disasters, the violation of life-support systems and the inability of mainly local authorities to cope with the consequences of all this. Under the circumstances, the people will conclude that the situation cannot get any worse, and they will shift to more active manifestations of protest.

Healthy lifestyle is coming into fashion and into the lifestyle of the Russians; we see the revival of the GTO ("Ready for Labor and Defense") standards along with other positive changes in the socio-cultural sphere. At present, the loss of health often leads a person to social bottom. An individual with bad habits finds it difficult to win a tough job competition. A new work culture and discipline is introduced gradually. It becomes "indecent" to be in poor physical condition.

It is necessary to take into consideration the ageing of the population. According to Rosstat forecasts, the reduction in the number of working-age people will have reached 11.6 million by 2025. This difficult situation has two possible outcomes: either to carry on attracting millions of unskilled labor migrants in Russia, which aggravates the country's technological backwardness, or to upgrade the economy intensively on an innovation basis. The research by the RAS Institute of Social and Economic Studies of Population leads to the conclusion that the increase in the number of older people who still have their resource potential does not lead to increase in the dependency burden neither for the family nor for the society in general. The opinion that older people should be considered mainly as social "dead weight" is deeply flawed even in the context of economic determinism. Therefore, research into the third age, the study of the people of this age as a factor in modernization of the modern society, is very promising [14].

We believe that a person's position in the society as a whole, including the state, is the cornerstone of scientific understanding and explanation of social reality; that it is necessary to make analytical developments more "anthropologically" oriented. Political, economic and other expediency, which are pointed out as arguments supporting the viewpoint that the people's interests can be considered temporarily as being of secondary importance, as a rule, lead to proving the people's inferiority and marginality, which ultimately leads the society to another negative experience of reforms and further on – to new shocks.

Most of the forecasts (for example, the forecast by the Ministry of Economic Development) say that there will be the 1–2% growth of GDP in 2015–2016, which creates difficulties for the implementation of social policy and family policy – its most important component. The fact that people may have to "pull in their belts" in the current conflict of interests between different population groups can increase social tensions in the society. A series of reforms in healthcare, education, science and culture has not yet led to productive results. In addition, the statements that we have managed to overcome negative trends in the demographic sphere are probably premature.

Managerial practice is dominated by quantitative and technocratic approaches to the reorganization of the societal system. The ongoing adjustment of the priority development directions of science, technology and engineering in the Russian Federation and of the list of critical

technologies virtually ignores social sciences and the humanities. Unfortunately, non-economic factors including population quality, development of economic, social and demographic areas get little attention. Max Scheler in his article "Population problems as philosophical questions of *Weltanschauung*" (1921) argues that, in addition to reproduction capability (which was severely undermined in the post-war Germany due to the large-scale distribution of prostitution, STDs, impotence, etc.), there is also the will to procreation, which is determined by the worldview of an individual. The analysis of the obtained sociological data leads to the conclusion that the desire to have the definite number of children depends much more on the need for children than on the perception of the quality of life, i.e., the and the worldview and the will to procreation remain dominant [3].

None of the issues concerning the improvement of population quality has been solved completely. The planned further commercialization of the social sphere leads to the degradation of human potential that is the major factor in systemic modernization of the society. The split of the society moves into the socio-cultural dimension.

It would probably be most effective to respond to these and other social risks and threats by implementing the participatory approach (the formation of the "participatory society") and integrating it in the public administration and local government to improve the quality of life and the quality of the population itself [9]. On the one hand, under the market economy it is wrong to pin all hopes on state authorities; on the other hand, the issues concerning the improvement of the quality of life of the population, and poverty alleviation, in particular, cannot be solved only at the expense of the citizens. The transition from the extensive (paternalistic, patronage) to the intensive social policy that aims not only to support the needy, but also to maintain and build the ability of an individual to learn continuously, to use new social practices, and to discover and implement one's potential will promote the successful development of the social state, and consolidation and cooperation between the authorities, business and population. In demographic policy this transition means its redirection from the quantity to the quality of the population, to the accumulation and rational use of human potential; the adjustment of migration policy taking into account strategic interests of the indigenous peoples of Russia; the restoration of traditional values of the Russians concerning family life and desire to have many children.

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Social aspects of modernization in Russia's regions*

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Abstract. Modernization is a long process that is going on unevenly in the world and in every country, and especially in Russia taking into account its vast territory and national diversity. Moreover, very acute issues that our country has to face include its lagging behind developed countries by 2–4 times in terms of the standard of living, and profound interregional differences. Each subject of the Russian Federation has its own degree of socio-economic development and, consequently, its own level of modernization. This article aims to outline some important social aspects of territories' development on the background of modernization change. The authors try to show the specifics of change in the trends in health, education, and financial situation on the basis of a comprehensive analysis of statistical and sociological data. The authors conclude that modernization in Russia's regions should be considered not only as an achievement of the highest international standard in economic and technological fields, but also as an updating of the society in the socio-cultural and spiritual perspective.

Key words: modernization, quality of life, population health, mortality, inequality.

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Development of Russia's regions and their involvement in modernization processes is increasingly becoming one of the leading aspects of contemporary social cognition of the society. At that, scientists study not only the changes of socio-economic indicators, but also innovation, investment potential, quality of life, civic engagement, and specifics of socio-cultural modernization of the territory. Modernization is global in nature and it is a priority for those regions and countries that seek to accelerate economic development, because improvement, progressiveness and innovation are important driving forces of growth.

Experts identify three components of modernization process: industrial, information-cognitive and socio-cultural [4].

The industrial component involves industrial development as the new basis of the economy (where a large part of the country's GDP is produced); it forms the first stage of modernization as a comprehensive civilizational process. The informational-cognitive component represents the transition to information society based on knowledge (that is the main source of GDP growth), and forms the second stage of modernization, which is qualitatively new. The socio-cultural component is an integral part of each stage of modernization, aimed at personal development, which is facilitated by the functioning of social institutions and structures.

Promoting the country's international competitiveness and improving the quality of life are the main criteria that ensure modernization success in the country. Naturally, these tasks are interrelated and implemented currently with the help of effective socio-economic administration, and innovation development in all spheres of society.

Russia faces especially acute issues such as the 2–4-fold gap in the standard of living compared to developed countries, and also profound interregional differences. Each region has its own degree of socio-economic development and, accordingly, its own degree of modernization.

The comparison of Russia's regions by the degree of their modernization is important and meaningful. Such research is carried out according to the methodology developed at the China Center for Modernization Research (He Chuanqi [9]) and adapted to the Russian regional statistics (Center for the Study of Social and Cultural Change at the Institute of Philosophy, the Russian Academy of Sciences, N.I. Lapin).

Modernization can be primary and secondary according to the theory of division of global modernization. Primary modernization is associated with the industrial era of civilizational process, and secondary modernization – with the information era, or the era of knowledge. Integrated modernization represents the coordinated development of primary and secondary modernization.

A scoring model has been designed for each stage of modernization; the model includes a specific set of indicators and their standard values. Evaluation results are final indices and values of each stage of modernization. We have assessed the indices using the specialized information-analytical system "Modernization" developed at ISEDT RAS (http://mod.vscc.ac.ru/).

Russia's regions can be arranged into three groups according to the index level of secondary modernization (SM) *(tab. 1)*. The highest level of modernization is observed in the largest cities – Moscow and Saint Petersburg, in several regions of Siberia with developed mining and manufacturing industries, and in the regions that have major cities or are adjacent to them. The lowest level of modernization is typical of mainly agricultural regions and territories belonging to the Southern and North-Caucasian federal districts.

The period under review is characterized by positive dynamics of the secondary modernization index: for example, its level was low in 45 regions in 2000, and in 2012 it was low in only two regions – the Republic of Ingushetia and the Chechen Republic. More and more areas (92% in 2012) are shifting to the median level of secondary modernization; the group with the high level of development has increased over the 12 years from one region to three. It should be noted that the process of regional modernization in the country is uneven, and we can observe the apparent asynchrony in the development of geographically close areas. A telling example is Saint Petersburg that has outstripped the Leningrad Oblast by 31 percentage points according to the SM index, and Moscow that is ahead of the Moscow Oblast (by 26 percentage points).

Among the four groups of the SM index the situation is less favorable concerning the sub-index of economy quality and knowledge innovation (the average sub-indices for the Russian Federation are 52%, *tab. 2*). The sub-indices of the quality of life and knowledge dissemination lack 7–9 percentage points to reach the level of developed countries.

In the framework of the objectives set out in the article, let us examine in more detail the sub-index of the quality of life, the value of which has increased by 9 percentage points for 2000–2012. Analyzing its composition, we note that the calculation of the level of modernization takes into account socio-demographic characteristics. The indicator "life expectancy" (LE) has the lowest value, it is 70.2 years on average for Russia, which is 10 years lower than that in developed countries. The increase in the average life expectancy observed in the country since 2003 has raised the bar for more than 5 years. We think that it is connected to a great extent with the successful implementation of the national project "Health" and the "Concept for demographic development...". The total funding of healthcare has increased almost six times for more than ten years. Considerable investments in this area have produced important results: Russia managed to increase life expectancy and birth rate, and to reduce mortality and infant mortality.

Life expectancy is a complex indicator that characterizes the health status and quality of life of the population. Mortality in early age and mortality in working-age population is crucial in the calculation of LE. The most common causes of death are cardiovascular diseases (53.5% of all deaths in 2013), the state of affairs in this respect in the Russian Federation can be considered as catastrophic; neoplasms (15.6%) and external causes (9.9%).

The WHO points out that according to the level of premature (i.e. before the age of 64 years) mortality from the circulatory system pathologies (206.9 cases per 100 thousand population) Russia is among

Table 1. Dynamics of the constituent entities of the Russian Federation according to the level of the secondary modernization index, 2000–2012

Level (SM index)	RF constituent entities	
	2000	2012
Low (31–51)	Republic of Adygea, Republic of Bashkortostan Republic of Buryatia, Altai Republic, Republic of Dagestan, Republic of Ingushetia, Kabardino-Balkar Republic, Republic of Kalmykia, Karachay-Cherkess Republic, Republic of Karelia, Republic of Mordovia, Republic of Tuva, Udmurt Republic, Republic of Khakassia, Chechen Republic, Chuvash Republic, Altai Krai, Krasnodar Krai, Stavropol Krai, Khabarovsk Krai, Amur Oblast, Arkhangelsk Oblast, Astrakhan Oblast, Belgorod Oblast, Bryansk Oblast, Volgograd Oblast, Vologda Oblast, Ivanovo Oblast, Kemerovo Oblast, Kirov Oblast, Kostroma Oblast, Kurgan Oblast, Kursk Oblast, Lipetsk Oblast, Novgorod Oblast, Orenburg Oblast, Orel Oblast, Pskov Oblast, Ryazan Oblast, Sakhalin Oblast, Smolensk Oblast, Tambov Oblast, Zabaykalsky Krai, Jewish Autonomous Oblast, Chukotka Autonomous Okrug, **Southern Federal District, North-Caucasian Federal District, Far-Eastern Federal District**	Republic of Ingushetia, Chechen Republic
Median (52–80)	Komi Republic, Mari El Republic, Republic of Sakha (Yakutia), Republic of North Ossetia-Alania, Republic of Tatarstan, Krasnoyarsk Krai, Primorsky Krai, Vladimir Oblast, Voronezh Oblast, Irkutsk Oblast, Kaliningrad Oblast, Kaluga Oblast, Kamchatka Krai, Leningrad Oblast, Magadan Oblast, Moscow Oblast, Murmansk Oblast, Nizhny Novgorod Oblast, Novosibirsk Oblast, Omsk Oblast, Penza Oblast, Perm Krai, Rostov Oblast, Samara Oblast, Saratov Oblast, Sverdlovsk Oblast, Tver Oblast, Tomsk Oblast, Tula Oblast, Tyumen Oblast, Ulyanovsk Oblast, Chelyabinsk Oblast, Yaroslavl Oblast, Saint Petersburg, Nenets Autonomous Okrug, Khanty-Mansi Autonomous Okrug – Yugra, Yamalo-Nenets Autonomous Okrug, **Central Federal District, Northwestern Federal District, Volga Federal District, Siberian Federal District, Urals Federal District, Russia**	Republic of Adygea, Republic of Bashkortostan Republic of Buryatia, Altai Republic, Republic of Dagestan, Kabardino-Balkar Republic, Republic of Kalmykia, Karachay-Cherkess Republic, Republic of Karelia, Komi Republic, Mari El Republic, Republic of Mordovia, Republic of Sakha (Yakutia), Republic of North Ossetia-Alania, Republic of Tatarstan, Republic of Tuva, Udmurt Republic, Republic of Khakassia, Chuvash Republic, Altai Krai, Krasnodar Krai, Krasnoyarsk Krai, Primorsky Krai, Stavropol Krai, Khabarovsk Krai, Amur Oblast, Arkhangelsk Oblast, Astrakhan Oblast, Belgorod Oblast, Bryansk Oblast, Vladimir Oblast, Volgograd Oblast, Vologda Oblast, Voronezh Oblast, Ivanovo Oblast, Irkutsk Oblast, Kaliningrad Oblast, Kaluga Oblast, Kamchatka Krai, Kemerovo Oblast, Kirov Oblast, Kostroma Oblast, Kurgan Oblast, Kursk Oblast, Leningrad Oblast, Lipetsk Oblast, Magadan Oblast, Murmansk Oblast, Novgorod Oblast, Novosibirsk Oblast, Omsk Oblast, Orenburg Oblast, Orel Oblast, Penza Oblast, Perm Krai, Pskov Oblast, Rostov Oblast, Ryazan Oblast, Samara Oblast, Saratov Oblast, Sakhalin Oblast, Sverdlovsk Oblast, Smolensk Oblast, Tambov Oblast, Tver Oblast, Tomsk Oblast, Tula Oblast, Tyumen Oblast, Ulyanovsk Oblast, Chelyabinsk Oblast, Zabaykalsky Krai, Yaroslavl Oblast, Jewish Autonomous Oblast, Nenets Autonomous Okrug, Khanty-Mansi Autonomous Okrug – Yugra, Chukotka Autonomous Okrug, Yamalo-Nenets Autonomous Okrug, **Southern Federal District, North-Caucasian Federal District, Volga Federal District, Siberian Federal District, Urals Federal District, Far-Eastern Federal District, Russia**
High (81–120)	Moscow	Moscow Oblast, Moscow, Saint Petersburg, **Central Federal District**

Sources: the table was compiled with the use of the Information-analytical system for monitoring the parameters of modernization of Russia's regions (IS "Modernization", patent No. 2012661285, 2012), in accordance with the methodological developments of the Center for the Study of Social and Cultural Change at the Institute of Philosophy, the Russian Academy of Sciences.

Table 2. Dynamics of the secondary modernization index (sub-indices) in the Russian Federation, 2000–2012

Indicator	2000			2012		
	Value	Standard	Index	Value	Standard	Index
Gross domestic product (GDP) per capita, U.S.dollars	1660	27680	6	11204.8	38811.2	28.905
GDP per capita at purchasing power parity (PPP), U.S.dollars	8010	27770	28.8	19048.2	37322	51.0
Share of value added of financial sector in GDP, %	38	32	84.2	43.8	25.5	58.2
Share of those employed in financial sector in total employment, %	38	30	78.9	37.5	25.9	69.1
Sub-index of the quality of economy	49.5			51.8		
Share of expenditures on R&D in GDP, %	1.1	2.3	47.8	1	2.4	41. 7
Number of scientists and engineers per 10 thousand people	34	33.4	101.8	30	39.8	75.4
Number of residents who filed patent applications, per 1 million people	138	790	17.5	294	745	39.5
Knowledge innovation sub-index	55.7			52.2		
Share of urban population in the total population, %	73	79	92,4	74	80	92,5
Number of doctors per 1000 people	4.2	2.9	120	4,9	2,8	120
Infant mortality (aged under 12 months) per 1,000 live births	15	6	40	8,6	5,1	59,3
Life expectancy, years	65	78	83.3	70.2	80	88
Energy efficiency: GDP per capita / cost of energy consumption per capita, times	4121	5448	75.6	4943	4999.2	98.9
Sub-index of the quality of life	82.3			91.7		
Proportion of students attending higher education establishments among the population aged 18–22, %	41	60	68.3	76	72.1	104
Proportion of students attending secondary vocational education establishments among the population aged 12–17, %	95	100	95	88.6	100	84
Number of TV-sets per 100 households	124	189	65.6	174	160	108.7
Number of personal computers per 100 households	6	85	7.1	86	117	73.5
Knowledge dissemination sub-index	59.0			92.6		
Secondary modernization index	61.6			72.4		

Note. SM index is the arithmetic average of SM sub-indices. Index values are rounded to 120 (according to the methodology).
Sources: the table was compiled with the use of the Information-analytical system for monitoring the parameters of modernization of Russia's regions (IS "Modernization", patent No. 2012661285, 2012), in accordance with the methodological developments of the Center for the Study of Social and Cultural Change at the Institute of Philosophy, the Russian Academy of Sciences.

the most disadvantaged countries along with Kazakhstan (208.8), Belarus (191.3) and Ukraine (176.8). The lowest values of mortality from cardiovascular diseases are observed in developed countries: Finland – 44.5, Germany – 35.7, the UK – 35.6, the Netherlands – 26; this is 4–8 times less than in Russia [11].

Infant mortality is another important indicator involved in the calculation of the SM index; despite the fact that infant mortality has reduced almost twice in recent years, its level is still significantly higher than in developed countries (in 1.7 times). The Russian Federation ranks 160th, next to Chile and Kuwait in the list of 224 countries by this indicator in 2014 (7.08 deaths in those aged under 12 months per one thousand live births). Positive trends in the health of children aged under 12 months began after 2006 as a result of implementation of the priority national project "Health".

However, the achieved results are still worse than those achieved in 1990: for instance, 34% of children in 2012 (2 times more than in 1990) were born ill or fell ill in the first week of their life. According to the research [2] carried out in different regions of Russia, children's health is complex in nature and includes many factors (social environment, maternal health, nutrition, housing conditions and so on) that can be changed and require immediate intervention on the part of the society and the state.

Their effectiveness largely determines the health and lives of the younger generation, and, consequently, the future of Russia. In addition, children's health is especially important if we take into account significant population decline.

Demographic trends in the European region (depopulation, population ageing, the increase of dependency ratio) and in Russia are somewhat similar, but in our country the situation is complicated by the lag in economic and social development. We emphasize that contemporary modernization is possible only when people recognize the importance of demographic issues and the necessity to preserve human capital (number of population and its health, education, the ratio of age and employment categories).

The advance of modernization under these conditions is a rather difficult task; its implementation requires labor resources, which in Russia, according to forecasts, will be limited over the next 20 years (and, most likely, afterwards). Therefore, the country needs a science-intensive high-tech development model, the necessary condition for which is the high level of human capital, education and sociocultural development.

The vectors of innovation development of the world economy reduce to the fact that the highly qualified and educated personnel is playing an increasingly significant role. Russia should have a smoothly functioning model of social mobility; and education is one of its important mechanisms. Due to the presence of state-funded places in higher education institutions, gifted children can obtain good education; but then, in practice, those who have "connections" or money get a privileged position and a prestigious job. With the establishment of fee-based higher education those young people that have a low level of knowledge are not flunked out, and the means of social mobility have become chargeable; consequently, almost

Table 3. Intensity of social mobility in the NWFD population depending on financial situation (for the last 5 years; in % of the number of respondents)

Mobility indicator	Population groups		
	The prosperous and the rich	The well-off	The poor and the extremely poor
General mobility coefficient	46.7	35.4	36.9
Upward mobility indicator	43.8	26.0	16.2
Downward mobility indicator	2.9	9.4	56.1
Exchange mobility indicator	5.7	-5.6	76.8
Source: Data of the sociological survey carried out by ISEDT RAS in 2013 in the NWFD regions.			

anyone can pay money and enroll in a university and, as a result, the effectiveness of this social channel has decreased significantly.

This is evidenced by the data of sociological studies conducted in 2013 in the NWFD regions[1]. The intensity of the mobility of the rich and the prosperous is much higher than in other population groups *(tab. 3)*. The intensive upward social mobility takes place mainly in the group of the most well-off (44%). The upward social mobility coefficient is the lowest in the group of the poor and the extremely poor (16%). The coefficients of downward social mobility have the opposite trend – the higher the income of the population, the lower the rate of downward mobility [7].

Downward mobility in the group of the poor is 56%. The exchange mobility indicator demonstrates the degree of openness of the group – the indicator is lower if the group is more closed and the access to this group is difficult [1].

This indicator in the groups of the most well-off is minimal, which indicates the difficulty of access to these groups. The high exchange mobility of the group of the poor (77%) indicates its openness. The research results show that the population with low incomes and a low social status has virtually no opportunities to raise their social status, because even the level of education does not promote the means of social mobility, given the fact that its role is performed by "connections" and money.

The analysis carried out in the study reveals the relationship between social mobility and the level of modernization in the territories. Social mobility is higher in those regions where the level of modernization is higher, which, in our opinion, can accelerate the process of modernization. In turn, there also exists the opposite effect.

The comparison of the data on the level of modernization and the level of socio-economic inequality allow us to argue that

[1] The sampling population is 5,000 people in ten regions of the Northwestern Federal District (the Arkhangelsk, Vologda, Kaliningrad, Leningrad, Murmansk, Novgorod and Pskov oblasts, the republics of Karelia and Komi, Saint Petersburg). The sample size for each region is not less than 400 respondents, which makes it possible with a high degree of confidence (sampling error is no more than 5% with a probability of 95%) to assess the situation in a particular region and to carry out cross-regional comparison. The representativeness of the sample is provided by the compliance with the proportion between urban and rural population; the proportion between communities of different types (rural settlements, small and medium-sized towns and cities), sex and age structure of the adult population of the region.

at present Russia is characterized by the upward trend in the development of both of these processes. Following the Kuznets law [10] and analyzing the dynamics of the observed trends, we can conclude that the regions of the Russian Federation are moving along the path that brings them to the point A *(fig. 1)*.

The Kuznets curve has been a subject of many arguments on the part of the scientific community, which attempted to verify or refute it. Although S. Kuznets described the processes of "capitalist modernization", this law is implemented at present as well, in the era of neo-industrialization. This is proved by the comparison of data on the indices of modernization degree in the territories and on the extent of socio-economic inequality *(fig. 2)*. The regions that have a high level of modernization also have higher R/P 10% ratio (the ratio of the average income of the richest 10% to the

Figure 1. Kuznets curve

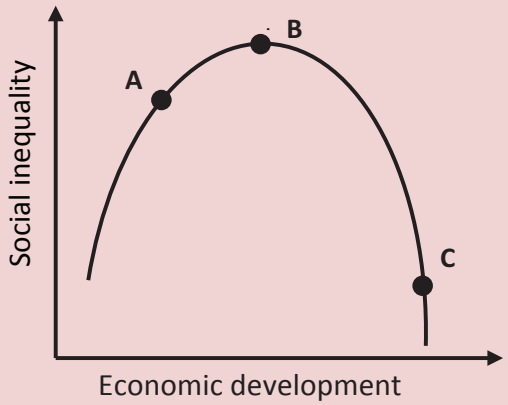
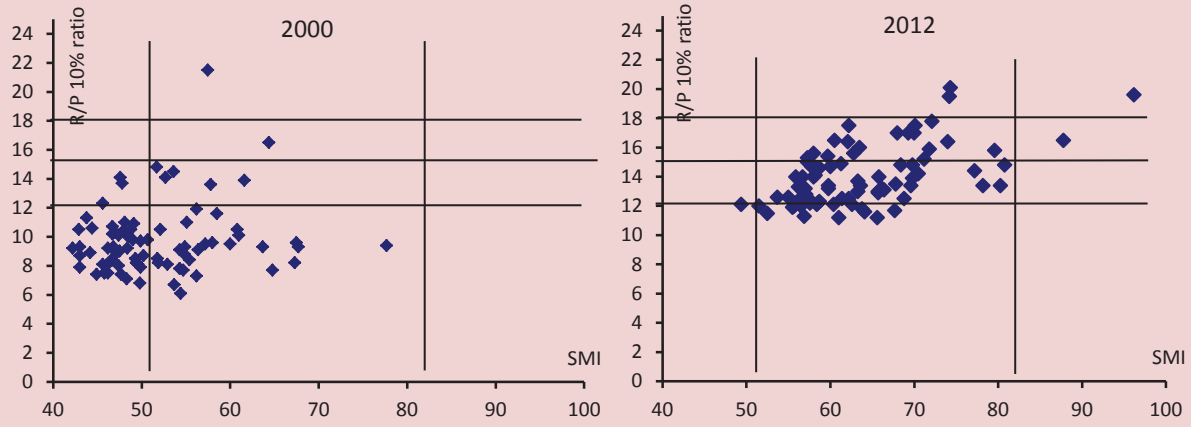


Figure 2. Dynamics of the secondary modernization index (SMI) and R/P 10% ratio in the regions of the Russian Federation for 2000–2012



poorest 10%) characterizing the income inequality of the population. For the analyzed period there has been a thickening of the dispersion area of territories, so the zone has become more concentrated.

The RF constituent entities such as Krasnodar Krai, the Republic of Buryatia, the Sverdlovsk Oblast, Krasnoyarsk Krai, the Komi Republic, the Irkutsk Oblast, and the Republic of Bashkortostan are characterized by the most pronounced mismatch between the level of modernization and the degree of inequality.

In these regions the increase in welfare and, accordingly, the increase in the degree of inequality is going on more actively than in other regions. The opposite trends such as the gap between the growth of people's welfare and the activity of modernization processes is most pronounced in the Tula, Tomsk, Murmansk, Nizhny Novgorod and Magadan oblasts.

The highest indicators of the level of modernization and population differentiation are typical of the central regions that have a developed financial sector, and of the territories with efficient mining industry (Moscow and Saint Petersburg, the Moscow, Leningrad, Tyumen, Sverdlovsk and some other oblasts). The groups with the high level of modernization and the low or median level of socio-economic inequality are not numerous (five regions) [6].

According to the Kuznets law, the increase in social inequality in the RF regions along with the further growth of socio-economic development should be followed by a decrease (the curve after point B; see fig. 1). In 1997, when forecasting the dynamics of the differentiation coefficient, A.E. Faerman and A.M. Terent'ev [8] concluded that the ratio would be 9.89 in 2000, 10.94 in 2010, 11.67 in 2015, and 12.03 in 2020. The trend of increasing the level of inequality stated in the forecast is correct; however, it happened faster than expected: in 2012 the ratio of differentiation was already 16.4. The forecast estimates of the time of occurrence of the reduction in inequality provide a basis for double conclusions.

On the one hand, at the current rate of inequality growth, such a transition is to occur by 2030–2035, but taking into account the financial crises which affect the economy, there can be a substantial progress.

On the other hand, when making forecast estimates, it is necessary to take into account that it will not occur spontaneously. Both the state and the civil society must make maximum efforts to reduce (eliminate completely) the corrupt business strategies.

Positive shifts are possible if the growth of labor incomes is based on the increase of economic activity of the population, as well as modernization and productivity increase in the most labor-intensive industries (that are less profitable, as a consequence).

The implementation of these steps, as well as the movement toward modernization, requires political will and efficient public administration. The government (national, regional, municipal) that admits the necessity to carry out modernization should carry out a forward-looking policy and implement institutional reforms aimed not only to develop innovations and a new technological structure, but also to improve the quality of life and the standard of living, and to reduce disparities that will allow

people to implement their potential to the fullest extent.

However, it is necessary to emphasize that this is a very difficult task, taking into account that the unity of Russian society is weakened almost to the point of antagonism in the relationship between the authorities and the society, and alienation of social layers from each other, which contact neither on the social level, nor on the level of everyday interaction [5].

At the same time, social solidarity is the main force that unites the society and that is able to create a new quality of social environment.

Therefore, modernization in Russia's regions should be considered not only as an achievement of the highest international standard in economic and technological fields, but also as an upgrading of the society in the socio-cultural and spiritual perspective.

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About the "learning organizations" and corporate education in the context of innovation*

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Abstract. The current state-financed system of continuing professional education is often unable to catch up with the real needs of production and labor market in advanced training and professional retraining of staff. Corporate (internal) education is being developed as an alternative. It competes successfully with state educational systems, since it has a specific purpose – to train an employee for productive work specifically in his/her organization and for its benefit. Companies that are developing internal continuing education become "learning organizations" and gain obvious competitive advantages.

Key words: corporate education, corporate internal staff training centers, learning organizations, sectoral R&D projects.

Introduction

Corporate universities appeared in the late 1980s in connection with the globalization of the labor market and integration of national economic spaces[1]. Currently, there are about 1200 corporate universities in the world. The acknowledged leaders are Toyota University, ORACLE, MacDonald's University, General Electric, and Disney University. Science-intensive companies such as Google, Rolls-Royce, BMW, IBM, Sony, and Daimler-Benz

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[1] Gutowski J. *Corporate Education*. PublishAmerica, 2010. 542 p.; Chumakov A.N. *Globalizatsiya: kontury tselostnogo mira* [Globalization: the Contours of the Holistic World]. Moscow: Prospekt, 2005.

spend much effort in the training of their employees. We can see the scope of this activity on the example of Motorola, whose corporate university employs over 1,000 full-time teachers who conduct classes in 24 languages, and in 49 countries. It is noteworthy that only 10% of the total number of the full-time teachers previously worked in conventional universities.

Corporate education at the international level is getting out of state control and it becomes one of the main factors in labor migration. As a rule, education authorities within the state have to carry out a specific political and ideological policy; but at the international level they have much more freedom "to maneuver" and work for the benefit of their own internal interest.

It seems that it was not so long ago that the advocates of the famous Fordist model considered that it is unprofitable to train specialists and it is more profitable to hire new workforce. But with the growth of intellectual capacity of labor, the introduction of advanced science-intensive technology, and most importantly, due to the deepening specialization of professions and increase in the knowledge that an employee requires, internal staff training is becoming widespread. Training of employees becomes a profitable investment.

For instance, a large-scale study in several U.S. companies showed that the 10% increase in spending on staff training results in the 8.5% increase in labor productivity, while the same increase in investment enhances labor productivity only by 3.8%[2].

The scale of corporate education is impressive. Staff training becomes an industry, in which an increasingly important role belongs not to the government, but to employers, and which brings considerable profits. For example, the U.S. annually spends 70 billion dollars on staff training. We consider that it is not yet possible to assess the market of corporate education in Russia. Apparently, it several times exceeds the current public expenditures on the system of continuing professional education.

Corporate university (CU) is usually a separate structure (division) of a company; it organizes training and advanced training of its full-time employees according to special education plans. In fact, corporate university is a system of internal training, which is completely different from that of classical university. As a rule it has no deans, departments, and student's record books. There is no bell that announces the beginning and the end of the lesson. There are no honorary doctors and scientific degrees, which are inevitable attributes of a classical educational institution.

Experts name two main features defining the specifics of corporate training. The first consists in the fact that this form of education is always focused on the specific target group – the company's employees or employees of the industry for whom the training is completely free of charge and is, as they say, "off-the-job". This system of education is closed to outsiders.

The second essential criterion of the internal education system is the presence of a *common strategy of continuous development*, which involves continuous education – targeted and directed regular (periodic) training (retraining and advanced training of the staff of this company. At that the company gradually turns into a

[2] Gutowski J. *Ibidem*. Pp. 5-25.

"learning organization" where everyone is learning in certain periods of his/her career[3].

There also exists a more specific understanding of corporate education as a system of training of young specialists at universities at the senior level with the use of specially developed training programs, tailored to the company's specifics and its corporate culture. In this case a special training program for senior students (specialists and masters) at specialized (sectoral) universities is developed in those regions where the enterprises of the client company are located. Graduation papers are executed, as a rule, under the supervision of experienced employees of enterprises. Graduates are employed by the customer company on the basis of the results of final "corporate" exams, and the recommendations of the company's representative are also taken into account in this respect.

Thus, we can take the following definition of corporate education as a basis: a system of internal training, united by a single concept in the framework of the company's development strategy, and designed for all levels of managers and specialists[4]. In fact, we are talking about a real system of continuing professional education that acts in the form of a *learning organization*.

Corporate education in Russia

It is believed that inconsistency between the existing professional training institutions and the real needs and specifics of the labor market is a reason for the development of corporate education in Russia[5]. It is large enterprises themselves which, for obvious reasons, are developing this niche, since they know better what employees they need. We agree with the opinion of one of the interviewed experts that traditional universities and the almost entire system of higher and secondary professional education with its traditional programs, state standards, and curricula approved for several years ahead, lag behind the "corporate engine of knowledge" that is rushing forward.

At the same time, despite the criticism of modern high school, many experts point out that it is necessary to use the resources of traditional universities. For instance, the representatives of corporate universities and companies' training centers confirm that they are ready to work personally with individual teachers who meet the requirements of the corporations. This means that college professors will be able to develop and offer their own courses that take into consideration the specifics of the customer's needs; they will be able to update their knowledge continuously, demonstrate skills of dealing with modern technical means of education (including

[3] Rademakers M. *Corporate Universities: Drivers of the Learning Organization.* Routledge, 2014. 170 p.

[4] *Korporativnye universitety v rossiiskoi i zarubezhnoi praktike* [Corporate Universities in the Russian and Foreign Practice]. Moscow: Assotsiatsiya menedzherov Rossii, 2002. P. 8.

[5] To prepare this article the author used the data of expert surveys conducted by FSUE Center for Sociological Research under the Ministry of Education and Science of the Russian Federation in 2012 (supervisor – F.E. Sheregi). The study involved a number of leading Russian companies, corporations and joint stock companies, including Rosatom, Rostec, RusHydro, UES, Rosneft, Gazprom, Russian Railways, AVTOVAZ, JSC "Academician M.F. Reshetnev Information Satellite Systems", Khrunichev State Research and Production Space Center, ALROSA, JSC Vega Radio Engineering Corporation, JSC "Concern "Sozvezdie", Concern "Gidropribor", Shipbuilding & Shiprepair Technology Center, Roskhimzashchita Corporation, Concern "Okeanpribor" and Concern "Morinformsystem-Agat", Research and Production Corporation "Uralvagonzavod".

distance learning); and, most important, they will be "market-oriented" in every sense.

Another reason for intensive development of corporate education in Russia consists in the fact that top managers of large companies are interested in acquiring non-core assets, including those related to education. For many companies the possibility of extensive growth characteristic of the 1990s – early 2000s, has exhausted itself. Therefore, to maintain competitive positions, it is necessary to make qualitative changes primarily within the organization itself, including the active production and accumulation of human capital. In this context the principles of working with staff are changing, a new strategy of professional retraining and advanced training of employees is introduced.

Another prerequisite for the development of corporate education is connected with a sustainable trend toward the merging of companies and establishment of large holdings. When one company buys another, there always arises the problem of combining different management systems, "compatibility" of corporate structures and values. This problem is handled by developing special education programs which ensure unification of business technology and dissemination of business values.

When financial groups decide to invest, they look not only on business profitability, but also on how safe it is to invest their money in this business. The agencies that make investment ratings usually point out two main factors: financial transparency and managerial transparency. The latter is determined by the presence of the managers training system within the company, by the presence of unified and modern standards in people management and in the actions of managers in various positions.

One of the key elements in the activities of the corporate university lies in the selection of its target audience. This determines the scope and specifics of educational and training programs. Russian experts have different opinions concerning who and what we should teach in the corporate university. Despite the variety of corporate education models in the surveyed companies, they have a common target group – the employees of these companies, regardless of their position.

The ratio of the volume of educational services for various levels of positions is different in different companies. Some companies provide mostly educational services for technical staff, and others have programs for middle managers; in some companies the formation and development of personnel management reserve plays an important role. At that, the employees have virtually no alternative choice in education: some of them need business education, others need advanced training, technical training or innovation-oriented training.

As for additional courses on adaptation of newcomers who got the job right after they graduated from a "conventional" educational institution, the situation is quite similar everywhere. Special attention is paid to the training of personnel reserve directly in higher educational institutions. It concerns mainly technical and engineering specialties. An example of such interaction can be found in the internal training system at the Moscow City Telephone Network (MGTS), which finances the basic inter-university department at the Moscow Technical University of Communications and Informatics (MTUCI).

Annually after the completion of the third year of education a group of 30 people is selected, and, on the basis of the additional agreement, they study all the telecommunication systems of MGTS. Specialists of the Moscow Telecommunication Network give special courses of lectures describing what is being done in practice. In addition, MGTS concludes agreements on the training of specialists on a commercial basis. If they are children of the company's staff, MGTS pays for their training, and after graduation they are employed by the company.

Thus, the main directions of modern corporate educational process should be considered the following: *first*, the training of the company's managerial staff at all levels and the training of personnel reserve; *second*, the training of young specialists; *third,* the advanced training of personnel who are directly involved in production. Corporate universities as a system of internal training have occupied a niche of applied engineering education that has almost dropped out of the modern system of public education.

Professional training is carried out at all educational levels – primary, secondary, higher and postgraduate. For instance, an average of 8.0% of the surveyed enterprises and companies have their own (corporate) advanced training courses for workers who graduated from vocational schools or lyceums (elementary vocational education); 8.5% – for specialists who graduated from technical school (secondary vocational education); 8.5% – for specialists with a university degree (higher professional education); 22.3% – for workers with complete or incomplete general education[6].

[6] Data of FSUE Center for Sociological Research under the Ministry of Education and Science of the Russian Federation (2011). Supervisor – F.E. Sheregi.

Saint Petersburg, Central Russia, the Volga, Volga-Vyatka, Urals and Eastern Siberia regions, heavy industry enterprises, and financial institutions have especially large share of enterprises that have corporate educational institutions for retraining and advanced training of specialists and skilled workers.

Among those enterprises and institutions that do not have their own full cycle of professional training of specialists and skilled workers 1.8% are going to establish courses for personnel who graduated from elementary vocational education institutions; 0.6% – for the graduates from secondary vocational education institutions, 0.9% – for specialists with a university degree. The share of those enterprises that are going to establish advanced training courses is significantly greater – 14.2%.

The companies that have their own base of complete cycle of professional education satisfy their own demands in skilled personnel: in those who graduated from elementary vocational education institutions – by 55.9% on average; in the graduates from secondary vocational education institutions – by 68.9%; in those who have a university degree – by 71.2% on average. These figures in almost all the industries are especially big in Moscow, Saint Petersburg, the Volga, North Caucasus, the Urals and Far East regions *(tab. 1 and 2)*.

The issue of corporate education efficiency is the most important one. For the enterprise which organizes training for its employees such criterion consists in the growth of profit, increase of competition and growth of capitalization in the stock market. No less important is the growth of

Table 1. To what extent does the corporate base of professional education satisfy the demands of an enterprise (company) for personnel training (by region), %

Level of training of specialists and skilled workers	Moscow	Saint Petersburg	Volga	North Caucasus	Ural	Far Eastern
Vocational school, lyceum (elementary vocational education)	90.0	48.3	31.8	70.0	56.7	40.5
Technical school (secondary vocational education)	90.0	57.5	52.5	78.0	59.1	50.5
University (higher professional education)	87.5	55.6	61.7	68.0	76.3	0.0

Table 2. To what extent does the corporate base of professional education satisfy the demands of an enterprise (company) for personnel training (by branches), %

Level of training of specialists and skilled workers	Branch				
	Consumer goods industry	Heavy industry	Services sector	Construction	State-financed institutions
Vocational school, lyceum (elementary vocational education)	70.0	40.5	63.3	73.0	46.3
Technical school (secondary vocational education)	70.0	62.7	70.8	78.2	63.3
University (higher professional education)	60.0	80.8	67.4	67.5	76.7

social payments and benefits for employees, which, again, are directly related to the general economic performance indicators. As a rule, for the employees who are to attend training courses the primary indicator of effectiveness is career growth and increase in wages. Motivation to study is usually connected with the achievement of these indicators. However, motivation can vary greatly, depending on the learner's status. For example, the study of internal education at the Russian subsidiaries of a large international company has revealed significant differences in the groups of high and middle managers *(tab. 3)*.

Modern departmental and corporate education in Russia is distinguished by the fact that it is difficult to assess its effectiveness objectively. In international practice, when choosing the educational program, the consumer focuses on the rating of an education provider and, as a consequence, on the expected increase in salaries and career growth. For instance, according to our calculations based on the data provided by RLMS-HSE, the wages of employees in Russia usually grow by 10–20% faster during the first two years after obtaining continuing professional education than the wages of those who did not attend any training courses. That is why authoritative world rankings are based primarily on the growth rate of salary after obtaining a degree. It is difficult to create such a rating in Russia.

Table 3. Motivation of participants of corporate training at Japan Tobacco Int. (Russian branches), %

Motives/position	Decision of the chief executive	Desire to discuss problems with colleagues	Desire to improve one's own competence	Desire to change one's environment
Chief executives	0.0	42.9	57.1	0.0
Middle managers	35.5	5.0	40.0	20.0
% of the total number of those who participate in continuing professional education	29.8	10.6	42.6	17.0

The real remuneration of employees, including a significant share of "grey" salary is almost impossible to determine; as a consequence, the effectiveness of education can be estimated only indirectly. On the other hand, direct investments of business in education make it possible to divert attention from the level of "opaque" wages and to establish control over the ratio of investments to the profits of enterprises. If this ratio has a positive trend and it suits the business structure, it is a reliable enough argument in favor of the high rating of an educational program.

There exist different opinions concerning the criterion such as the transition of a corporate university to self-sufficiency and profitability. Most experts believe that the transition to self-sufficiency and self-financing will ultimately have an adverse affect on the quality of staff training, since the educational structure will solve its own tasks to ensure profitability.

In general, given the current stage of formation and development of corporate education in Russia, we can say that the understanding of its economic efficiency is rather vague. Managers generally agree that their staff needs training, but the size of investments can vary greatly. In fact, every business and company have their own ways to solve the problem of the ratio of outsourcing to education; in other words, the ratio of the number of those who should be trained to those who are more profitable to hire from outside.

Particular attention should be paid to the rate of personnel turnover. Almost all the experts do not consider the reduction in turnover to be a direct result of corporate education. This is due to the fact that the existence of the internal training system is connected not so much with the problems of personnel retention, as with the enhancement of their professional capacity for the purpose of the company's development. The experts highlight the existence of a certain relationship between personnel training and the rate of turnover. Moreover, this relationship has two aspects. According to one of them, personnel training can contribute to its turnover if a rival company shows interest in attracting such an employee to its own side. On the other hand, by enhancing the skills of an individual employee, the company invests in his/her human capital and contributes to his/her internal career growth.

Internal training process

We have already noted that corporate education largely depends on the ratio of the share of general knowledge to special knowledge in the content of the classes. Of course, we mean not the general education subjects, but the knowledge, skills and technology that are used at the enterprises of the industry (large company) or that are used only at a particular enterprise. It is clear that the value of a highly focused specialist for the company is higher than that of an employee with the mass specialty. For example, it requires not more than 20% of special knowledge on the company's activity to train top managers for the Volga Hydroelectric Station. However, if we mean the training of specialists involved in specific (sectoral) technology, then the volume of special knowledge reaches 80%. In these cases a corporate university can be transformed into an independent faculty or institute. No doubt, a manager is more mobile on an out-of-the-industry labor market, and a highly focused specialist will always be in demand within the company itself.

Russian Railways provides an interesting example that shows the relevance of highly specialized knowledge. The commissioning of new-generation locomotives equipped with modern digital control technology caused the necessity to retrain engineers, repairmen and locomotive drivers. As a rule, those who are to undergo training are sent to a railway school or to a base depot, which can be located several hundred kilometers from the principal place of employment. After graduating and obtaining new knowledge, a specialist does not always return to his/her former place of work, and is often transferred (with the provision of in-house living quarters or preferential mortgage) to other depot where he/she organizes the repair and maintenance of incoming locomotives. Thus, internal mobility is provided through training.

Advanced training and professional retraining of managers with regard to the specifics of the company is a particularly important area of activity of a corporate university. Requirements for management personnel in the current competitive environment are radically different from what they used to be. The understanding of the fact that managers' training within the company is very promising comes gradually. The development of this process is influenced by factors such as stable macroeconomic situation (allows for investing in education and research) and the integration of enterprises (creation of holdings), which causes the necessity to unify the management of the enterprises that are located in different regions of the country and that often represent different economic sectors. Training of managers is carried out on different levels – from line managers of the lower level (foremen, masters) to the personnel reserve for companies' top management. Advanced training of chief executives is usually in the hands of top managers themselves, since they are highly skilled specialists (several degrees, MBA, significant experience). They do not have to be taught in basic management skills, and their advanced training can be carried out informally, on the job. They get the necessary specific new knowledge and skills mostly while communicating with colleagues at conferences, exhibitions and presentations. At the same time, strict subordination and

hierarchy in most cases does not allow the staff of the training center, regardless of their standing in the company, to evaluate their chief executives and give them advice on advanced training.

At present, the efforts aimed at professional development of managers are undertaken in almost all training centers. The sector of the economy in which the company operates is not important for this type of educational activity, because the basic management principles are universal in all the areas. Besides, a similar situation (cross-sectoral work) mitigates issues such as competition and information protection, which are very important for modern economic actors.

Thus, the efficiency of investment in corporate education has three aspects.

First, it is the very economic efficiency, which consists in bonuses for employees and profits for the enterprise, namely, the excess of profits over expenditures. In economic terms it means that an investment is effective when the benefits acquired cover the costs – unrecovered costs, losses due to inflation, etc.

Second, we should bear in mind that financial investment results in the production and accumulation of intangible human capital, which in time is converted to the results expressed in money terms in the form of rising wages and profits. When these indicators are compared with one another, the efficiency of investments can be traced more clearly[7]. The difference from the first aspect lies in the fact that investments in human capital, made by corporations, have external effects that are gained not only by the employee and the company, but also by another enterprise and society in general.

The third aspect is instrumental. Continuing education is for other companies (potential employers) a *marker*, which by means of diplomas, certificates and records highlights individual capabilities of students and the prospects of their participation in the paid professional work. Obviously, such "sifting" and screening of potential employees demands the creation of quite a costly system of schools, courses and training centers. However, this does concern those groups of workers who apply for jobs of little prestige like watchman, janitor, cleaner, usher, conductor, registering clerk, dispatcher on the home telephone, etc.

Corporate science and education

Of great importance is the issue concerning the relationship between corporate education and scientific research funded by the company and applied in the technological process (R&D). The company's educational and scientific departments usually have no organizational connections with each other on the initial stages of company development. The largest companies establish their own research centers because knowledge becomes an important competitive factor for them. As soon as the management realizes this fact, they start thinking about the people who are able to carry out the necessary research. The training of personnel capable of such activity becomes one of the priority areas of corporate education.

No doubt, the development of corporate science allows the company to remain highly competitive. The ideology and form

[7] Didenko D.V. Finansirovanie rossiiskogo obrazovaniya i nauki: rol' institutsional'nykh sektorov ekonomiki [Financing of Education and Science in Russia: the Role of Institutional Sectors of the Economy]. *Finansovyi zhurnal* [Journal of Finance], 2014, no. 1, pp. 111-122.

of departmental research sections are radically different from the former Soviet sectoral institutions. The main difference consists in the closed nature of the research carried out at corporate research centers regardless of R&D subject. The thing is that information and research findings become a competitive advantage for every company that wants to keep them secret from others. The entire development strategy of a company is founded on its resource base, and the latter is formed on the basis of scientific research (R&D). R&D sources and the associated costs are presented in *table 4*.

The amount of funds allocated to R&D is an important indicator of the company's competitiveness. For example, Gazprom and RAO UES of Russia invest over one billion US dollars in corporate science each year. This is considered the optimal level for the companies of this scale. The structure of scientific research funding in smaller companies is as follows *(tab. 5)*.

R&D is considered to be an innovation direction of company development. Their effectiveness is usually judged by two indicators. The first is the total cost of R&D per employee. The second is the share of revenue from R&D in the aggregate profit of the company. As a rule, these indicators are closed to outside experts; however, they can be estimated by indirect methods. Such methodologies are used by analytical agencies that can assess the likely prospect of new developments and technologies in the relevant market segment at the commission of competitors.

In this regard a new and principally important trend is emerging: the training of scientific personnel, traditionally considered a government prerogative (since the achievements of science are a source of national pride), is gradually shifting to corporations. Large companies are interested in the training of their own scientific staff if not "from scratch" (the leading universities do well in this respect), then starting from a certain level that requires specialization in the company's field-specific area. This can be a master's level or a more advanced one, if we talk about continuity in the government and corporate education. But most of this training takes place in a design office, laboratory, design or research institute financed by the corporation. It is connected with the development and implementation

Table 4. R&D funding sources of corporations, %

	Federal budget	Local budget	Russian grant	Foreign grant	Commercial contract (economic agreements)	Receipts from sponsors
Share of receipts	30.3	2.5	1.2	0.1	65.7	0,2

Osipov G.V., Strikhanov M.N., Sheregi F.E. *Vzaimodeistvie nauki i proizvodstva: sotsiologicheskii analiz* [Interaction between Science and Production: Sociological Analysis]. Moscow: Institut sotsial'no-politicheskikh issledovanii, 2014. Part 1, Pp. 141-143.

Table 5. Funding of scientific research in corporations, %

	Payroll	R&D funding	Corporation's deductions	Other charges (taxes)
Share of expenditures	30.3	15.4	41.2	13.1

of technological and high-tech (knowledge-intensive) innovation in modern economic relations.

Since 2010 major state-owned corporations have adopted and are now executing innovation development programs that provide for the significant increase of R&D expenditures. At the same time the resources are concentrating on the so-called drivers of development (Centers/Points of Excellence) and breakthrough research directions. Such centers for corporation development represent a section (or a group of sections), which is engaged in research and development in breakthrough areas of knowledge and technology, and possesses unique logistical, intellectual and human resources. The center is distinguished by particularly high performance efficiency and quality of the product. As a rule, these centers are national (sometimes international) leaders in one or more areas of science and technology, and at the same time they serve as a link in the **transfer of technology** from the cutting edge of research to national companies and laboratories.

An important component of corporate education is corporate ethics – training in behavior patterns customary in this company. To date, almost all of the largest domestic companies have adopted codes of ethics that set out the main provisions of corporate ethics and values. This code contains a list of basic principles that the corporation employees at all levels should follow. It also defines the principles of delegation of powers, participation in the competition, business partnership, relationship to information (trade secrets), corporate behavior and image of the staff. Special attention is paid to the prevention of the situations where there is a discrepancy between the personal interest of an employee and the interest of the corporation, or when there is a possibility of jobbery.

From the viewpoint of educational technology the study of the system of corporate values is informal; it is merged into daily work. The special ethics committees also play an important role, because they handle the most complicated cases of application of the corporate code of ethics; and the decisions by such committees are then widely disseminated to employees. In addition, the texts of the codes are usually placed at the company's websites and are available to everyone interested.

We should also note another important feature such as the special social effect of corporate education. Indeed, on the one hand, the development of corporate training helps to deal with business challenges of enhancing its efficiency and development. However, the social component of corporate education, as was mentioned above, consists in the formation of the market of highly skilled specialists and also in the production and accumulation of human capital.

Despite the obvious benefits of corporate education, one has to consider the arguments of the opponents, who believe that colleges and universities, rather than enterprises, should be engaged in professional training. Critical attitude to corporate education is based usually on the recognition of a possibility of infringement of students' rights and interests. Corporate universities are usually non-transparent to the state and to the public in contrast to "ordinary" educational establishments. Another argument consists in strong

doubts concerning the necessity of focused specialization (due to more general and, therefore, more easily convertible knowledge) that a corporate student is subject to; and the emerging attachment to a particular technological process. One also criticizes the programmed nature of training, in which any deviation from the program or the individualization of the educational process become impossible. Besides, sometimes one has to sacrifice general education and moral attitudes in favor of well-paid professionalism, because corporate values do not always coincide with the standard ones, including family, religion and civil values. An expert points out: "In corporate education people are taught to act out of habit. Here, as a rule, the conformist without any self-reflection skills is encouraged rather than the one who thinks and is capable of change and growth. Corporate university graduates will hardly be able to apply the acquired knowledge with the aim of social transformation or to change the usual way of life and thought"[8].

The "strongest" argument of critics is that corporations are "skimming off the cream" and train their employees in the fields with the highest investment performance. Thus the state is left with low-profit (from the viewpoint of the private returns from high public costs of training) and mass professions such as teacher, doctor, semi-skilled worker, etc.

However, despite the criticism, corporate education is successfully expanding its capabilities and scope. Today in the majority of countries that are distinguished by vigorous economic development the growth of people participating in education is associated primarily with the needs of professional activity rather than the overall development and enhancement of extensive knowledge[9]. Therefore, one should expect that training and retraining at the expense of employers will be still determined by the market needs; as for the subjective wishes of students, or, as they say, their "educational paths" will be taken into account only to the extent that they meet these needs.

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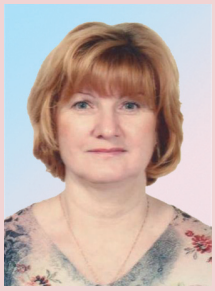
Public investment in targeted social assistance programs



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Abstract. The article analyzes the role of a monthly child care allowance in the budget of needy families. The author uses the data on the Republic of Komi and makes a comparative assessment of municipalities by the share of children subject to a monthly allowance in the total number of children. The author defines five groups of territories according to the level of social protection of children aged under 18. The article reveals that the role of a monthly child care allowance in a budget of families with children is insignificant, especially in rural areas of the republic.

Key words: targeted social assistance, subsistence level, social investment, social benefits, monthly child care allowance.

Promotion of the state policy in the field of social infrastructure development leads to the increased scientific interest in the social investment issues. The social sphere is a set of public and private institutions whose activities are aimed at maintaining and enhancing a socially acceptable level and quality of life [1]. The state authorities are subjects of social investment.

The work is aimed at defining the concept "targeted social assistance"; considering one of the types of targeted social assistance – monthly child care allowance – on the example of the Komi Republic (21 municipalities); analyzing the application of new progressive benefit schemes and provision of child care allowances – grading by age; revealing the dynamics of public investment in this type of benefits; determining the impact of investment in the budget of poor families.

Nowadays there are many definitions of social assistance, which do not differ much.

They are represented in the legislative and regulatory documents of the federal and regional level, which address the issues of the state targeted social assistance directly or indirectly. Most of them are close to the basic definition given in the federal law "On State Social Assistance": "State social assistance is given to low-income families, low-income persons living alone, as well as other categories of citizens specified in the federal law in the form of social benefits, social pension supplement, subsidies, social services and essential goods" [2].

In the RF subjects legislation the definition of state targeted social assistance sometimes coincides with that given in the federal law, as, for example, in the Law of the Republic of Bashkortostan (2000): "Targeted social assistance is provision of low-income families or low-income persons living alone with social benefits, subsidies, social services, essential goods at the expense of funds of corresponding budgets".

In most cases the definitions of targeted social assistance specify the same recipients – low income families, low-income citizens living alone (*the Law of the Nizhny Novgorod Oblast...*, 2004; *the Law of the Murmansk Oblast...*, 2004; *the Law of the Rostov Oblast...*, 2004).

Some legal documents and publications clarify the conditions for the provision of social assistance (a difficult situation), eligibility (substandard income) and assistance types (financial, natural and assistance in the form of services) (*the Law of the Republic of Karelia*, 1998; *the Law of the Republic of Bashkortostan...*, 2000; *the Law of the Republic of Kazakhstan...*, 2001; *the Regional Law of the Nizhny Novgorod Oblast...*, 2004).

Sometimes targeted social assistance is defined as a system of measures, social standards and guarantees. From theoretical and practical points of view, the first of these definitions are most acceptable, as they reveal the essence of social assistance.

In our interpretation targeted social assistance is a form of social benefits in monetary terms, natural aid and assistance in the form of services provided to low-income families, low-income persons living alone who are in difficult life situations *beyond their reasons* and who have per capita income below subsistence minimum.

Subsistence minimum is a poverty indicator, disclosing not only biological, but also social human survival. The principles to set subsistence minimum are common for all countries. They are defined by the Convention of the International Labor Organization: "When establishing subsistence minimum one should consider such basic needs of working families, as food, food energy, housing, clothing, medical care and education" [3].

Subsistence minimum was adopted by the Ministry of Labor of the Russian Federation in 1992 on the basis of the absolute concept of poverty. It is an average per capita value calculated for the working age population, pensioners and children.

The Russian consumption standard to estimate the requirement for assistance proved its invalidity [4].

Subsistence minimum is a *key indicator* of population's poverty. It is "intended to justify the rates of minimum wage and

minimum old-age pension adopted at the federal level and determine scholarships, grants, provision of low-income citizens with necessary state social assistance and other social payments. Subsistence minimum is monetary evaluation of the consumer goods basket, mandatory payments and fees" [5].

The basis of subsistence minimum and the concept of the consumer goods basket cost were first defined by K. Marx (1818–1883,) a German economist, philosopher, founder of Marxism – the economic doctrine of the working class [6].

Marxist methodology originates from classical political economy, the labor theory of value by A. Smith and D. Ricardo [7]. He believes that the value of labor is determined by the cost of wealth required for the employee to exist and reproduce his/her workforce. Based on this concept, the consumer goods basket cost is a fixed set of consumer goods and services.

Thus, the system of targeted social assistance is based on the following principles: Provision of social assistance on the basis of the level of household income and wealth; Evaluation of the amount of social assistance payments calculated in region's prices according to the cost of the consumer goods basket and the family load, calculated in prices, operating in the region; the priority of measures to create conditions for family's self-sufficiency, individual protection schemes and active involvement of the able-bodied poor in work *(fig. 1)*.

It covers three types of targeted social protection benefits: monthly child care allowance, means-tested benefit, housing allowances, granted only after the expertise of household income [8].

In this article we consider one type of targeted social assistance – monthly child care allowance. We are interested in investment that pursues social objectives.

In accordance with the current legislation requirements the citizens with children can get the following kinds of state benefits (investment) [9]:

– maternity benefits;

– lump-sum benefit for women registered at hospital in the early stages of pregnancy;

– lump-sum childbirth benefit;

– monthly allowance for parental leave to care for a child of up to 18 months

– monthly child care allowance;

– lump-sum benefit when a child is adopted.

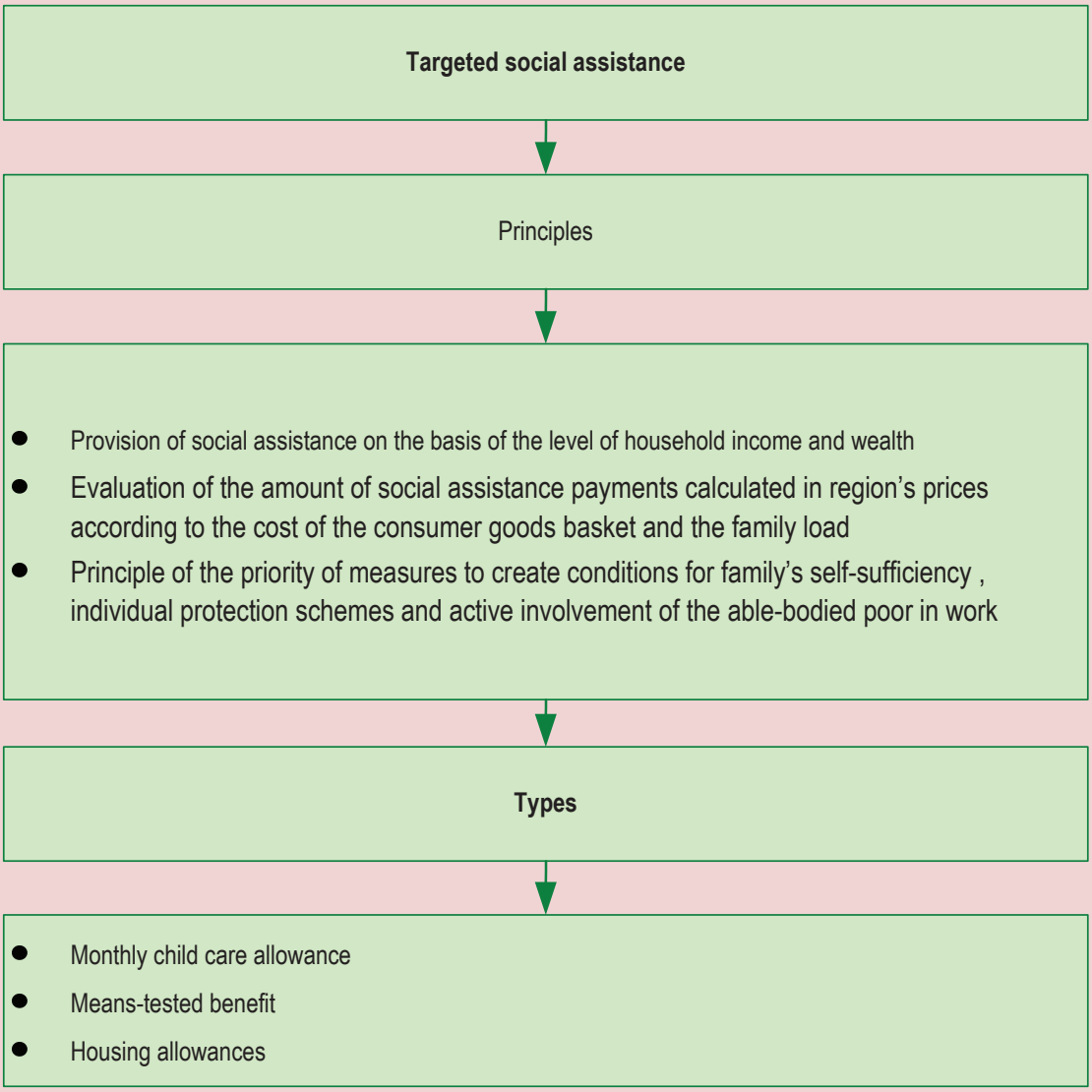
Of all kinds of family and maternity benefits only monthly child care allowance is a targeted form of social assistance. It is granted after the expertise of household income and aimed at *reducing child poverty*, which is the ugliest manifestation of poverty.

Monthly child care allowance is a regular cash payment of alimentary nature[1] allocated from the national budget to provide financial assistance to the family to support and educate young children.

Monthly child care allowance prior to January 1, 2005 was the federal guaranteed payment, provided in accordance with the federal law "On state allowances to citizens having children" as of May 19, 1995, no. 122-FZ. The family can get it if per capita income in the family with the child

[1] Alimentary nature of social protection is generally defined as a way of its provision by the state on an equitable basis free of charge without contracts from the social security Fund. There is *no equivalent*. The relation to *labor is taken into account*, but not as a response to new work, but in the amount of appropriate living standard, existing at this stage of society's development.

Figure 1. System of targeted social assistance to the population



does not exceed subsistence minimum in the Russian Federation subject; the person applying for the benefit lives together with the child, to whom it is granted; the child is under 16 or under 18 if he/she studies at the educational institutions. The allowance size amounted to 70 rubles, but it is increased with regard to the category of family – for children in single-parent families, children of military personnel, children whose parents do call-up military service and children whose parents avoid alimony. Despite inflation, the benefit size has never been revised. On the background of the high share of children in the low-income families the benefits are very low, despite they are paid only to them.

The existing approaches have changed after this law adoption. According to the new edition of the federal law "On state

allowances to citizens having children" as of May 5, 1995, no. 81-FZ, elaborated according to Law no. 122-FZ, the size, the appointment procedure and the monthly child care allowance payment are fixed by the laws and other normative legal acts of RF subjects.

Thus, since January 1, 2005 the provision of monthly child care allowance has become the exclusive competence of the regional authorities. As before, in most regions only families with incomes below subsistence minimum are eligible to benefits [10].

On the territory of the Komi Republic, according to the Law of the Komi Republic "On state guarantees for families with children in the Komi Republic" as of November 12, 2004, no. 57-RZ, the families with children can get the following types of benefits: 1) monthly child care allowance: a) for a child born before January 1, 2005, b) for a child born after January 1, 2005; 2) monthly child care allowance supplement for a child born before January 1, 2005 [11].

The families with per capita income lower than subsistence minimum are eligible to monthly allowance for a child born before January 1, 2005 in the Komi Republic. The calculation of the average family income takes into account married parents, including separated parents and minor children living with them or with one of them. The amount of monthly child care allowance depends on the category of the family and ranges from 167.94 to 735.74 rubles *(tab. 1, 2)*.

Monthly child care allowance supplement for a child born before January 1, 2005 is given to the poor. There is a regional coefficient for monthly child care allowance and monthly child care allowance supplement. The size of monthly care child allowance and monthly child care allowance supplement are indexed annually in accordance with the Komi Republic legislation.

The families recognized as the poor in accordance with the established practice can receive monthly allowance for a child born after January 1, 2005. To identify the family state one considers people who live together and maintain a joint household, which

Table 1. Size of investment payments for children according to the Law "On state guarantees for families with children in the Komi Republic" as of November 12, 2004, no. 57-RZ (since December 1, 2013)

For children born before January 1, 2005		Without r/c	20%	30%	50%	60%
Monthly child care allowance	At the normal rate	139.95	167.94	181.94	209.93	223.92
	Children of single mothers	279.89	335.87	363.86	419.84	447.82
Child's age is not taken into account	Father does call-up military service	209.92	251.90	272.90	314.88	335.87
	It is impossible to recover alimony	209.92	251.90	272.90	314.88	335.87
Monthly child care allowance supplement depending on the child's age:						
Aged 3–6		459.84	551.81	597.79	689.76	735.74
Aged 6–16 (pupils – under 18)		159.94	191.93	207.92	239.91	255.90

Table 2. Size of investment payments for children according to the Law "On state guarantees for families with children in the Komi Republic" as of November 12, 2004, no. 57-RZ (since December 1, 2013)

Monthly child care allowance depending on the child's age (for children born before January 1, 2005)		Without r/c	20%	30%	50%	60%
Under 18 months	At the normal rate	1095.76	1314.91	1424.49	1643.64	1753.22
	Children of single mothers	1235.71	1482.85	1606.42	1853.57	1977.14
	Father does call-up military service	1165.73	1398.88	1515.45	1748.60	1865.17
	It is impossible to recover alimony	1165.73	1398.88	1515.45	1748.60	1865.17
Aged 1.5–3	At the normal rate	1062.98	1275.58	1381.87	1594.47	1700.77
	Children of single mothers	1202.93	1443.52	1563.81	1804.40	1924.69
	Father does call-up military service	1132.96	1359.55	1472.85	1699.44	1812.74
	It is impossible to recover alimony	1132.96	1359.55	1472.85	1699.44	1812.74
Aged 3–6	At the normal rate	599.80	719.76	779.74	899.70	959.68
	Children of single mothers	739.75	887.70	961.68	1109.63	1183.60
	Father does call-up military service	669.77	803.72	870.70	1004.66	1071.63
	It is impossible to recover alimony	669.77	803.72	870.70	1004.66	1071.63
Aged 6–17 (pupils under 18)	At the normal rate	299.90	359.88	389.87	449.85	479.84
	Children of single mothers	439.85	527.82	571.81	659.78	703.76
	Father does call-up military service	369.87	443.84	480.83	554.81	591.79
	It is impossible to recover alimony	369.87	443.84	480.83	554.81	591.79

includes spouses, children and parents, adoptive parents and adopted children, brothers and sisters, step-sons and step-daughters. The amount of monthly child allowance depends on the category of the family, the child's age, climatic zones and ranges from 359.88 to 1977.14 rubles *(tab. 3)*.

In 2013 the average size of subsistence minimum was revised on a quarterly basis [12], the increase was significant: first by 54 rubles, then by 115 rubles, then by 836 rubles and by 252 rubles in the fourth quarter. The SM size is fixed for different population groups and different natural-climatic zones (see tab. 3).

As a result, at the beginning of 2014 average subsistence minimum per child amounted to 9367 rubles.

As of the 1st quarter of 2014 per capita subsistence minimum for the main socio-demographic groups of the population and natural-climatic zones in the Komi Republic totaled 11371 rubles for the working-age population, 8669 rubles for pensioners and 11263 rubles for children in the Northern climatic zone.

In the southern climatic zone the size is the following: 9577 rubles for the working-age population, 7357 rubles for pensioners and 8550 rubles for children.

Table 3. Size of subsistence minimum as of the 1st quarter of 2014

Population groups	On average in the Komi (rubles)	Nature-climatic zones	
		northern	sourthern
Entire population, including:	9496	10 879	8930
Working-age population	10 113	11 371	9577
Pensioners	7692	8669	7357
Children	9367	11 263	8550

The Northern climatic zone consists of Vorkuta, Inta, Pechora and Usinsk with their subordinate territories, as well as IzhemskyDistrict and Ust-Tsilemsky District. The southern zone includes the rest fifteen municipalities of the republic.

The region uses a new progressive scheme to assign and provide children with benefits – "grading by age", which is designed to strengthen the targeting of social assistance in conditions of deep poverty and limited financial resources in the republic. It should be noted that this scheme is applied only in two Russian regions: in the Komi Republic and Saint Petersburg.

Each age group gets a different amount of allowance for children of single mothers, children, whose fathers do call-up military service and in case of impossibility to recover alimony.

This scheme is more progressive regarding other ways of child allowance provision due to the increased targeting of social assistance. It is especially valuable in the context of limited financial resources, as the efficiency of their use rises.

However, the experience of its application in the republic has showed that, despite the relatively large amount of children benefits and the regional coefficient being taken into account, they have a low impact on the budget of poor families, especially families with children aged 16 (students under 18).

The number of children under 18 who are granted monthly allowance reduces annually (*fig. 2*).

In 2005 there were 71.9 thousand people and in 2013 their number decreased by 3.5 times to 20.7 thousand. So, during this period the proportion of such children decreased from 25 to 8% in the total number of children of the appropriate age (0–18).

The expenditures on monthly child care allowance reduced and in 2005–2013 they ranged from 185.5 to 171.7 million rubles

In the total spending on benefits and social assistance the share of monthly child care allowance amounted to 7.1% in 2005 to 1.3% in 2013 (*tab. 4*).

In the period indicated (nine years) average child care allowance increased from 297.62 to 637.6 rubles, i.e. by 339.98 rubles. Annually the benefit size increased by 37.77 rubles and monthly – by 3.14 rubles.

This is mainly caused by the sharp increase in child care allowance for children aged under 1.5, maternity benefits, the introduction of maternity fund and the decrease in the absolute amount of monthly child care allowances, which indicates the weakening role of this kind of benefits in the budget of poor families.

Figure 2. Number of children under 18 years who are granted monthly allowance and share of children who are eligible to benefit in the total number of children of the appropriate age in the Komi Republic for 2005–2013

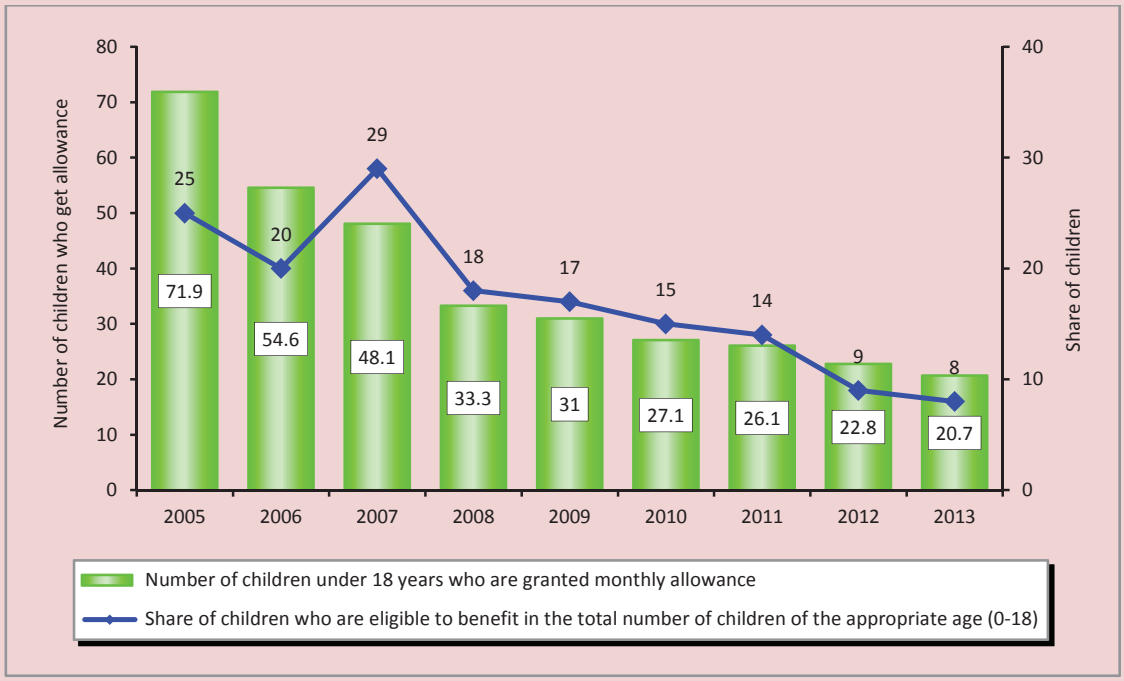


Table 4. Spending on benefits and social assistance (taking into account a regional coefficient), million rubles

Indicator	2005	2006	2007	2008	2009	2010	2011	2012	2013
Spending on benefits and social assistance – total	2598.0	3374.0	4654.9	6908.2	10233.5	11763.5	13130.9	13045.8	-
Monthly child care allowance up to 16(18)	185.5	164.6	163.7	145.6	170.7	160.7	176.4	180.1	171.7
Monthly child care allowance up to 16(18), in %	7.1	4.9	3.5	2.1	1.7	1.4	1.3	1.4	1.3
Average child care allowance, rubles	297.62	275.44	283.61	364.36	458.90	475.34	546.64	590.37	637.6

Table 5. Grouping of urban districts and municipalities of the Komi Republic by the level of social protection of children under 16 (18) who receive monthly allowance (2009–2013), %

No.	Social status characteristics	Level, in %	Districts 2009	Districts 2011	Districts 2013
1.	Highly wealthy	Below 10.1	Syktyvkar, Ukhta, Sosnogorsk, Usinsk, Vuktyl	Syktyvkar, Ukhta, Sosnogorsk, Usinsk, Vuktyl, Vorkuta	Syktyvkar, Vorkuta, Vuktyl, Inta, Pechora, Ukhta, Sosnogorsk, Usinsk
2.	Wealthy	10.1–20.0	Pechora, Vorkuta, Inta, Ust-Vymsky	Pechora, Inta, Knyazhpogostsky, Ust-Vymsky	Knyazhpogostsk, Syktyvdinsky, Ust-Vymsky
3.	Needy	20.1–30.0	Udorsky, Knyazhpogostsky	Syktyvdinsky, Troitsko-Pechorsky, Udorsky	Sysolsky, Troitsko-Pechorsky, Udorsky
4.	Poor	30.1– 40.0	Troitsko-Pechorsky, Sysolsky, Syktyvdinsky, Koygorodsky, Izhemsky	Koygorodsky, Sysolsky	Koygorodsky, Kortkerossky, Priluzsky, Ust-Tsilemsky
5.	Extremely poor	Above 40.0	Priluzsky, Ust-Tsilemsky, Ust-Kulomsky, Kortkerossky	Kortkerossky, Priluzsky, Ust-Tsilemsky, Ust-Kulomsky, Izhemsky	Izhemsky, Ust-Kulomsky

The comparative assessment of municipalities by the share of children who are assigned to monthly allowance in the total number of children for 2009–2013 allowed us to distinguish 5 groups of territories by the level of social protection of children under 18: highly wealthy, wealthy, needy, poor, hardcore poor *(tab. 5)*.

In 2009 *the first group (highly wealthy)* includes Syktyvkar, Ukhta, Sosnogorsk, Usinsk, Vuktyl. In 2013 Vorkuta, Inta, Pechora joined the group. Now in all the republic cities less than 10% of the child population needs monthly benefits. This is caused by the location of profitable enterprises for oil and gas production and processing and market infrastructure institutions. People have the highest income there, especially in single-industry towns of Vorkuta and Inta, as the federal budget provides special assistance to resettle mining families to the southern regions of the country due to the coal mines closure.

Ust-Vymsky District, Knyazhpogostsky District and Syktyvdinsky District joined *the second group (wealthy*) in 2013. Moreover, Ust-Vymsky District maintained its positions by the level of children's social protection for five years and Syktyvdinsky District raised the social status of the child population from the group of poor to the state of wealthy. Despite the noticeable drop in families' income in Knyazhpogostsky District due to the fiberboard plant bankruptcy, it also strengthened its position. In these areas 10–20% of all children needed monthly benefits.

The *third group (needy*) included Sysolsky District, Troitsko-Pechorsky District and Udorsky District in 2013, where 20%– 30% of all children needed monthly allowance. Udorsky District remained in this group for the entire study period due to the prevalence of marginal forestry and agricultural enterprises there.

In 2013 the *fourth group (poor)* consisted of Koygorodsky District, Kortkerossky District, Priluzsky District and Ust-Tsilemsky District, where the number of children in need of benefits ranged from 30 to 40%. They are characterized by a very low level of income, due to the location of marginal agricultural and forestry enterprises there. Koygorodsky District had not changed its status for five years, while in other areas of this group children began to live better.

The *fifth group (hardcore poor)* included Izhemsky District and Ust-Kulomsky District, with the threshold of needy children being over 40%. Ust-Kulomsky District held its position, but children of Izhemsky District began to live poorer.

Basically, poverty is associated with unemployment and the region's specialization on nonprofit logging and agriculture.

It should be noted that the greatest number of people receiving monthly child care allowances or poor families is concentrated in 12 rural districts, which is a consequence of the low level of economic and social development of these areas.

Thus, the qualitative and quantitative characteristics of child poverty are one of the main indicators of the social status of childhood and reflect the level of society's development as a whole.

The analysis has showed that investment in targeted social programs is ineffective. Despite the use of the new progressive assignment scheme and provision of child benefits – "grading by age" and the increase in its size, we can say that they have a weak impact on the budget of poor families, especially in the rural areas of the republic. The benefit reduces when a child gets older, although the presumption of the reduced costs to support and educate children as they grow does not seem quite obvious. This trend is evident in all the regions where the grading scheme is applied.

It is necessary to increase the benefit size, primarily for the families with children aged 6–16. It is also clear that only the provision of monthly child care allowance can not eliminate the poverty of families who work at the unprofitable enterprises and live in the areas with poor infrastructure.

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BRANCH-WISE ECONOMY

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Improvement of state regulation of the agrarian sector of the sub-arctic and arctic areas under the WTO membership

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Abstract. The article substantiates the necessity to change the role of the state in technological and socio-economic development of the agricultural sector. The author considers the forms and methods of state regulation and analyses the current budget support provided to agriculture; he highlights its drawbacks with regard to sub-arctic and arctic territories of the Republic of Komi. The article shows the influence of state support on the farmers' level of income and identifies modernization risks and threats under Russia's WTO membership. The author proposes measures to improve state support of the agrarian sector and change the adverse conditions of its functioning. He substantiates the approach that helps improve the state regulation of the agrarian sector in the framework of regional and municipal programs for rural development.

Key words: agriculture, state regulation, financial support, WTO, Arctic sub-region, Republic of Komi.

Introduction

In the course of market reforms, the North experienced the dramatic reduction in government support and investment, the destruction of material and technological base of agriculture, the outflow of qualified personnel from the industry and the decline in production [3, 10].

The current state of the agricultural sector of the northern and arctic areas is characterized as unstable; it can become extremely negative and lead to the elimination of agricultural production, primarily, in peripheral (remote) areas and to the reduction of inhabited rural areas. The crisis can be overcome and the transition of

agriculture to the dynamic development can be achieved, if a multi-purpose agricultural policy is pursued taking into account the specifics of the North; the policy should focus on the technical and technological modernization of agricultural production, on the formation of multistructural and multifunctional agriculture in rural areas, on the strengthening of state support of agricultural producers. The implementation of technological and socio-economic development of the rural economy of the North and the Arctic will require substantial financial resources, including public investment.

The goal and objective of this work is to analyze the financial support, to identify its shortcomings and to substantiate the measures undertaken to improve state regulation of agriculture in the Arctic sub-region on the example of the Komi Republic.

Strengthening the role of the state in the development of modernization processes in the agrarian sector

The role of the state as the organizer and coordinator of modernization is becoming more important not only due to its increasing significance in the economy and society, but also due to the specifics of agriculture and market relations in the industry. The agricultural sector in general and, especially, in the northern and arctic areas does not fit into the modern market economy model and can be developed with government support. The objective necessity of state regulation of agriculture consists in the following.

1. Demand for food stock is not very flexible. Demand is determined not only by economic factors such as consumers' incomes and food prices, but also by physiological needs, which have strict limits. When retail prices grow, people reduce their demand for high quality food.

2. Agriculture is a relatively conservative industry and can not immediately change its structure and production technology. The duration of the production cycle in the majority of agricultural industries means that, regardless of the market situation, the scope of supply cannot be reduced or increased within a short period of time.

3. The food market has two non-flexible components – food demand and supply. During the periods of rapid food prices fluctuations the government should take measures to regulate the agrifood market.

Currently, the competitiveness of agriculture in the USA and Western European countries is maintained with the help of government intervention, i.e. by the methods opposed to the approach presented in the theories on perfect and imperfect competition. The models of the market of perfect and imperfect competition are a theoretical abstraction that has nothing to do with actual practice [12, p. 293].

4. The need for the state regulation of agriculture is caused by the fact that a non-exclusive agricultural market is confronted by the oligopolistic structures of the first and third spheres of the agricultural complex that establish the so-called administered prices.

5. Agriculture is the sector of production and, at the same time, the sphere of human activity. The elimination of agricultural production means the change of place of residence and lifestyle for the people. The limited competitiveness of rural residents in the labor market urges the farmers and the public to defend the programs for state support of agriculture.

The government intervention in Russia as a whole and in the North and the Arctic in particular is necessary also due to the following reasons:

• extremely low level of productivity and remuneration in the sector;

• disparity in prices for industrial and agricultural products;

• significant expenditures on land management and reclamation given a relatively low return;

• incompleteness of the processes of intensification and industrialization of agricultural production; intensification and the transition to industrial production methods are connected with the high demand for continuous investment at a relatively low capital productivity ratio;

• poor development of rural industrial, social and financial infrastructure.

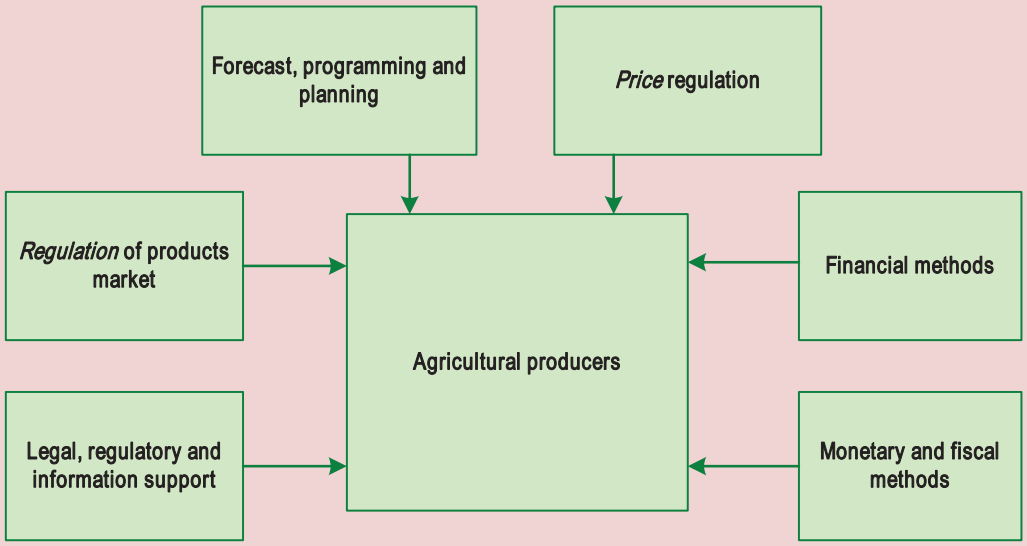
Under the extreme conditions in the North and the Arctic, in contrast to the southern and central regions of the country, private capital is not interested in investing in the preservation and development of agriculture. Here the role of the state is especially important in financing the agricultural sector.

Disregard for the special nature of agriculture as a specific sector of the national economy and insufficient financial support to the agricultural sector are the main causes of the crisis in the industry. The solution of the problem of the agricultural sector modernization will require a manifold increase in the volume of subsidies.

Regulation has a multidimensional character from the point of view of its implementation method and the objects, on which it is focused. Directions and methods of government's influence on the reproductive process in agriculture are shown in the *figure*.

The agrarian reform carried out in Russia in the 1990s was characterized by the invalidity of a number of measures, by

Directions and methods of state regulation of the agrarian sector



contradictions and inconsistencies in the transformations implemented. Socio-economic orientation of agrarian transformations was replaced by the self-contained task of hasty transition to the market economy.

Regional characteristics were not taken into account to the extent necessary; in particular, the fact that agriculture in the North is developing under extreme conditions, with limited material and technological base and sphere of agro-service, poor housing conditions and underdeveloped social infrastructure of the village. Historically, the region developed a community-based land use system, and, therefore, the psychological determination of people to work and live as a team is expressed to a greater extent compared with Russia's southern regions. One of the reasons for the crisis in agriculture was the implementation of the wrong measures aimed at the immediate and complete liberalization of economic relations and the abandonment of state support of the agrarian sector.

Since 2006 the Russian Federation has been implementing the national project "Development of the agro-industrial complex" transformed into "The state program for development of agriculture and regulation of markets of agricultural products, raw materials and food for 2008–2012 and 2013–2020". The project focuses on the provision of state support to the development of animal husbandry and small farms.

Analysis of existing financial support to agriculture

The implementation of the priority national project "Development of the agro-industrial complex" contributed to the financial support of agricultural producers. The volume of subsidies provided to the agriculture of the Komi Republic for 2006–2012 has increased by more than 1.8 times. The state support to the agricultural sector is mainly provided from the regional budget. Now 84% of subsidies to the sector is allocated from the budget of the Republic, 14% – from the federal budget and 2% – from the local budget. According to the forecast estimate provided in "The state program for the development of the agro-food sector in the Republic up to 2020", the share of subsidies from the budget of the Republic will increase to 91% and the share of subsidies from the federal and local budgets will decrease, respectively, to 8 and 1%.

The subsidies allowed the majority of agricultural producers in the arctic and subarctic areas to avoid losses. Without obtaining financial support, agricultural organizations, except those specializing in reindeer breeding, fish harvesting and processing, suffer huge losses. However, even with the subsidies, the level of profitability in the majority of agricultural enterprises will remain very low, and some of them are unprofitable *(tab. 1)*.

The analysis of the existing financial support proves that its significant proportion falls on large agricultural enterprises with more resources, and on suburban areas. At that, the support is not always proportional to the volumes of produced agricultural products. In 2012 the farmers at the peripheral subarctic areas (Ust-Tsilemsky and Izhemsky) received only 4.5% of the total amount of subsidies to agriculture of the Komi Republic, while their share in the volume of gross agricultural production was 7.1%. Only 1.4% of the subsidies out

Table 1. Profit (loss -) and profitability of agricultural enterprises in the arctic and subarctic areas of the Komi Republic in 2012

Municipal entity, organization	Profit (loss -) from sales, thousand rub.	Profit (loss -) before tax, thousand rub.	Net profit (loss -), thousand rub.	Profitability (unprofitability -), %	
				Excluding subsidies	Including subsidies
Urban district Vorkuta	107	22141	21954	0.2	34.2
Agricultural Production Cooperative “Olenevod”	785	22124	21937	1.3	36.9
LLC “Sovkhoz Gorodskoy”	-678	17	17	-15.3	0.4
Urban district Inta	-43892	-802	-1548	-16.5	-0.6
LLC Agroindustrial Farm “Inta Pripolyarnaya”	-44121	-5411	-5876	-18.5	-2.5
OJSC “Petrun’skoe”	-1300	3103	3103	6.7	15.9
OJSC “Abez’”	-1071	1446	1225	-15.5	17.7
Urban district Usinsk	-44396	-2481	-2753	-27.3	-1.7
LLC “Kolva”	-8330	-2742	-2764	-47.9	-15.9
LLC “Severnyy”	-36066	261	11	-24.8	0.0
Municipal district Pechora	-4221	7979	7652	-14.1	25.5
LLC “AgroVid”	-3063	6965	6638	-10.2	22.2
LLC “Akvakompleks”	-1158	1014	1014	-95.3	83.5
Municipal district Ust-Tsilemsky	-15309	4077	3361	-27.6	6.0
APC “Zarya-1”	-2274	3283	3058	-14.8	19.9
LLC “Veles-Agro”	-1084	274	274	-58.4	14.8
LLC “Rochevo”	-2795	880	788	-33.7	9.5
APC “Mayak”	-1611	585	491	-39.7	12.1
LLC “Filippovo”	-1182	298	250	-31.9	6.7
LLC “Trusovo”	-2361	800	790	-26.5	8.9
LLC “Zvezda”	-4008	-1940	-2034	-51.2	-26.0
Municipal district Izhemsky	-8644	4125	4118	-28.4	13.5
APC “Agro-Tsentr”	-4111	421	421	-29.1	3.0
LLC “Zarech’e”	-1566	4222	4222	-19.0	51.2
APC “Borovaya”	-2967	-518	-525	-36.9	-6.5

Source: annual statements.

of the total volume of financial support of this sphere is directed to the infrastructural and technological modernization of the producers in these areas. At the same time, fixed capital assets in animal husbandry in the arctic and subarctic areas are worn by 70–80%.

The data on the volume and share of subsidies to agricultural producers in the arctic and subarctic regions of the Republic are shown in *table 2*.

Thus, the existing volume of state support to the agrarian sector in the subarctic region of the Komi Republic is insufficient not only for innovation development of agriculture, but even for curbing the decline in production. The creation of conditions for the dynamic

Table 2. Subsidies to agricultural producers in the Komi Republic in 2012, thousand rubles

Directions of state support	Komi Republic	Subarctic region	Share of the subarctic region in the total amount of support provided to agriculture of the Republic, %
Subsidies for livestock products	305783	71328	23.3
Out of them: for cattle meat	27674	9264	33.5
milk	214587	43223	19.7
Subsidies for increasing the deer population	25507	25507	100
Subsidies for modernization of technology and equipment	175146	27807	15.9
Subsidies for fodder	91499	16363	17.9
Other subsidies and subventions	238063	58729	24.7
Total	835998	199734	23.9
Source: annual statements.			

development of agriculture requires strengthening of its state support.

The accession of the Russian Federation to the WTO has introduced significant adjustments in the system of state regulation. Russia has assumed a number of obligations on the state support to agriculture, export and import duties, tariff quotas, and export subsidies.

As for the customs-tariff regulation, the risks are mainly associated with the reduction of tariffs on agricultural products and foodstuffs from 15.6% at present to 11.3% at the end of the transition period (2018). According to experts, serious adverse effects from tariff reductions are expected in the pork and beef market. Our country is to reduce customs duties on live pigs from 40 to 5%, and the duties on pork imports within the quota will fall from the current 15% to zero. A ban on further reduction of quotas has been imposed.

A serious threat to agriculture is the growth of prices of energy, facilities, equipment, and other resources, since it reduces agricultural producers' incomes. The World Trade Organization demands that Russia bring its internal gas, oil and electricity prices to the world level; that is, raise them by the 1.3–1.5 times, so that the Russian industry did not have economic advantages in the production of materials, equipment and other resources in comparison with the Western industry. Besides, Russia is to reduce customs duties on the import of agricultural machinery by 2–3 times in order to facilitate the import of foreign cars. According to the calculations of Rostselmash (Russian agricultural equipment company), the import of agricultural machinery will lead to the rise in its prices on average by 20%, and the increase in the costs will be over 31 billion rubles per year. The limitation of fuel prices subsidizing for the village will cause their growth by 25–30% and will increase the costs of rural producers by 39.8 billion rubles per year [1, p. 51]. This limits their opportunities to carry out modernization and innovation

development. Prior to its accession to the WTO, the state annually issued direct subsidies in order to compensate partially for the losses from price disparity between agricultural and industrial products.

State support plays an important role in the development of the agricultural sector. Therefore, the amount of state support at the time of Russia's accession to the WTO is the main subject of disputes in the agreements on agriculture. Under the WTO Russia and its regions must adhere to the restrictions of budget support to the sector and change the directions of its subsidizing. The level of support permitted under the WTO is divided into three types – three "baskets", which are divided into "green", "yellow" ("amber") and "blue", depending on the degree of distorting influence on trade.

The "green basket" includes support measures that do not have negative impact on trade, the "yellow basket" comprises measures that distort the market. The level of state support to "yellow basket" for our country for 2013 is defined at 9 billion U.S. dollars with further reduction by equal shares to 4.4 billion U.S. dollars by 2018. The "blue basket" includes budgetary payments aimed to limit agricultural production.

Financial support to the producers of agricultural products and foodstuffs in the Komi Republic is currently provided in the following directions:

• provision of subsidies for technological and equipment modernization of agricultural production;

• compensation for a part of expenses for cattle management;

• provision of support to livestock breeding;

• reimbursement of a part of expenses for purchase and manufacture of combined fodder;

• reimbursement of costs for the increase in reindeer population, for the implementation of fire safety measures at reindeer pastures, for reindeer veterinary services;

• provision of support to elite seed farming;

• subsidizing measures to improve soil fertility;

• free support to crop sector;

• support to small forms of business.

• subsidizing the development of aquaculture and fishery.

Improvement of state support to the agricultural sector

Private entrepreneurs in the condition of the North, due to the low profitability of agriculture and considerable payback period, are not interested in investing in its development. Here the bulk of financing in technological and equipment modernization of agricultural production falls on the state. The increase in profitability and investment opportunities for the agricultural sector requires a significant increase in direct state support. The subsidies provided to agricultural producers allow them to earn income in addition to profit from sales of their products, without affecting the growth of food prices. If there is no support to producers' incomes through subsidizing the prices of manufactured products, the efficiency of investment will be very low; they may not even pay off.

The economic assessment of innovation-investment projects for the construction of dairy farms for 100 and 200 cows in the peripheral Udorsky District with the use of the latest technology, with high productivity

of the cows (5500 kg) and adherence to the principles of production of organic products has shown the following results. Under the existing sufficient state support to innovation-investment activity and the profit of the agricultural producers, these projects will pay off only in 12.5 and 11.3 years if the loan is granted for the term of 8 years. Only when the volume of state support to provide the optimum level of profitability (40–50%) is reached, the payback period of the projects will be below the terms of the loan granted [4].

To speed up the modernization of agricultural production, it is necessary to increase direct state support by 3–4 times, and for individual agricultural enterprises – by 4.7–5.1 times [9, p. 215]. Public investment is also necessary to achieve this goal.

For the speedy transfer of agricultural economy to the new technological basis it is suggested to subsidize it not only from the regional budget, but also from the federal budget. It is advisable to use the federal budget to carry out state support to increase the cattle and deer population, to boost the production of beef, venison and milk; to compensate for part of the cost of modern technology and equipment, mineral fertilizers, fuel, spare parts, combined fodder, and also tariffs in the amount of 50% at the transportation of material and technical resources by railway and water; to subsidize interest rates on loans; to provide subsidies for poverty alleviation in the rural population. At the same time, it will require the elaboration and adoption of federal target programs for the development of reindeer herding and elimination of rural poverty.

At the regional level is necessary to maintain financial support to the construction and reconstruction of livestock facilities, purchase of new machinery and equipment, production of livestock and reindeer products, subsidizing interest rates on loans. It is proposed to issue targeted subsidies for starting a business in order to develop entrepreneurial activity in agriculture, fishery and processing of their products; also in the forest sector and tourism.

It is necessary to preserve the subsidizing of interest rates on loans for companies in the agricultural and food sector, to free the agricultural producers from paying property tax and transport tax. Regional authorities can adopt the necessary legislation that provides for exemption of investors from property taxation and transport taxation that goes to the regional budgets, and for the provision of guarantees when applying for a bank loan.

In order to attract qualified specialists into agriculture and fishery the state should create necessary conditions of life for them. For example, it is necessary to establish lump sum subsidies in the amount of one million rubles for university graduates who are employed in the agricultural sector and in the amount of 600 thousand rubles – for technical schools graduates, who are also employed in agriculture. It is necessary to establish the wages for young professionals that would be higher that the regional average, and to provide cheap mortgage (2–3%). In turn, young specialists are to work in rural areas for at least five years.

It is obvious that under the WTO the agriculture of the northern and arctic territories, which has not overcome the crisis of 1990–2000, will face new challenges in the technological and socio-economic development of the sector. The

risks and threats include the reduction of investment attractiveness and profitability of enterprises and households, which hampers agricultural sector modernization; the failure to implement the indicators set out in the Food Security Doctrine of the Russian Federation; the bankruptcy of agricultural enterprises and peasant-farm households due to low competitiveness; the reduction of the number of jobs; the reduction of tax revenues from the agricultural and food sector; the reduction of incomes and deterioration of the standard of living of farmers. In this regard, special importance is attached to the development of measures to prevent the aggravation of the socio-economic situation in agriculture and fishery. It is necessary to remove restrictions on the "yellow basket" for the northern and arctic areas that have extreme conditions for agriculture. The removal of restrictions on the provision of agricultural support to the zone of the North will increase the profitability of agricultural production and wages of its employees, ensure their employment, provide more investment opportunities for the modernization of cattle and reindeer breeding.

One of the most important decisions is to amend the Federal Law 2006 "On the development of agriculture" that provides for the identification of RF subjects with unfavorable conditions for farming and makes it possible to remove restrictions on the state support to agricultural enterprises in these regions allowed by the "yellow basket". In order to abandon the restrictions, the Ministry of Agriculture of Russia has identified 63 subjects with adverse conditions for agriculture development.

Under the conditions of Russia's membership in the WTO it is also useful to exempt agricultural workers from all taxes and to increase the role of long-term loans. Soft loans for the construction and modernization of livestock premises in the North and the Arctic should be granted for 20–25 years, and for the purchase of equipment – for 6–8 years.

Apparently, it is necessary to revise the corporate policy of resource companies with their desire to withdraw non-core assets from the balance of their business. It is desirable to recover subsistence agriculture within industrial enterprises, at least in the minimum amount and it should be funded from the profits of mining companies. The costs of agricultural production that are taken out of the profit should be exempt from taxes.

When substantiating the directions of improving state regulation of agriculture it is necessary to consider the role of the sector not only in the provision of food but also in addressing the issues of complex development in rural areas, the preservation of traditions, cultural and moral values, environment and natural landscape and satisfaction of recreational needs of the society. The implementation of multi-functionality implies carrying out the modernization of the agricultural sector within the framework of concepts and programs for integrated and sustainable rural development.

The term "rural development" has recently become widespread. The EU has been engaged in the development of policy in agriculture since the 1970s [6], in our country – since 2000s [2, 5, 7, 8, 11, 14].

The transition from the policy of development of the agrifood sector to rural development policy is necessary at the municipal level as well. An example of this target-oriented

management can be found in the municipal program of Usinsk urban district "Sustainable development of rural areas in 2014–2016 and for the period till 2020" dated November 28, 2013. The program consists of two subprograms: "Social development of the village" and "Agricultural development". The amount of subsidies from the municipal budget for the implementation of the program in 2014–2016 will be 89.8 million rubles, including for the subprogram "Social development of the village" – 48.0 million rubles, and for the subprogram "Development of the agro-industrial complex" – 41.8 million rubles.

The implementation of the measures set out in the program will create prerequisites for the improvement of living conditions in rural areas, for enhancing social-engineering development, for increasing the attractiveness of rural areas for comfortable life and work, for increasing the production of potatoes, meat and milk.

Currently, the local government in peripheral areas does not have the financial base for the integrated and sustainable development of their territories. According to some scientists, the accelerated socio-economic development of rural territories in Russia can be facilitated with the use of the one-tier model of local government with a strong economic base formed at the expense of own revenues by not less than 75% [13, p. 20].

The problem of development of rural areas and of the agricultural sector, the basic branch, is complex in its nature and it requires the involvement of regional science in the study of various aspects of spatial organization of the rural economy, production, market and social infrastructure. Science needs the social order for conceptual development of various scenarios for possible sustainable socio-economic development of the agricultural sector in rural areas.

Conclusion

The analysis of the current government support to agricultural production allows us to propose a set of measures for its improvement with regard to the northern and arctic areas.

1. In the conditions of the North and the Arctic, due to the low profitability of agriculture, significant payback period, lack of interest on the part of private investors to finance its development, the role of the state is especially important, because it acts as the organizer, coordinator and principal participant of the technological improvement of the sector and the solution of social problems of the village.

2. The analysis of the existing financial support to the agrarian sector of the arctic and subarctic areas of the Komi Republic indicates that its volume is insufficient not only for the innovation development of agriculture, but also for curbing the decline in production. The volume of budget support does not take into account the contribution of the zone of the North to the production of wholesome food, the specifics of agricultural specialization, the level of development of transport and social infrastructure. The main burden of financial support to agricultural producers falls on the regional budget. The enhancement of profitability and investment opportunities of the agricultural production requires the increase in the amount of direct government support in 3–4 times. Boosting the modernization of industry and infrastructure in rural areas will also require the allocation of state capital investments.

3. In order to achieve early transition of the agricultural economy to a new technological basis it is proposed to subsidize it not only from the regional budget but also from the federal budget. It is advisable to direct the federal budget funds to the state support for the increase of cattle and reindeer head, volume of beef, venison and milk, and for the elimination of rural poverty.

4. Russia's membership in the WTO will require that the limitations on the level of support for "yellow basket" be removed for the northern and arctic areas that have extreme conditions for agriculture. The removal of restrictions on agriculture of the North will increase profitability, wages of agricultural workers; it will provide their employment, increase investment opportunities and accelerate the modernization of cattle and reindeer breeding.

5. It will be necessary to enhance the role of long-term preferential loan in the modernization of the agrifood sector, to exempt agricultural organizations and farmers from taxation, to recover on a limited scale subsidiary farming of industrial enterprises and to finance it at the expense of the profit of mining companies.

6. The improvement of state regulation of agriculture is proposed to be undertaken within the framework of regional and municipal programs for the development of the agrarian sector and rural areas. Currently, the local government in rural areas of the Komi Republic has no financial basis for the integrated and sustainable development of its territories.

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Relationship between metallurgical works and the budget: debt increases, taxes decline

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Abstract. Large enterprises of ferrous metallurgy consolidate a significant share of cash flows and are important taxpayers for the budget.

In 2008–2013 two-thirds of the aggregate profit tax from the ferrous metallurgical industry were provided by seven largest plants: Novolipetsk Steel (NLMK); Cherepovets Steel Mill (CherMK); Nizhniy Tagil Iron and Steel Works (NTMK); Magnitogorsk Iron and Steel Works (MMK); Oskol Electrometallurgical Plant (OEMK); West-Siberian Metallurgical Plant (ZSMK) and Chelyabinsk Metallurgical Plant (ChMK). All these plants are the key assets of the largest multinational corporations; therefore, the analysis of their statements makes it possible to assess the financial condition not only of individual corporations, but also of the whole ferrous metallurgy.

The article presents the results of the analysis of the financial statements of the leading domestic enterprises of ferrous metallurgy for 2008–2013. Particular emphasis is placed on their relations with the budget in the field of profit tax administration. The author investigates the factors in the formation of profit before tax and reveals the destructive impact of the existing tax legislation on the mobilization of budget revenues. The article draws a conclusion about the role of large enterprises in the economic development of the country and its regions. The author proposes several options to change the tax policy in relation to large taxpayers.

Key words: iron and steel works, profit, budget, profit tax.

Steel production has been an important budget-making industry until the 2009 crisis. It lagged behind raw material production by the amount of tax payments, but it ranged 9th out of 83 economic branches.

The main source of tax payments received from the metallurgical complex was profit tax, whose share in the tax structure in the pre-crisis period amounted to over 80% (*fig. 1*).

In 2009 profit tax fell down sharply and has not recovered afterwards. In 2012–2013 the share of profit tax in the payment structure, assigned by ferrous metallurgy enterprises, was threefold lower than in 2008.

According to many experts and state authorities, the decrease in profit tax is caused by deteriorating market conditions.

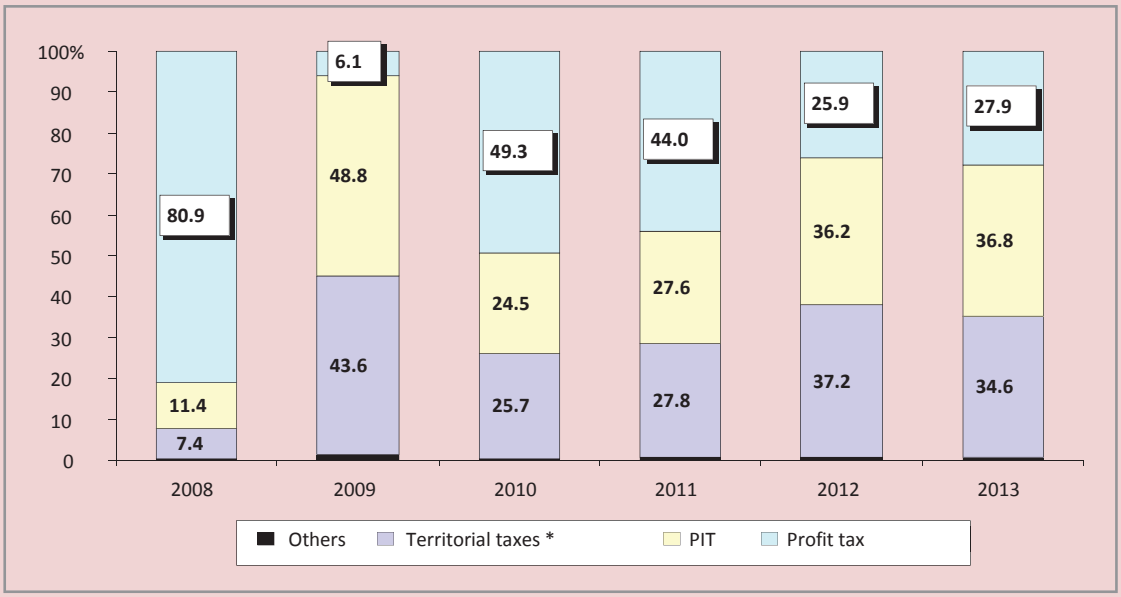
Indeed, the 2012–2013 prices revealed a downward trend; however, the annual average price level in 2010–2013 was higher than in 2005–2009 (*fig. 2*).

Therefore, it would not be entirely correct to refer the decline of tax liabilities only to negative price trends

To determine the real reasons for the situation, it is necessary to consider public financial statements, available at the official websites of joint stock companies [5, 6, 7, 8, 9, 10, 11].

The analysis of the actual data has indicated that the current system of

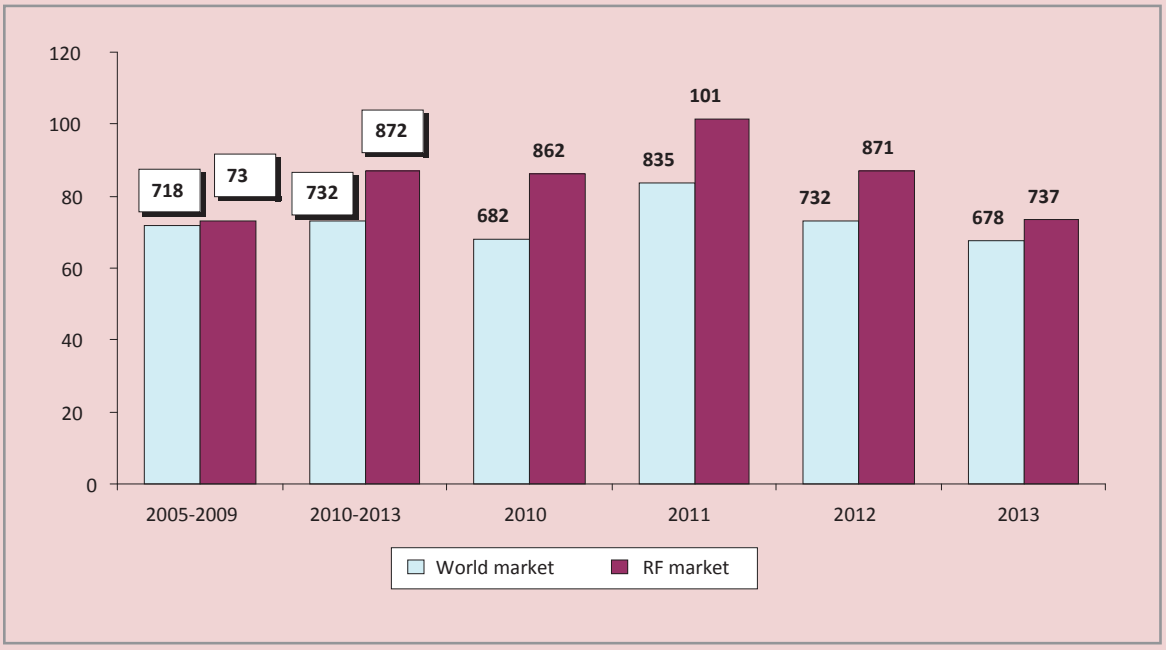
Figure 1. Structure of taxes received in the RF consolidated budget from the steel industry in 2008 and 2013, %



* Tax, property tax, transport tax, land tax.

Sources: FTS data; author's calculations.

Figure 2. Average prices for metal-roll* on the global and Russian markets in 2005–2013, dollars/tons



* Hot-rolled and cold-rolled flat steel.

Sources: data of Infogeo, the World Bank Group, Metaltorg; author's calculations.

corporate governance has many options not only for reduction of the tax base, but also for redistribution of the financial flows associated with the ownership and management of the largest enterprises' assets. Let us consider the practical application of some tools on the example of the leading domestic enterprises of ferrous metallurgy.

Pricing policy. One of the main indicators characterizing the localization of tax revenues at enterprises is the ratio of profit tax to sale proceeds. After 2008 the value of this ratio has rapidly decreased (*tab. 1*).

It is easy to notice that with the average decrease in the sales and revenue amount by 0.4–10% the drop in profit tax amounted to 64–96%. Only two enterprises had positive dynamics of sales and revenue – NLMK and ZSMK, but profit tax paid by the enterprise decreased by 70%, and ZSMK did not even make payments to the budget in 2013. In 2009–2011 Chelyabinsk Metallurgical Plant did not pay profit tax as they operated at a loss, and in 2012–2013 receipts amounted to 74 million rubles against 1.2 billion rubles in 2008

The stable decrease in profit tax, which is the main source of revenue for budgets, primarily territorial ones, indicates that at relatively stable volume of steel products sales part of the revenue was derived from the plants turnover. This conclusion is confirmed by the analysis of their sales activities on the foreign markets.

Table 1. Profit tax paid to the budget by metallurgical enterprises in 2008–2013

Indicators	2008	2009	2010	2011	2012	2013	2013 to 2008, %
CherMK							
Sales, thousand tons*	10197	8675	10142	10457	9802	9935	-2.6
Sale proceeds, million rubles	243635	143568	209767	254272	223611	212898	-12.6
Profit tax, million rubles	18138	594	5148	5104	1576	1339	-92.6
To proceeds, %	*7.4*	*0.4*	*2.5*	*2.0*	*0.7*	*0.6*	*-6.8 p.p.*
MMK							
Sales, thousand tons*	10911	8760	10203	10683	11031	10670	-2.2
Sale proceeds, million rubles	225972	137317	201824	247290	243059	224642	-0.6
Profit tax, million rubles	10512	508	1606	3133	853	405	-96.1
To proceeds, %	*4.7*	*0.4*	*0.8*	*1.3*	*0.3*	*0.2*	*-4.5 p.p..*
NLMK							
Sales, thousand tons*	8927	9518	9508	8933	9510	9340	+4.6
Sale proceeds, million rubles	202103	128575	179927	221178	240123	225492	+11.6
Profit tax, million rubles	17964	1322	5329	7077	4699	5351	-70.2
To proceeds, %	8.9	*1.0*	*3.0*	*3.2*	*2.0*	*2.4*	*-6.5 p.p.*
ChMK							
Sales, thousand tons*	4078	4120	4485	4309	4557	3756	-7.9
Sale proceeds, million rubles	86170	60225	94861	99203	93568	81813	-5.1
Profit tax, million rubles	1185	0	0	0	17	57	-95.2
To proceeds, %	1.4	0	0	0	0.02	0.07	-1.3 p.p..
OEMK							
Sales, thousand tons*	3175	3271	3282	3232	3251	3169	-0.2
Sale proceeds, million rubles	61560	39402	57100	70685	64435	57892	-6.0
Profit tax, million rubles	5208	-424	514	2594	2940	916	-82.4
To proceeds, %	*8.5*	*0*	*0.9*	*3.7*	*4.6*	*1.6*	*-6.9 p.p.*
ZSMK							
Sales, thousand tons*	5929	5644	6387	6523	6550	6859	+15.7
Sale proceeds, million rubles	119400	68281	102769	132840	130598	127335	+6.6
Profit tax, million rubles	7502	246	1142	186	26	0	x
To proceeds, %	*6.3*	*0.4*	*1.1*	*0.1*	*0.02*	*0*	x
NTMK							
Sales, thousand tons*	4710	3751	3797	4216	4461	4470	-5.1
Sale proceeds, million rubles	114745	61718	83894	109327	112970	109113	-4.9
Profit tax, million rubles	7644	1930	2680	468	2759	2744	-64.1
To proceeds, %	6.7	3.1	3.2	0.4	2.4	2.5	-4.2 p.p.

* Sales of metal products.
Sources: data of annual and financial reporting of metallurgical enterprises; DFTS in the Belgorod, Vologda and Lipetsk oblasts; author's calculations.

Unfortunately, the reporting of the enterprises contains extremely opaque information on export sales, so most of the indicators to analyze foreign sales of steel products are obtained by calculation.

According to our estimates, in 2008–2013 the metallurgical plants exported commercial products at prices 11–45% below the world prices, the total amount of the estimated lost sales proceeds amounted to 117.4 billion rubles per year. The aggregate values are presented in *table 2*.

Additional profit tax could total annually 24.7 billion rubles, including 3.7 billion rubles to the federal budget and 21 billion rubles to territorial budgets.

Metallurgical plants are known to export their products onto foreign markets through trading companies registered outside Russian jurisdiction [2]. According to our calculations and disclosed information about the related parties, during the analyzed period 70–95% of steel products were exported through traders; however, the lack of publicly available financial statements of these companies does not allow measuring the volume of Russian enterprises' future sales and gained proceeds.

At the same time, the website of OAO Severstal discloses the data on annual turnover of the Swiss trader company "Severstal Export GmbH", through which two-thirds of metal-roll Cherepovets Steel Mill were sold in 2010, 2011 and 2013 (*tab. 3*).

Table 2. Lost export sales proceeds of the metallurgical plants in 2008–2013, billion rubles per year

Indicators	CherMK	MMK	NLMK	ChMK	OEMK	ZSMK	NTMK	Total
Average price of the plant, dollars/tons	620	510	723	560	648	421	439	x
Average world price, dollars/tons	786	766	812	766	750	766	766	x
Difference in prices, %	-21.1	-33.4	-11.0	-26.9	-13.6	-45.1	-42.7	x
Loss of revenue	14712	29006	12792	7431	6713	29142	17640	117436
Additional profit tax	3062	6143	2624	1637	1343	6139	3747	24695
- to the federal budget	428	963	329	318	135	931	598	3702
- to the regional budget	2634	5180	2295	1319	1208	5208	3149	20993

Sources: data of annual and financial reports of metallurgical plants; author's calculations.

Table 3. Sales of the company "Severstal Export GmbH" in 2010–2011 and 2013

Indicators	2010	2011	2013	Average
Annual turnover in terms of volume, million tons	2.4	3.84	2.52	8.8
In % of CherMK total export	50.0	90.4	69.6	68.7
Annual turnover in terms of value, billion rubles	68.9	75.3	47.5	63.9
Sales price, dollars/tons*	942	609	576	709
Sale of CherMK company "Severstal Export GmbH", billion rubles	55.1	57.5	34.7	49.1
Sales price, dollars/tons*	753	465	421	546
Difference between "Severstal Export GmbH" receipts and CherMK receipts from "Severstal Export GmbH" sales	13.8	17.8	12.8	14.5

* The price is calculated on the basis of "Severstal Export GmbH" sales and revenue amounts.
Sources: the official site of OAO Severstal (the "Businesses"); financial statements of OAO Severstal; Vologda; author's calculations.

According to the calculated data, the trader has shipped products at prices that are 30% higher than CherMK sales prices. As a result, on the average annually 14.5 billion rubles as revenue from the resale of CherMK metal roll remains allegedly in the company "Severstal Export GmbH". This amount coincides with the amount of the calculated average annual revenue the plant did not get in 2010, 2011 and 2013.

Hence, there is reason to believe that the other plants moved out the main part of revenue, lost due to the export sales at prices below the world market, into the offshore.

Thus, the pricing policy of the steel industry enterprises on foreign markets has not boosted market revenues and, accordingly, tax payments.

Selling and administrative expenses. The selling and administrative costs dynamics, directly affecting the tax base formation, revealed an upward trend in 2008–2013 (*tab. 4*).

The especially noticeable increase in these expenses was observed in 2011–2013. Not only absolute but also relative amounts of these costs, defined by their ratio to the sales revenue, grew. West Siberian Iron and Steel Works, Cherepovets Steel Mill and Novolipetsk Steel were leaders in raising costs. Only Chelyabinsk Metallurgical Plant had stable expenditure.

For example, only in 2013 selling and administrative expenses "ate" all gross profit of NLMK and ZSMK, 91% of the profit of CHMK and more than 60% of the profit of CherMK, MMK and OEMK (*tab. 5*). Needless to say that gross profit is essential for the formation of sales profit and final financial results.

The significant part of administrative costs was allocated to the remuneration of the corporations' highest governance bodies – the Board of Directors, management boards and management organizations. While tax revenues were decreasing, the top managers' income increased (*tab. 6*).

However, the nominal amount of the remuneration draws the attention. In 2009–2013 at Cherepovets Steel Mill and Oskol Electrometallurgical Plant it averaged 6–8 million rubles per month, and as for Magnitogorsk Iron and Steel Works and Novolipetsk Steel, it was 2.5 million rubles and 1.1 million rubles, respectfully.

Table 4. Selling and administrative expenses of metallurgical plants in 2008–2013

Plant	2008		2009, billion rubles	2010, billion rubles	2011, billion rubles	2012, billion rubles	2013, billion rubles	Average for 2009–2013		2013 to 2008, %
	Billion rubles	To revenue, %						Billion rubles	To revenue, %	
ZSMK	5.2	4.4	3.8	5.1	11.9	15.7	15.8	10.5	9.3	303.8
CherMK	12.3	5.1	13.4	17.7	22.2	25.7	23.6	20.5	9.8	191.9
NLMK	14.6	7.2	16.8	20.3	22.7	26.2	26.4	22.5	11.3	180.8
MMK	11.2	5.0	9.6	11.4	12.5	16.9	19.5	14.0	6.6	174.1
NTMK	6.1	5.3	4.4	4.7	7.8	10.0	10.2	7.4	7.8	167.2
OEMK	3.5	5.7	3.1	4.1	5.5	5.7	5.2	4.7	8.1	148.6
ChMK	4.2	4.9	3.4	4.2	4.3	4.7	4.9	4.3	5.0	116.7

Sources: financial statements of metallurgical plants; author's calculations.

Table 5. Gross profit, sales profit, selling and administrative expenses of metallurgical plants in 2013, billion rubles

Indicators	CherMK	MMK	NLMK	ChMK	OEMK	ZSMK	NTMK
Gross profit	38.7	31.6	25.8	5.4	7.8	14.7	31.5
Selling and administrative expenses	23.6	19.5	26.4	4.9	5.2	15.8	10.2
To gross profit, %	61.1	61.9	102.5	91.2	67.1	107.4	32.4
Sales profit (loss)	15.1	12.0	(0.6)	0.5	2.6	(1.1)	21.3

Sources: financial statements of metallurgical plants; author's calculations.

Table 6. Average annual remuneration of the steel mills management bodies* in 2009-2013

Indicators	2009	2010	2011	2012	2013	Average for 2009–2013
CherMK (10 members of the Board of Directors)						
Average monthly wages of a plant employee, thousand rubles	29,8	33,7	39,3	46,9	52,7	40.5
Wages of a management body employee, thousand rubles per month	5250	5011	8904	5417	6680	6252
To average wages of plant employees, times	176	149	227	116	127	154.4
MMK (25 members of the Board of Directors and the Management Board)						
Average monthly wages of a plant employee, thousand rubles	27.9	34.5	39.6	43.4	45.6	38.2
Wages of a management body employee, thousand rubles per month	2171	1463	3942	2237	2787	2520
To average wages of plant employees, times	78	42	100	52	61	66.0
NLMK (19 members of the Board of Directors and the Management Board)						
Average monthly wages of a plant employee, thousand rubles	26,7	32,1	35,4	39,0	43,1	35.3
Wages of a management body employee, thousand rubles per month	1069	1431	1096	861	1288	1149
To average wages of plant employees, times	40	45	31	22	30	32.5
OEMK (8 members of the Management Board)						
Average monthly wages of a plant employee, thousand rubles	24.9	28.3	31.6	35.0	36.3	31.2
Wages of a management body employee, thousand rubles per month	3393	4341	8776	11800	11800	8022
To average wages of plant employees, times	136	153	278	337	325	257.0

* Data for ChMK, ZSMK and NTMK are not given, because there is no information on the number of management body employees (the Management Board).
Sources: financial statements of metallurgical plants; author's calculations.

The average monthly remuneration of senior management bodies at OEMK and CherMK was hundredfold higher that the average monthly salary of other staff.

Uncontrolled selling and administrative expenses relative to revenues resulted in the reduction of profit for tax purposes (*tab. 7*).

According to our calculations, with the expenditures share being maintained at the 2008 level the selling and administrative expenses included in profit tax could have annually decreased by 1.4–10 billion rubles in 2009–2013, which could have increased aggregate profit tax by 6.2 billion rubles.

Interest payments. Interest expenses also reduce pretax profit. They grew progressively at the enterprises of ferrous metallurgy (*tab. 8*).

The significant increase in loans and borrowings was a key factor to raise interest expenses. At the end of 2013 the NTMK debt exceeded sales revenue by 21%. OEMK and CherMK had a high debt load, which amounted to respectively 97% and 80%. Of all enterprises only ChMK managed to reduce the debt payable.

In 2009–2013 the growing interest payments for loans servicing annually reduced taxable profit of CherMK by 10 billion rubles. At other enterprises the impact of the expenses to pay interest on profit was less significant (2–4 billion rubles).

As a result of sharp growth in absolute volumes of interest payments and their share in sales proceeds increased by 2–4 times (*tab. 9*).

According to our calculations, with the expenditures share being maintained at the 2008 level, the interest expenses included in taxation in 2009–2013 could have been annually reduced at CherMK by 6 billion rubles, at other plants – by 1–3 billion rubles.

In this case, additional profit tax paid by all metallurgical plants could reach 3.5 billion per year.

The study has showed that the enterprises' high debt burden resulted in the reduction of the tax base and the low profitability of own funds, reflecting a lack of sustainable profit and thereby

Table 7. Impact of the increased share of selling and administrative expenses in the revenue of metallurgical plants* on the formation of profit tax

Indicators	CherMK	MMK	NLMK	OEMK	ZSMK	NTMK
Expenses in 2008 to revenue, %	5.1	5.0	7.2	5.7	4.4	5.3
Expenses in 2009–2013, million rubles per year	20543	14012	22508	4737	10470	7485
To revenue, %	9.8	6.6	11.3	8.1	9.3	7.8
Expenses in 2009–2013 with the expenditures share being maintained at the 2008 level, million rubles	10650	10541	14332	3300	4944	5056
Difference, million rubles	9893	3471	8176	1437	5526	2429
Profit tax, which could have come to the budget in 2009–2013 with the expenditures share being maintained at the 2008 level, million rubles per year	1979	694	1635	287	1105	486
* Data for ChMK are not provided due to the 0.1% increase in the share of expenditures						

Table 8. Loan debt and interest expenses of the steel mills in 2008–2013, billion rubles

Indicators	2008	2009	2010	2011	2012	2013	2013 to 2008, %
CherMK							
Debt	127.2	141.1	147.8	158.5	194.1	168.1	132.2
In % of revenues	52.2	98.3	70.5	62.3	86.8	78.9	+26.7 p.p.
Interest payable	4.7	8.8	10.8	10.3	10.9	9.2	196.3
MMK							
Debt	24.2	39.3	72.9	107.7	90.7	80.0	331.4
In % of revenues	10.7	28.6	36.1	43.6	37.3	35.6	+25.2 p.p.
Interest payable	1.1	1.6	2.3	3.5	4.4	3.9	351.3
NLMK							
Debt	63.5	62.0	78.6	105.9	106.0	112.8	177.6
In % of revenues	31.4	48.2	43.7	47.9	44.1	50.0	+18.6 p.p.
Interest payable	2.0	2.1	3.2	3.7	6.3	6.4	312.8
ChMK							
Debt	51.8	55.0	44.6	45.7	38.0	43.5	84.0
In % of revenues	60.1	91.4	47.0	46.1	40.5	53.1	-7 p.p.
Interest payable	2.3	4.0	4.2	3.2	3.2	3.1	137.4
OEMK							
Debt	43.8	49.3	42.4	61.9	63.7	56.2	128.3
In % of revenues	71.1	125.1	74.3	87.6	98.9	97.1	+26 p.p.
Interest payable	1.8	3.2	3.4	2.7	3.0	3.1	175.1
ZSMK							
Debt	15.8	18.3	33.4	22.9	25.1	32.1	203.2
In % of revenues	13.3	26.9	32.5	17.3	19.2	25.2	+11.9 p.p.
Interest payable	0.7	1.5	2.5	2.0	1.5	2.2	327.0
NTMK							
Debt	23.7	25.6	30.4	36.3	140.7	131.6	5.6 p.
In % of revenues	20.7	41.5	36.2	33.2	124.6	120.6	+99.9 p.p.
Interest payable	1.0	1.9	2.2	1.8	2.6	10.3	10.3 p.

Sources: balance sheet data; reports on profit and loss; reports on cash flows of steel mills; author's calculations.

Table 9. Impact of the increased share of interest expenses in the revenue of metallurgical plants*on the formation of profit tax

Indicators	CherMK	MMK	NLMK	ChMK	OEMK	ZSMK	NTMK
Expenses in 2008 to revenue, %	1.9	0.5	1.0	2.6	2.9	0.5	0.9
Expenses in 2009–2013, million rubles per year	9992	3127	4322	3526	3093	1938	3782
To revenue, %	4.8	1.5	2.2	4.1	5.3	1.7	4.0
Expenses in 2009–2013 with the expenditures share being maintained at the 2008 level, million rubles	3968	1054	1991	2234	1679	562	859
Difference, million rubles	6024	2073	2331	1292	1414	1376	2923
Profit tax, which could have come to the budget in 2009–2013 with the expenditures share being maintained at the 2008 level, million rubles per year	1205	415	466	258	283	275	585

Table 10. Profitability of funds at the steel mills in 2008–2013, %

Plant	2008	2009	2010	2011	2012	2013	2013 to 2008, p.p.
CherMK	13.8	0.4	-14.8	-0.8	7.8	4.2	-9.6
MMK	30.8	15.8	12.6	-0.9	4.1	-39.7	x
NLMK	30.7	9.3	11.4	11.4	6.6	-4.2	x
CHMK	21.2	-17.9	-2.9	-1.1	-2.6	-208.1	x
OEMK	55.6	9.3	33.4	39.4	22.1	9.2	-46.4
ZSMK	81.2	0.2	8.9	-3.5	22.6	10.7	-70.5
NTMK	56.6	12.1	16.2	9.3	23.5	10.1	-46.5

Source: calculated by the author according to the report on profits and losses of the steel mills

complicating the process of debt reduction. The data of table 10 clearly reflects this pattern, indicating the presence of a high level of profitability before the crisis and a sharp decline thereafter. At the same time, the provided data demonstrate that profitability was not recovered. On the contrary, in 2013 it had a minimum value and at MMK, NLMK and ChMK it moved in the negative zone (*tab. 10*).

The drop-down of the metallurgical plants due to the high debt load is hazardous for not only the budget system, but also the economy as a whole, as profit deficit of the strategic enterprises hinders the solution of long-term problems.

Non-core activities. The analysis of the enterprises' financial reporting has revealed another problem associated with the method to determine taxable profit.

There are different approaches to the definition of profit as an economic category and profit for tax purposes, so the profit value as an object of tax administration differs from profit as a result of industrial activity. If the latter is formed mainly due to market factors, the process to define taxable profit has specific features, taking into account the assessment of revenues and expenses [13]. Thus, the enterprises have to maintain accounting and special tax records. In our opinion, it is not entirely justified, since it is accounting records that reflect financial and business operations; tax records consider all expenditure of the taxpayers [14].

For example, the revenues received as dividends from participation in the authorized capitals of other enterprises are included in the accounting records, but not taken into account in the tax records.

Since January 1, 2008 the Russian Federation has introduced a zero rate of profit tax accrued on dividends from strategic participation[1] of a Russian enterprise in other companies. As a result of the zero rate of taxation on dividends got by the metallurgical plants, the federal budget did not annually receive approximately 8 billion rubles in 2008–2013 (*tab. 11*).

In addition, the substantial part of the enterprises' expenditure is connected with the costs, which belonging to the group of non-core expenses should be reassessed.

[1] Strategic participation should meet the requirements established by the Tax Code of the Russian Federation: the shares are in ownership for more than 365 calendar days, and the share in the authorized capital exceeds 50%.

This is expenditure to create reserves for devaluation of financial investments and doubtful debts. In 2008–2013 these costs reduced profit of the enterprises by 46 billion rubles per year.

In general, in 2008–2013 calculated profit tax that was not received to the budget due to the zero rate of taxation on participation capital and the inclusion of assessed reserves in the non-core expenses amounted to 17.4 billion rubles per year, including: 9.1 billion rubles – to the federal budget, 8.3 billion rubles – to regional budgets.

The profit tax assessment in accordance with the tax record method often leads to the reduction of the payments amount calculated in the accounting record. For example, if we consider reporting of the ferrous metallurgy enterprises for 2012, we can see that at all plants, except for the OEMK, current profit tax, according to the tax record, was much lower than notional profit tax calculated at the standard 20% rate (*tab. 12*).

Thus, the lack of consistency between profit as an object of tax administration with the economic content and profit as an objective category indicates the imperfection of the tax legislation, complicates the mechanism of the tax base formation, often leading to its understatement and subsequent profit tax reimbursement from the budget, distorting its fiscal function.

Table 11. Dividends from participation in other organizations, and other expenses of the steel mills* in 2008–2013, million rubles per year

Indicators	CherMK	MMK	NLMK	ChMK	ZSMK	NTMK	Total
Dividends received	4510	560	19118	333	7054	7666	39728
Profit tax	904	119	4021	67	1470	1612	8193
Other expenses**	21746	13955	7280	2204	427	250	45963
Profit tax	4349	2791	1456	441	85	50	9172
Total profit tax	5253	2910	5477	508	1555	1662	17365
- to the federal budget	1399	398	4167	111	1478	1617	9110
- to the regional budget	3914	2512	1310	397	77	45	8255

* Data on OEMK are not presented due to minor amounts of dividends received (81 million rubles) and other expenses (51 million rubles).
** Balance of assessed reserves for financial investments and doubtful debts.
Sources: financial statements of metallurgical plants; author's calculations.

Table 12. Amount of the reduction in profit tax calculated according to the tax record in 2012, million rubles

Indicators	CherMK	MMK	NLMK	OEMK	ZSMK	NTMK
Pretax profit	16341	11399	24223	6059	9320	28066
Current profit tax	2280	1958	2730	1487	250	2939
Nominal profit tax (20%)	3268	2280	4845	1212	1864	5613
Difference						
million rubles	-988	-322	-2115	275	-1614	-2674
%	-30.2	-14.1	-43.7	+22.7	-86.6	-47.6

* Data on ChMK are not provided as the enterprise had pretax profit only in 2008.
Sources: reports on profit and losses of steel mills; author's calculations

Consolidation of taxation. The Consolidated Taxpayer Group (CTG) lobbied by big business is one of the tax optimization methods. It admits the offset of profits and losses of enterprises within the group [3].

Cherepovets Steel Mill and Novolipetsk Steel are responsible parties of CTG OAO Severstal and CTG OJSC NLMK.

Consolidating taxation the RF Government expected the "creation of an effective and stable tax system, ensuring budget sustainability" [4].

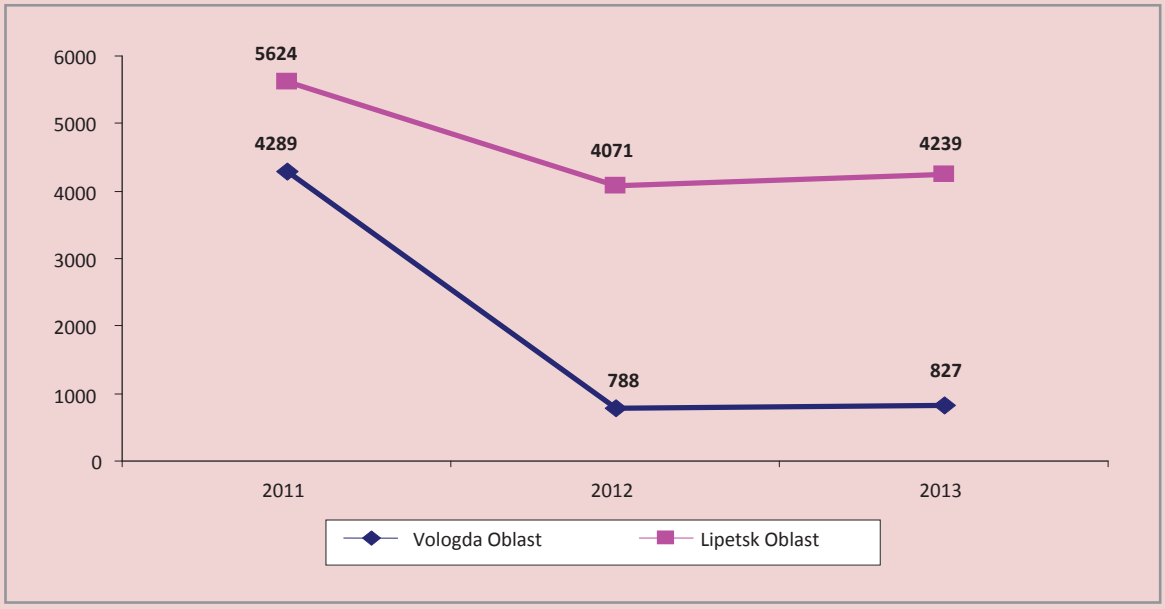
How these expectations were met, one can judge, for example, by the changed dynamics of profit tax received from the metallurgical plants to the budgets of the Vologda and Lipetsk oblasts *(fig. 3)*.

After creating the CTG in 2012–2013 in the Vologda Oblast tax revenues from ferrous metallurgy decreased by 3.5 billion rubles and did not even amount to 20% of the 2011 level. In the Lipetsk Oblast the fall of payments was not as dramatic, but still substantial – 26%.

In general, according to the Accounts Chamber of the Russian Federation, due to the consolidation of losses within the CTG the regional budgets lacked 8 billion rubles in 2012 and 16.4 – in 2013.

As only six of the twenty-two members of CTG Severstal and five of ten members of CTG NLMK are open joint stock companies disclosing financial reports, it is impossible to assess the impact of most consolidated companies on the change in tax revenues. However, available financial reports of the leading enterprises help define a general trend of financial results and tax liabilities (*tab. 13*).

Figure 3. Profit tax paid by steel mills to the budgets of the RF subjects in 2011–2013, million rubles



Source: FTS data.

Table 13. Profit tax accrued in the financial statements of joint stock companies, included in the CTG OAO Severstal and OJSC NLMK, million rubles

CTG OAO Severstal					CTG OJSC NLMK				
OJSC	Pretax profit		Current profit tax		OJSC	Pretax profit		Current profit tax	
	2012	2013	2012	2013		2012	2013	2012	2013
CherMK	16341	9170	2280	0,5	NLMK	24223	0	2730	0
Vorkutaugol	2500	3132	303	172	Altai-Koks	4430	1939	875	394
Karelskiy Okatysh mine	10366	11498	2408	2234	Stoilensky GOK	24447	28301	4651	5480
Olkon	3378	1445	576	157					
Total	33729	22113	5566	2564	Total	53100	17927	8256	5875
Profit tax paid			1691	1407	Profit tax paid			4699	5351
Sources: reports on profit and losses of steel mills; FTS.									

As you can see, in 2012–2013 the key players of OAO Severstal had a significant amount of pretax profit. According to the reports, the amount of tax payable totaled 5.6 billion rubles in 2012 and 2.6 billion rubles in 2013. However, the FTS data indicate that in fact, 1.7 billion rubles was paid to the budget in 2012, or by 4 billion rubles less than calculated. Similarly, in 2013, tax paid was less than calculated by 1.2 billion rubles

At OJSC NLMK in 2012 all the main members got pretax profit; calculated tax amounted to 8.3 billion rubles and tax paid – to 4.7 billion rubles.

At the end of 2013, the responsible team member – NLMK – was at a loss; that is why contributions to the budget were made mainly by Stoilensky GOK.

So, the result of offset of profits and losses is the following: pretax profits of the above companies were balanced by losses of other group members that do not disclose their financial statements.

The negative dynamics of tax collection after the introduction of the CTG shows that the current tax policy, especially concerning the largest taxpayers, does not boost budget revenues, but on the contrary, gives additional possibilities for "optimization" of taxation.

Distributive policy. Analyzing the factors reducing the fiscal function of the leading steel mills, we cannot but touch upon the issues of distributive relations, since they are directly determined by the level of profitability.

The dividend policy of the enterprises was multidirectional. If at CherMK and OEMK almost all after-tax profit was used to pay dividends to the shareholders, MMK and NLMK spent 22–24% of net profit for these purposes. However, at MMK, unlike CherMK, the dividends were not paid at a loss.

Due to the deteriorating financial situation in 2008–2013 the dividends to ChMK shareholders were not paid, and at ZSMK and NTMK the payments were made only in 2008, although the amount of net profit at NTMK was 1.4 times higher than at CherMK (*tab. 14*).

It is important to emphasize the skew of CherMK and OEMK distributive policy rather in the direction of consumption than fulfillment of obligations to the budget: the dividend payments twofold exceeded the contributions to the budget, while at other plants this gap was much smaller.

Table 14. Steel mills' expenditure on the dividend payment in 2008–2013, million rubles

Indicators	2008	2009	2010	2011	2012	2013	2008–2013
CherMK							
Net profit (loss)	38579	1356	(39628)	(1909)	14638	8055	62628
Dividends	30957	0	6762	15307	9622	6953	62648
To net profit, %	80.2	0	loss		65.7	86.3	100.0
CherMK profit tax *	18138	594	5148	5104	1576	1339	31899
MMK							
Net profit (loss)	10064	27406	24377	(1692)	7925	(54924)	69772
Dividends	4269	4135	3688	0	3129	0	15221
To net profit, %	42.4	15.1	15.1	0	39.5	0	21.8
MMK profit tax *	10512	508	1606	3133	853	405	17017
NLMK							
Net profit (loss)	71676	23998	32384	34667	21318	(12829)	184043
Dividends	11986	1319	10908	11986	3716	4015	43930
To net profit, %	16.7	5.5	33.7	34.6	17.4	49.3	*23.9*
NLMK profit tax *	17964	1322	5329	7077	4699	5351	41742
OEMK							
Net profit (loss)	17355	1929	7086	8137	4675	1997	39182
Dividends	15446	0	1900	7086	8137	3750	36319
To net profit, %	89.0	0	98.5	100.0	100.0	80.2	92.7
OEMK profit tax *	7433	0	514	2594	2940	916	14397
ZSMK							
Net profit (loss)	27907	82	3351	(1044)	8743	4639	44722
Dividends	15400	0	0	0	0	0	15400
To net profit, %	55.2	0	0	0	0	0	34.4
ZSMK profit tax *	7502	246	1142	186	26	0	9102
NTMK							
Net profit (loss)	29184	7109	11390	7204	23799	11393	90079
Dividends	16650	0	0	0	0	0	16650
To net profit, %	57.1	0	0	0	0	0	18.5
NTrMK profit tax *	7644	1930	2409	310	2939	2193	17425

* Profit tax paid to the federal and regional budgets.
Sources: data of financial statements of steel mills; author's calculations.

Despite the decline in profitability the domestic enterprises of ferrous metallurgy concentrated significant financial flows; it demonstrates the availability of investment resources to implement development programs. The balanced financial result of the industry two-threefold exceeds the amount of investment in the development of metallurgical production [1].

In 2008–2013 the steel mills had billions of own funds in the form of retained profit and cash assets (*tab. 15*).

Table 15. Steel mills' own funds and investments in 2008–2013, billion rubles

Indicators	CherMK	MMK	NLMK	ChMK	OEMK	ZSMK	NTMK
Own funds*	147.6	141.9	290.7	11.2	21.8	32.3	81.5
Depreciation of fixed assets, %**	46.1	42.4	37.9	44.0	51.1	45.1	46.7
Investment in fixed capital*	11.1	27.2	22.5	8.8	2.7	5.8	3.3
In % to own funds	7.5	19.2	7.7	78.6	12.4	18.1	4.1
Financial investment*	284.4	66.2	174.6	8.6	32.8	24.2	99.6
To investment in fixed assets, times	25.6 p.	2.4 p.	7.8 p.	0.98	12.1 p.	4.2 p.	30.2 p.

* Average annual volume.
** At the end of 2013.
Sources: data of balance sheets and financial statements of steel mills; author's calculations.

However, just 4–19% of these funds were used for capital investment. At the same time, the financial investments as contributions to the authorized capitals of other enterprises and loans granted at Cherepovets Steel Mill, Oskol Electrometallurgical Plant and Nizhniy Tagil Iron and Steel Works repeatedly exceeded not only the investment in fixed capital, but also own funds. It is no coincidence that these enterprises had the highest debt burden, as own resources and loans of commercial organizations served as sources of financial investment. It should be noted that only Chelyabinsk Metallurgical Plant allocated 80% of its own funds for capital investment.

According to the enterprises' financial reports, in 2008–2013 the total amount of funds spent for the acquisition of other companies and the issuance of long-term loans amounted to 1.5 trillion rubles, or 243 billion rubles per year (*tab. 16*).

For example, only Cherepovets Steel Mil and Novolipetsk Steel annually moved out 55.4 and 37.6 billion rubles, respectively. It is comparable with the annual revenues of consolidated budgets of the Vologda and Lipetsk oblasts[2].

The negative value of net cash assets from investment activities indicates that the financial flows were moved out from the economic turnover of the ferrous metallurgy enterprises.

In 2008–2013 all the enterprises were indebted to the budget, and in the analyzed period the tax burden increased by 2–3 times (*tab. 17*).

Only West Siberian Iron and Steel Works managed to reduce the debt.

The debt repayment at the end of 2013 could have increased contributions to the budget by 7 billion rubles.

Amid growing debts to the budget the metallurgical plants in accordance with the current tax legislation claimed a refund of VAT paid when exporting products and profit tax.

[2] According to the Federal Treasury, in 2008–2013 the average annual revenue of the consolidated budgets amounted to 49 billion rubles the Vologda Oblast, 41 billion rubles in the Lipetsk oblast.

Table 16. Steel mills' expenditure on the investments in the authorized capitals of other enterprises and loans granted in 2008–2013, billion rubles

Indicators	2008	2009	2010	2011	2012	2013	Total for 2008–2013	Average for 2008–2013
CherMK								
Investments in the authorized capital and loans granted	121.0	62.7	80.5	51.1	13.5	3.6	332.4	55.4
Net cash assets from investments	-87.0	-32.0	-21.5	-27.2	24.2	21.6	-121.9	-20.3
MMK								
Investments in the authorized capital and loans granted	72.3	38.3	9.1	21.1	2.3	12.5	155.6	25.9
Net cash assets from investments	-13.0	-45.9	-42.2	-32.2	-14.2	-16.4	-163.9	-32.8
NLMK								
Investments in the authorized capital and loans granted	33.7	49.7	31.6	44.8	37.0	29.0	225.8	37.6
Net cash assets from investments	-71.9	-45.8	-42.4	-44.0	-7.0	-0.06	-211.2	-35.2
ChMK								
Investments in the authorized capital and loans granted	34.1	22.1	1.0	0.02	0.007	3.1	60.3	10.1
Net cash assets from investments	-8.7	-10.0	17.3	9.2	-4.3	-5.1	-1.6	-0.3
OEMK								
Investments in the authorized capital and loans granted	113.1	17.5	27.4	27.7	28.9	50.9	265.5	44.3
Net cash assets from investments	-5.6	-4.3	1.0	-11.6	-7.3	6.6	-21.2	-3.5
ZSMK								
Investments in the authorized capital and loans granted	36.6	5.8	42.8	30.8	0.03	0	116.0	19.3
Net cash assets from investments	-16.4	-1.5	-26.3	6.8	1.4	1.3	-34.7	-5.8
NTMK								
Investments in the authorized capital and loans granted	23.1	14.0	40.3	12.8	193.6	18.2	302.0	50.3
Net cash assets from investments	-7.2	-12.0	-20.2	-4.2	-117.3	0.3	-160.6	-26.8
Total investments and loans	**433.9**	**210.1**	**232.7**	**188.3**	**275.3**	**117.3**	**1457.6**	**242.9**

Sources: data of financial statements of steel mills; author's calculations.

Table 17. Steel mills' debt to the budget and tax reclaim in 2008–2013, million rubles

Indicators	2008	2009	2010	2011	2012	2013	Average for 2008–2013
Debt, million*	488	1075	620	1375	1515	1678	x
To the amount of taxes paid, %	1.8	19.1	6.3	12.4	17.9	19.7	x
Tax reclaim **	10892	5769	7352	7861	5904	3378	6859
The amount of taxes paid, %	51.8	81.6	77.4	108.2	97.9	94.5	75.5
MMK							
Debt, million*	762	835	870	1013	1229	1018	x
To the amount of taxes paid, %	4.4	16.4	8.5	6.3	15.1	11.9	x
Tax reclaim **	11664	7469	7620	12443	8808	5957	8994
The amount of taxes paid, %	81.0	147.0	74.4	77.8	108.3	69.7	82.5
NLMK							
Debt, million*	590	765	880	938	1454	1707	x
To the amount of taxes paid, %	2.5	10.8	7.5	6.4	11.1	11.8	x
Tax reclaim **	10805	8167	12186	17386	15111	15728	13231
The amount of taxes paid, %	46.2	115.7	104.3	118.1	115.2	108.9	94.0
ChMK							
Debt, million*	310	327	981	1175	755	871	x
To the amount of taxes paid, %	5.4	12.5	31.6	37.0	24.5	23.9	x
Tax reclaim **	3538	777	815	1075	674	667	1258
The amount of taxes paid, %	62.0	29.8	26.2	33.8	21.9	18.3	35.4
OEMK							
Debt, million*	213	232	597	385	323	292	x
To the amount of taxes paid, %	2.6	11.3	15.8	5.7	5.7	9.7	x
Tax reclaim **	4218	3870	3321	3806	3058	3284	3593
The amount of taxes paid, %	51.2	187.8	87.9	55.8	53.9	108.8	72.9
ZSMK							
Debt, million*	722	455	273	533	507	546	x
To the amount of taxes paid, %	5.8	20.7	7.4	13.8	10.6	9.5	x
Tax reclaim **	1496	6105	5927	4585	6479	6352	5157
The amount of taxes paid, %	12.1	277.2	47.1	26.4	28.9	30.1	35.2
NTMK							
Debt, million*	393	290	373	1213	921	818	x
To the amount of taxes paid, %	3.6	8.9	8.0	30.8	13.9	11.7	x
Tax reclaim **	1091	2703	1278	2547	1681	1820	1853
The amount of taxes paid, %	10.0	82.6	27.3	64.6	25.4	26.0	30.5

* Debt to the federal, territorial budgets and state extra-budgetary funds.
** Profit tax and value added tax (VAT).
Sources: data of balance sheets and financial statements of steel mills; consolidated financial statements of OAO Severstal, OJSC MMK and OJSC NLMK; author's calculations.

Table 18. Fortune of the metallurgical corporations owners in 2008–2013

Indicators	2008	2009	2010	2011	2012	2013	2013 to 2008, times
CherMK (PAO Severstal– 79.17%)*							
Owner's fortune, billion rub.	149.6	287.4	522.1	451.3	399.8	378.9	+2.5
CherMK debt burden, %	11.1	2.8	4.4	4.4	3.8	4.0	-2.8
MMK (OJSC MMK – 82.27%)*							
Owner's fortune, billion rub.	87.0	284.5	316.1	165.2	131.2	101.0	+1.2
MMK debt burden, %	7.7	3.7	4.3	6.5	3.0	3.6	-2.1
NLMK (OJSC NLMK – 85.54%)*							
Owner's fortune, billion rub.	181.0	458.7	677.3	469.0	440.4	599.0	+3.3
NLMK debt burden, %	11.6	5.5	6.7	5.5	6.4	6.2	-1.9
ChMK (OJSC Mechel – 67.42%)*							
Owner's fortune, billion rub.	34.8	158.8	251.2	91.4	56.2	14.7	-2.4
NLMK debt burden, %	6.6	4.3	3.3	3.2	3.3	4.5	-1.5
OEMK (Metalloinvest– 48%)*							
Owner's fortune, billion rub.	55.7	209.1	499.5	533.9	550.0	671	+12.0
NLMK debt burden, %	13.4	5.2	6.6	9.6	8.8	5.2	-2.6
ZSMK and **NTMK** (Evraz– 31%)*							
Owner's fortune, billion rub.	295.8	325.2	378.2	356.9	318.6	328	+1.3
ZSMK debt burden, %	10.4	3.2	3.6	2.9	3.7	4.5	-2.3
NTMK debt burden, %	9.5	5.3	5.6	3.6	5.9	6.4	-1.5

* Name of the corporation, with the plant being its asset, and the share of the controlling interest of the principal shareholder of the corporation.
Sources: Forbes magazine; financial statements of steel mills; author's calculations.

In 2008–2013 the annual amount of payments compensated from the budget amounted to 41 billion rubles[3], including profit tax – 5.3 billion rubles, VAT – 35.6 billion rubles. At the same time, MMK and NLMK reclaimed 83–94% of the payments, CherMK and OEMK – more than 70%.

The current tax legislation does not link the contribution of the leading steel enterprises to the budget with the amount of revenue received by the owners of these corporations.

[3] Let us specify, that this amount is approximate as the recording of a single company does not contain precise information about the structure of the taxes paid and refunds from the budget, so the data on CherMK and MMK are taken from the international consolidated reports of OAO Severstal and OJSC MMK (steel segment), on NLMK, OEMK and ZSMK – from the FNS reports, on NTMK – from the explanation to the financial statement form no. 4.

In 2008–2013 the corporations owners' fortune grew on average by 1.2–3.3 times (the fortune of the owner of Metalloinvest – by 12 times) and the steel mills' tax burden declined by 1.5–2.8 times (*tab. 18*).

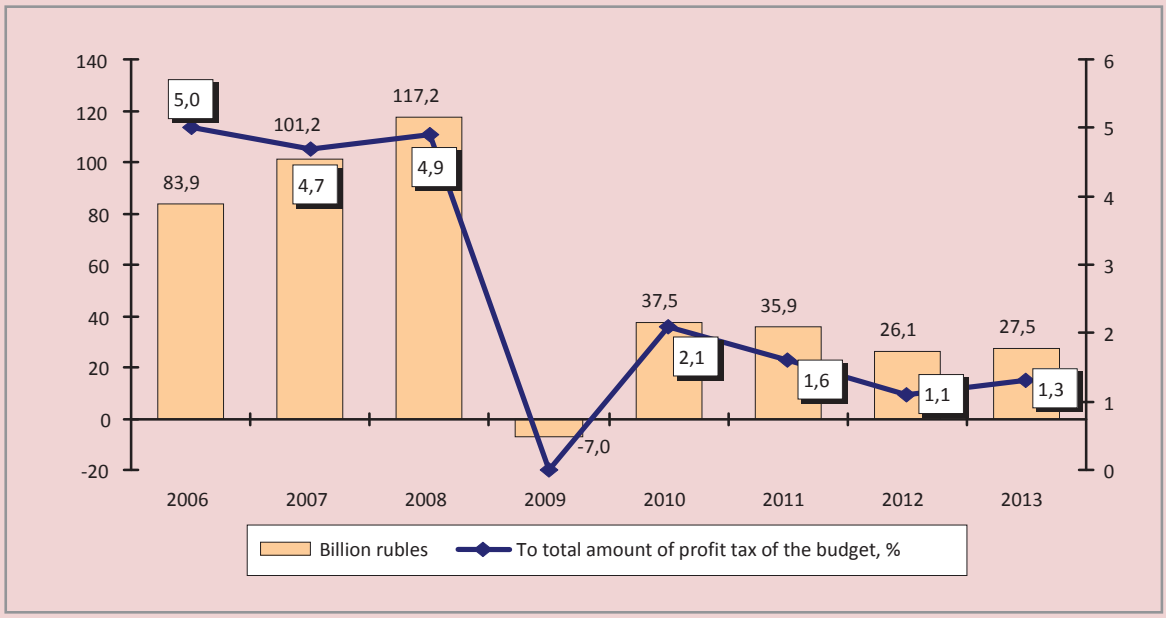
Due to reduced profit tax, paid by huge metallurgical plants, the share of ferrous metallurgy in the mobilization of this important source of budget revenue declined by almost four times from 4.9% in 2006–2008 to 1.3% in 2011–2013 (*fig. 4*).

However, the slowdown in tax revenues and the increase in the debt burden of budgets of the regions, where the budget revenue generating enterprises of ferrous metallurgy are located, are the most painful consequences of such shortfalls to the state budget (*tab. 19*).

In 2013 only in the Sverdlovsk Oblast the collection of profit tax exceeded the 2008 level by 4% due to a more diversified economic structure. In other regions they were lower by 26-56%, and in the Vologda Oblast – by 73%. In general, tax revenues increased slightly only in the Chelyabinsk Oblast and the Lipetsk Oblast. The debt burden in all regions grew at a rapid pace.

The general conclusion of the study is that the metallurgical corporations' activity is hardly consistent with the interests of the regions and hinders the regional development. The territorial resources, once having been a basis for business corporations, are being consolidated on a larger scale and moved out outside the regions, including into the offshore. At the

Figure 4. Profit tax paid to the RF budget by ferrous metallurgy enterprises in 2006–2013



Sources: FTS data; author's calculations.

Table 19. Tax revenues and debt burden of the regional budgets of the RF subjects in 2008–2013, billion rubles

Indicators	2008	2009	2010	2011	2012	2013	2013 to 2008, %
Vologda Oblast							
Profit tax, billion rubles	21.8	4.8	10.8	12.0	10.9	6.0	27.3
Tax revenues, billion rubles	33.6	18.2	25.6	28.0	29.9	28.3	84.3
Growth rate, %	130.2	54.3	140.5	109.3	106.7	94.8	-35.4 p.p.
Debt load, %*	5.1	54.5	71.6	89.6	92.2	105.3	+100.2 p.p.
Lipetsk Oblast							
Profit tax, billion rubles	16.6	5.1	9.5	11.1	9.7	9.2	55.6
Tax revenues, billion rubles	23.1	15.0	19.2	21.9	23.4	24.5	106.1
Growth rate, %	125.3	65.0	127.8	113.8	107.2	104.7	-20.6 p.p.
Debt load, %*	16.5	25.8	24.6	31.2	39.5	49.7	+33.2 p.p.
Chelyabinsk Oblast							
Profit tax, billion rubles	30.4	4.9	19.1	20.8	19.6	17.5	57.5
Tax revenues, billion rubles	60.0	33.0	53.9	60.4	66.9	68.4	114.1
Growth rate, %	113.1	55.0	163.6	112.1	110.8	102.2	-10.9 p.p.
Debt load, %*	0.4	8.6	16.9	14.8	21.7	30.8	+30.4 p.p.
Belgorod Oblast							
Profit tax, billion rubles	18.7	6.0	13.8	25.6	19.2	13.6	74.4
Tax revenues, billion rubles	30.2	18.2	27.8	41.9	37.2	31.8	105.2
Growth rate, %	130.9	60.3	152.6	150.8	88.9	85.4	-45.5 p.p.
Debt load, %*	31.8	71.9	48.4	42.6	84.2	110.3	+78.5 p.p.
Kemerovo Oblast							
Profit tax, billion rubles	34.7	9.4	22.4	35.9	24.6	15.1	43.6
Tax revenues, billion rubles	66.4	39.6	56.3	74.4	64.8	57.8	87.0
Growth rate, %	148.7	59.6	142.3	132.2	87.1	89.1	-59.6 p.p.
Debt load, %*	16.3	37.4	30.4	26.7	38.4	63.4	+47.1 p.p.
Sverdlovsk Oblast							
Profit tax, billion rubles	44.6	20.2	36.8	47.3	55.6	46.4	103.9
Tax revenues, billion rubles	94.4	66.4	89.0	107.4	123.2	121.3	128.5
Growth rate, %	116.0	70.4	134.0	120.6	114.8	98.4	-17.6 p.p.
Debt load, %*	2.2	11.3	10.2	16.7	15.3	25.2	+23 p.p.

* Ratio of public debt to tax and non-tax revenues of a regional budget.
Sources: data of the RF Ministry of Finance; FTS; the Federal Treasury; author's calculations.

Table 20. Shortfalls to the budget from the largest ferrous metallurgy enterprises in Russia in 2008–2013, billion rubles per year

Indicators	RF consolidated budget	Federal budget	Budgets of RF subjects
Profit tax, total	78.1	17.6	60.5
Including			
Lost export sales proceeds	24.7	3.7	21.0
Unregulated growth of commercial, administrative and interest expenses	9.7	1.0	8.7
Taxation of dividends at zero interest rate	8.2	8.2	
Creation of assessed reserves and writing off bad debts	9.2	0.9	8.3
Reimbursement from the budget	5.3	0.8	4.5
Balancing of revenues and losses of CTG*	21.0	3.0	18.0
Export VAT reimbursement	35.6	35.6	
Total	113.7	53.2	60.5

* Calculated on the basis of average profit tax (before the entry into CTG) paid in 2010–2012 by the following CTG participants: OJSC CherMK; Vorkutaugol; Karelskiy Okatysh mine; Olkon; NLMK; Stoilensky GOK; Altai-Koks.

same time, the current tax legislation does not limit, but rather creates conditions to reduce the largest taxpayers' contribution to the budget, giving them an opportunity to manipulate prices, admit the uncontrolled increase in management costs and corporate debt.

According to our estimates, due to the use of different methods to minimize tax liability the approximate amount of calculated shortfalls to the budget from seven leading Russian metallurgical plants totaled114 billion rubles per year (*tab. 20*).

Of this amount, the federal budget missed 53.2 billion rubles of annual profit tax and value added tax and the regional budgets – 60.5 billion rubles of tax, including budgets of:

• the Vologda Oblast – 18.3 billion rubles;

• the Lipetsk Oblast – 16.2 billion rubles;

• the Chelyabinsk Oblast – 12.5 billion rubles;

• the Kemerovo Oblast – 6.6 billion rubles;

• the Sverdlovsk Oblast – 5.1 billion rubles;

• the Belgorod Oblast – 1.8 billion rubles

All this testifies to the strengthening of contradictions in the relationship between large enterprises and regions, where their economic activities are carried out.

However, it should be noted that, according to the current legislation, the regional authorities have virtually no influence on the allocation of financial resources created by the key enterprises.

Suffice it to recall that all the analyzed enterprises of ferrous metallurgy are administered by the interregional inspections, located in Moscow, so the

regional departments of the Federal Tax Service do not have direct access to tax reporting and do not have reliable information on the activities of the largest taxpayers operating on their territory.

In order to improve fiscal functions of big business, the federal center should take a number of measures, including:

- empowerment of tax departments, primarily territorial, in the sphere of monitoring cash flows of strategic enterprises and obtaining all necessary information about their activities;
- introduction of the differentiated scale of VAT reimbursement for exporters shipping products with low added value, and the gradual abolition of full VAT reimbursement for commodity exporters [12];
- introduction of taxation for shortfall of export revenue, moved out to offshores;
- taxation of profit on dividends received by the strategic taxpayers from controlled companies;
- elimination of the practice to include assessed reserves and bad debt in the non-core expenses;
- introduction of moratorium on creation of new consolidated taxpayer groups and abolition (or limitation of balanced losses) of current CTG;
- imposing higher taxes (for example, 20–25%) on the amounts of remuneration paid to top managers of large enterprises;
- expansion of the list of information, subject to disclosure by public legal entities, related primarily to the activities of the head enterprises and their relationship with the budget[4].

A reasonable balance between private and public interests will significantly expand the resource availability of the state to create conditions for rapid economic growth. In our opinion, it is high time to establish a Commission of representatives of the interested agencies to discuss the issue of taxation of strategic taxpayers.

[4] In our opinion, to increase transparency it is necessary to make public enterprises disclose the following information: on export sales and selling prices of leading enterprises; paid taxes according to their structure and budget; financial performance of each participant in the CTG and amount of paid profit tax; reimbursement of VAT and profit tax.

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Financial instability in the region: assessment methods and elimination tools

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Abstract. Financial instability is one of the most important factors in the level and sustainability of socio-economic development of territories. However, at present, from the viewpoint of methodology, this concept is developed insufficiently in relation to the elimination and forecasting of economic and financial crisis threats. This problem is especially acute at the regional level. For its solution the article proposes a methodology for assessing the risks of financial instability; it helps to determine the indicators of the current state and development of regional finances that are most liable to volatility in the context of the main institutional sectors (government, business, households); the methodology also helps to forecast the probable maximum change in the indicators in the future with the use of the VaR methodology. The calculations carried out according to the proposed methodology on the example of the Republic of Bashkortostan show that regional finances are most vulnerable to fiscal risk. As a tool to eliminate budget risk the authors give several suggestions on improving the efficiency of interbudgetary transfers that make it possible to increase the degree of financial autonomy of the regions and to act as an effective incentive to their innovation development.

Key words: financial instability; region; indicators; interbudgetary transfers; regional finance.

The financial and economic crisis that has been developing on all the levels of administration, highlights the necessity to solve the most urgent and high-priority tasks such as the detection and study of the causes of the current financial instability and factors that determine it, the development of a methodology and tools for the elimination of risks and the forecast of possible manifestations of negative trends in the future.

Approaches to the assessment of financial instability

At present a relatively small number of publications in Russia deal with the development of models for assessing and forecasting financial volatility; the majority of such works either describe the dynamics of macroeconomic indicators and summarize international experience in the development of a system of indicators that are the signs of a crisis, or they attempt to create their own system of advanced indices (advanced composite index), but with focus on the real sector of the economy and with insufficient attention to the financial component.

However, we think that at present it is advisable to consider two works devoted to the development of tools to forecast financial instability in Russia. They were executed by the Gaidar Institute for Economic Policy (the Gaidar Institute) [16] and by the Center for Macroeconomic Analysis and Short-Term Forecasting [11]; these institutions have developed a system of indicators to forecast financial instability and an early warning system of financial crises, respectively. Their comparative characteristics are presented in *table 1.*

her models, despite the fact that they use various approaches, have an objective disadvantage at the present stage of economic development: the existing financial and economic crisis is systemic in nature; as a result, the predictive power of the existing models that are built on retrospective data, is limited. This is acknowledged by the authors of some works (in particular [11]).

The grouping of studies aimed to identify financial instability factors makes it possible to select the following groups [16]:

1. Qualitative analysis. It is based on the graphical comparison of the dynamics of fundamental economic performance indicators in the pre-crisis period and during the normal state.

2. Econometric modeling. The essence of this approach consists in the construction of regression models, estimated with the use of logit - and probit-analysis showing the probability of emergence of financial instability from a certain financial-economic indicator during the forecast period.

3. Nonparametric assessment. This approach involves identifying the vulnerability of the financial system to instability, expressed in quantitative form. The work within this approach is organized according to two main directions: the establishment on the basis of different criterion parameters of threshold values of indicators of the possible crisis phenomena of financial character, as well as the development of integrated (combined) indices of financial stability.

Analyzing the advantages and disadvantages of each group, we can conclude that the third group that uses the "signal" approach is the most adequate for assessing financial instability.

Table 1. Comparative analysis of the models for assessing financial instability*

Parameter under comparison	System of indicators predicting financial instability	Early warning system of financial crises
Grouping of existing research methodologies	Qualitative analysis Econometric modeling (estimation of probability of crisis) Nonparametric estimation ("signal" approach)	Methodology for constructing the advance indicators of crisis Methods of macroeconomic stress testing Macroeconomic model (impact assessment of the implementation of medium-term scenarios)
Models under comparison	In general, on the basis of the "signal" approach and, to a lesser extent, with the help of statistical and econometric methods	Includes elements of all the three approaches under consideration ("signal", econometric, stress testing)
Advantages	Evaluation of the forecasting power of each indicator is individual, which allows the variables to be ranked	Application of the integrated approach provides a significant increase in the degree of correlation between the estimated data and the actual data
Shortcomings	Probability of a crisis is determined by a binary function, which does not make it possible to determine the degree of deviation of the indicator from the threshold value Subjectivity in determining the threshold values	Limited forecasting power, i.e. the ability of the model to predict new crises is significantly lower than its ability to predict the events similar to that which occurred previously

* Sources: Ulyukaev A.V., Trunin P.V. Primenenie signal'nogo podkhoda k razrabotke indikatorov-predvestnikov finansovoi nestabil'nosti v RF [Application of the Signal Approach to the Development of Indicators-Precursors of Financial Instability in Russia]. *Problemy prognozirovaniya* [Issues of Forecasting], 2008, no. 5, pp. 100-109; Solntsev O.G., Pestova A.A., Mamonov M.E., Magomedova Z.M. Opyt razrabotki sistemy rannego opoveshcheniya o finansovykh krizisakh i prognoz razvitiya bankovskogo sektora Rossii na 2012 g. [Experience in Developing Early Warning System for Financial Crises and the Forecast of Russian Banking Sector Dynamic in 2012]. *Zhurnal novoi ekonomicheskoi assotsiatsii* [The Journal of the New Economic Association], 2011, no. 12, pp. 41-76.

These models for assessing financial instability, as well as many otThe work [11] performed at the Moscow Center for Macroeconomic Analysis and Short-Term Forecasting (CMASF) describes the experience of developing early warning systems for risks of financial crises. The authors identify three stages (phases), which differ by key sources of resources and by intensity of increase in the real volume of loan to the economy:

1) the adaptation phase characterized by the reduction in lending to the real sector of the economy and the increase in the provisioning of banking institutions to mitigate the consequences of growth of the loan, currency, operational and other risks;

2) the saving phase, at which the key resources are deposits of the population; the increase in savings supports high values of interest rates that have increased during the adaptation phase, and the decline in consumer spending; at the same time there is an increase in the demand for lending resources of the banking sector on the part of enterprises, people and government;

3) the phase of intensive import of capital, when the economy starts to carry out aggressive debt policy, which promotes the increase in the vulnerability of the financial sector and the economy to external shocks.

The work [11] also describes the drawbacks of the model of advanced indicators that predict financial instability; this model is proposed in the paper [16] they consist, first, in the absence of clear quantitative criteria for attributing the event to the concept of financial instability and, second, in the fact whether the model has a not very high predictive power for the crisis period of the end of 2008.

Thus, at present, when forming the system of indicators depending on the goals and objectives it is possible to use three basic approaches [3, p. 56]:

– on the basis of macroeconomic statistics indicators (gross domestic product, national income, investment in fixed capital, etc.), reflecting the socio-economic aspects of development of the society;

– on the basis of construction of relative indicators (shares, points, coefficients, ratings, indices, etc.) used in the analysis of economic activity by many economists and scientists;

– by forming a system of "alarm indicators" ("signal" approach), the main task of which is to warn executive structures of the excess of the current values of the indicator of the system of its limit parameters, which serves as a "signal" to the various structures of international, national, and regional levels concerning the adoption of relevant management decisions.

At the regional level, the methodology developed by A.I. Tatarkin and the group of authors [14] and also by S.N. Yashin, E.N. Puzova [19] should be pointed out as works that investigate financial stability in the framework of the assessment of the region's economic security. Unlike the methodology developed by S.N. Yashin, which is based on the first approach (macroeconomic indicators), the methodology by A.I. Tatarkin contains the elements of all the three approaches discussed earlier, which gives some advantages [3, p. 62-63]:

– higher level of the hierarchy and more detailed structure of the indicators of the region's socio-economic development;

– formation of threshold parameters of indicators of the region's economic security, going beyond which serves as a signal of the onset of the crisis;

– use of score tools for assessing economic security;

– construction of classification of the states of economic security for staged zones (normal, pre-crisis 1, 2, 3, crisis 1, 2, 3);

– presence of interval values of the score estimates of the territorial economic security depending on the degree of crisis in the situation;

– summarizing and presenting a comprehensive assessment of the level of regional economic security.

Methodology of risk assessment

In risk assessment various indicators are used depending on the selected method; they include the following:

– standard deviation;

– variation coefficient;

– *VaR* index and others.

One of the most effective methods for assessing the risks of financial instability is the *Value-at-Risk (VaR)* methodology. The formula for calculating *VaR* is changed depending on the method chosen (more precisely, the technique chosen to estimate probability distribution). First, as a rule, the logarithm of the indicator's growth is calculated by the formula (1):

$$D_i = \ln\left(\frac{x_i}{x_{i-1}}\right), \quad (1)$$

where D_i is the logarithm of the indicator's growth in the i-th period;

x_i is the value of the random variable in the i-th period;

x_{i-1} is the value of the random variable in the period previous to the i-th period.

Then the value of *VaR* is calculated by *t* periods ahead according to the formula (2):

$$VaR_i(\alpha,t) = x_i \times (\overline{D} - k_\alpha \sigma) \times \sqrt{t}\,, \quad (2)$$

where $\overline{D}$ is the mean value of the logarithm of the indicator's growth; k_α is the quantile of the normal distribution corresponding to the probability α; σ is the standard deviation; *t* is the number of forecast periods.

The volatility, which is determined by the standard deviation formula (3), is often used as an indicator of risk assessment:

$$\sigma = \sqrt{\frac{\sum_{i=1}^{n}(x_i - \overline{x})^2}{n-1}}\,, \quad (3)$$

where $\overline{x}$ is the mathematical expectation; *n* is the number of periods.

Another indicator of risk assessment is the variation coefficient, which, unlike the standard deviation, is expressed in the units of the estimated parameter. The variation coefficient is a relative indicator; due to this fact it is possible to compare the variation coefficients of different indicators with one another. The variation coefficient represents the ratio of the standard deviation to the mathematical expectation (4):

$$K_{\text{var}} = \frac{\sigma}{\overline{x}}, \quad (4)$$

Thus, assessing the risks of financial instability requires a comprehensive approach that takes into account various aspects and parameters of indicators' change. In addition, it is necessary to ensure comparability of risk assessments by various indicators between themselves.

For this purpose there has been developed a method of assessing the risks of financial instability on the example of the indicators that characterize the state and development of regional finance in the Republic of Bashkortostan.

This methodology is based on indicators such as the standard deviation, the variation coefficient, the value of *VaR*.

The algorithm of risk calculation according to the methodology consists in the following:

1. Determination of the values of the indicators showing the status and development of regional finance that are proposed by the Institute of Social and Economic Research of Ufa Science Center of RAS for three economic sectors: social sector, business sector and household sector [1, 4, 15] *(tab. 2)*.

In our opinion, this set of indicators makes it possible to assess most comprehensively the level of regional finance by the main sectors of economic activity.

2. Calculation of the standard deviation according to the formula (3).

3. Calculation of the variation coefficient according to the formula (4).

4. Calculation of the mean value of the variation coefficient for each sector (on the example of the social sector) according to the geometric mean formula (5):

$$K_{\text{var}(G)} = \sqrt[n]{K_{\text{var}(G_1)} \times K_{\text{var}(G_2)} \times \ldots \times K_{\text{var}(G_n)}}\,, \quad (5)$$

where $K_{\text{var}(G)}$ is the variation coefficient for the social sector;

$K_{\text{var}(G_n)}$ is the variation coefficient of the *n*-th indicator.

Table 2. Indicators of the status and development of regional finance*

Social sector (*G*)	Business sector (*B*)	Household sector (*H*)
Ratio of budget deficit in the region to GRP (G_1)	Investments in fixed capital to GRP (B_1)	Savings activity of the population (H_1)
Amount of own budget funds per inhabitant (G_2)	Ratio of payables of enterprises and organizations of the region to GRP (B_2)	Investment activity of the population (H_2)
Share of federal transfers in the regional budget (G_3)	Share of overdue debt on loans of enterprises and organizations of the region (B_3)	
Ratio of tax arrears to the total tax revenues in the region (G_4)	Ratio of the net financial result of enterprises and organizations of the region to GRP (B_4)	
Amount of public debt to GRP (G_5)		
Level of monetization in % of GRP (G_6)		
Consumer price index (G_7)		

* Sources: Altuf'eva T.Yu. Osobennosti upravleniya regional'nymi finansami v usloviyakh postkrizisnoi modernizatsii [Specifics of Management of Regional Finance in the Post-Crisis Modernization]. *Innovatsionnye tekhnologii upravleniya sotsial'no-ekonomicheskim razvitiem regionov Rossii: Materialy V Vserossiiskoi nauchno-prakticheskoi konferentsii s mezhdunarodnym uchastiem* [Innovation Management Technology for Socio-Economic Development of Russia's Regions: Materials of the Fifth All-Russian Research-to-Practice Conference with International Participation]. In 3 parts. Ufa: ISEI UNTs RAN, 2013. Part 2. Pp. 108-113; Klimova N.I. Teoretiko-metodicheskie podkhody k formirovaniyu informatsionno – model'nogo kompleksa upravleniya regional'nymi finansami [Theoretical and Methodological Approaches to the Formation of the Informational and Model Complex for Regional Finance Management]. *Innovatsionnye tekhnologii upravleniya sotsial'no-ekonomicheskim razvitiem regionov Rossii: Materialy V Vserossiiskoi nauchno-prakticheskoi konferentsii s mezhdunarodnym uchastiem* [Innovation Management Technology for Socio-Economic Development of Russia's Regions: Materials of the Fifth All-Russian Research-to-Practice Conference with International Participation]. In 3 parts. Ufa: ISEI UNTs RAN, 2013. Part 2. Pp. 129-134; Tyutyunnikova T.I. Vremya kak ekonomicheskii resurs i analiz ego ispol'zovaniya v sektore domokhozyaistv [Time as an Economic Resource and the Analysis of Its Use in the Household Sector]. *Ibidem.* Pp. 151-155.

5. Assessment of the multiple variation coefficient according to the formula (6):

$$K_{\text{var}(C)} = \sqrt[3]{K_{\text{var}(G)} \times K_{\text{var}(B)} \times K_{\text{var}(H)}} \quad (6)$$

where $K_{\text{var}(C)}$ is the multiple variation coefficient for the three sectors; $K_{\text{var}(B)}$ is the variation coefficient for the business sector; $K_{\text{var}(H)}$ is the variation coefficient for the household sector.

6. Calculation of the *VaR* value for the indicators that are changing according to the normal distribution law (2).

The further testing of the risk assessment methodology on the basis of the indicators proposed above will help to assess the level of exposure of the region to financial instability risks in terms of the sectors.

The *testing* of the risk assessment methodology carried out on the example of the Republic of Bashkortostan (RB) in 2000–2011 consists of the following stages.

Stage 1. Based on the above algorithm it is necessary at this stage to determine the values of the indicators showing the status and development of regional finance in the three sectors. All the indicators, except for one – the volume of funds per resident – are expressed in relative units and characterized by multidirectional dynamics *(tab. 3)*.

Stages 2–4. The results of the calculation of the standard deviation (3), of the mathematical expectation, of the variation coefficient (4) and of the *VaR* values (2) for each indicator of the status and development of the regional finance and for the economic sectors as a whole are presented in *table 4*.

Table 3. Indicators of the status and development of finance in the Republic of Bashkortostan in 2000–2011*

Indicator	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
	Social sector (G)											
G_1, %	0.98	-0.51	-0.30	0.89	0.11	1.17	1.71	0.12	1.23	-0.52	-0.33	-0.55
G_2, thousand rub.**	8.99	5.24	5.22	6.62	5.60	6.32	8.16	8.23	9.22	7.69	7.52	7.99
G_3, %	13.48	28.70	23.15	19.31	19.58	19.31	18.32	16.25	16.08	22.37	20.67	20.80
G_4, %	41.94	42.37	33.83	37.43	30.69	29.93	23.49	16.59	10.8	11.42	8.62	5.87
G_5, %	-	-	-	-	-	-	0.65	0.69	0.51	1.07	1.34	1.21
G_6, %	21.08	23.12	34.01	36.71	36.82	36.62	37.32	40.22	34.86	46.67	52.66	47.09
G_7, %	121.6	117.4	114.7	111.1	114.3	110.9	108.9	112.6	112.4	108.3	109.6	106.4
	Business sector (B)											
B_1, %	24.46	28.17	25.04	22.55	21.69	22.13	21.33	27.17	27.41	22.86	20.22	19.81
B_2, %	47.72	42.80	41.88	40.00	31.89	30.93	23.26	26.20	21.97	29.41	29.94	31.09
B_3, %	57.7	53	44.1	36.2	29.7	23.1	17.1	9.5	7.8	7.2	5.8	3.7
B_4, %	29.88	23.80	13.10	17.37	12.68	27.75	18.93	15.35	11.11	9.63	17.64	11.54
	Household sector (H)											
H_1, %	2.7	3.5	3.9	5.2	4.8	3.9	4.1	4.1	0.3	3.0	4.5	3.1
H_2, %	1.2	2.0	1.0	1.6	1.7	1.4	1.4	1.2	1.4	0.7	0.7	0.9

* Sources: *Regiony Rossii. Sotsial'no-ekonomicheskie pokazateli. 2012: stat. sb.* [Regions of Russia. Socio-Economic Indicators. 2012: Statistics Collection]. Rosstat. Moscow, 2012. 990 p.; Ob"em i struktura gosudarstvennogo dolga Respubliki Bashkortostan [Volume and Structure of the Public Debt of the Republic of Bashkortostan]. *Ministerstvo finansov Respubliki Bashkortostan* [Ministry of Finance of the Republic of Bashkortostan]. Available at: http://minfinrb.bashkortostan.ru/11/dolg2006_2012.htm
** Adjusted for inflation.

Table 4. Values of the standard deviation, the variation coefficient and the *VaR* by the indicators and sectors as a whole for 2000–2011*

Indicator	Standard deviation (σ)	Mathematical expectation ($\bar{x}$)	Variation coefficient (K_{var})	Value of *VaR* for 2012
G_1, %	0.497	0.702	0.708	2.4
G_2, thousand rub.	1.403	7.234	0.194	4.263
G_3, %	3.907	19.386	0.197	12.574
G_4, %	13.374	24.415	0.548	3.578
G_5, %	0.310	0.912	0.340	0.965
G_6, %	9.097	37.264	0.244	13.650
G_7, %	4.215	112.350	0.038	4.551
Total for *G*	-	-	**0.241**	-
B_1, %	2.851	23.569	0.121	6.045
B_2, %	8.174	33.092	0.247	12.953
B_3, %	19.317	24.575	0.786	2.219
B_4, %	6.642	17.397	0.382	12.940
Total for B	-	-	**0.308**	-
H_1	1.272	3.592	0.354	8.073
H_2	0.398	1.267	0.315	0.858
Total for *H*	-	-	**0.334**	-
$H_{1(M)}$	0.738	3.891	0.190	1.839
Total for H_M**	-	-	**0.244**	-

* Calculated according to the data from table 3.
** H_M – value of K_{var} for sector *H* without taking into account savings activity (H_1) for 2008.

Step 5 consists in the definition of the multiple variation coefficient. Due to the fact that 2008 witnessed the failure of the savings activity (0.3%) representing the ratio of the volume of savings of households to the money income of the population, it was decided to calculate the multiple variation coefficient with and without taking into account this indicator for 2008 according to the formula (7):

$$K_{\text{var}(C)} = \sqrt[3]{K_{\text{var}(G)} \times K_{\text{var}(B)} \times K_{\text{var}(H)}} = \\ = \sqrt[3]{0.241 \times 0.308 \times 0.334} = 0.291 \quad (7) \\ K_{\text{var}(C)(M)} = \sqrt[3]{0.241 \times 0.308 \times 0.244} = 0.263$$

where $K_{\text{var}(C)}$ is the multiple variation coefficient for the three sectors; $K_{\text{var}(C)(M)}$ is the multiple variation coefficient for the three sectors excluding savings activity (H_1) in 2008 for sector H.

When the value of the variation coefficient exceeds 33%, the aggregate is considered uneven, if the value is less than 33%, the aggregate is considered homogeneous. The more homogeneous the aggregate (i.e., it is less dispersed in relation to its average value), the more reliable and adequate the results of the statistical analysis built on this aggregate. The value of the multiple variation coefficient for the Republic of Bashkortostan in 2000–2011 was characterized by the homogeneous population and was 29.1% with respect to savings activity (H_1) for 2008 and 26.3% excluding 2008; it proves the reliability of the statistical analysis of the calculated data. The social sector has the lowest value of K_{var} on average across the sectors (24.1%); the volatility of the business sector is slightly higher (30.8%), but within the limits of homogeneity. The household sector excluding 2008 is also homogeneous with regard to volatility (24.4%). However, taking into consideration the year 2008, the variability is characterized by weak heterogeneity (33.4%), though it is in the borderline condition.

The greatest contribution to the total volatility is made by the indicators of the social sector (the ratio of the region's budget deficit to GRP, the ratio of tax arrears to the total amount of the region's tax revenues, the ratio of the volume of public debt to GRP) and the business sectors (the share of loan arrears of enterprises and organizations in the region, the ratio of net financial result of enterprises and organizations of the region to GRP) and households (savings activity). It should be noted that the indicator "the ratio of tax arrears to the total amount of the region's tax revenues" and "the share of loan arrears of enterprises and organizations in the region" have a steady decreasing trend throughout the whole period, and their high value of volatility (K_{var}) is caused by a large gap between the current positive dynamics in the present and the negative dynamics in the past.

Stage 6. The final sixth stage of the methodology for assessing financial instability risks consists in the calculation of the *VaR* value according to the formula (2) for the indicators that change according to the normal distribution law.

First it is necessary to determine whether the empirical sampling under consideration corresponds to the normal distribution law. To do this it is necessary to apply the

statistical function CHIDIST from the software package MS Excel, which helps to determine the probability $P(\chi^2)$ using Pearson's chi-square (χ^2). The degree of deviation of the actual (empirical) distribution from the theoretical one is determined on the basis of $P(\chi^2)$. When P>0.5, it is considered that the empirical and theoretical distributions are close; when $P \in [0.2; 0.5]$, the coincidence between them is satisfactory; in other cases it is insufficient [18, p. 25].

The calculations in Excel, conducted with the use of the indicators selected for 2000–2011, show that the probability $P(\chi^2)$ by all the indicators varies from 0.78 to 0.99, with 11 degrees of freedom; this allows us to speak about the compliance with the normal distribution law. The next step is to calculate the *VaR* value according to the formula (2). The results of the calculations are given in table 4. As an example, let us calculate the *VaR* for the indicator "investments in fixed capital in % to GRP" (B_1). First, the logarithm of the growth of the indicator by years is calculated according to the formula (8):

$$D_{2001} = \ln\left(\frac{x_{2001}}{x_{2000}}\right) = \ln\left(\frac{28.17}{24.46}\right) = 0.141 \quad (8)$$

D for the rest of the period will be: -0.118; -0.105; -0.039; 0.020; -0.037; 0.242; 0.008; -0.181; -0.123; -0.020. The mathematical expectation is:

$$\overline{D} = (0.141 - 0.118 - 0.105 - 0.039 + 0.020 - 0.037 + 0.242 + 0.008 - 0.181 - 0.123 - 0.020)/11 = -0.019$$

Next, the volatility of the growth logarithm is calculated according to the standard deviation formula (9):

$$\sigma = \sqrt{\frac{\sum_{i=1}^{n}(x_i - \overline{x})^2}{n-1}} = \sqrt{\frac{0.1512}{11-1}} = 0.123 \quad (9)$$

Then the value of *VaR* in *t* periods ahead (in our case, for one year) is calculated according to the formula (10):

$$VaR_i(\alpha, t) = x_i \times (\overline{D} - k_\alpha \sigma) \times \sqrt{t} = 0.1981 \times (-0.019 - 2.326 \times 0.123) \times \sqrt{1} = -0.06 \quad (10)$$

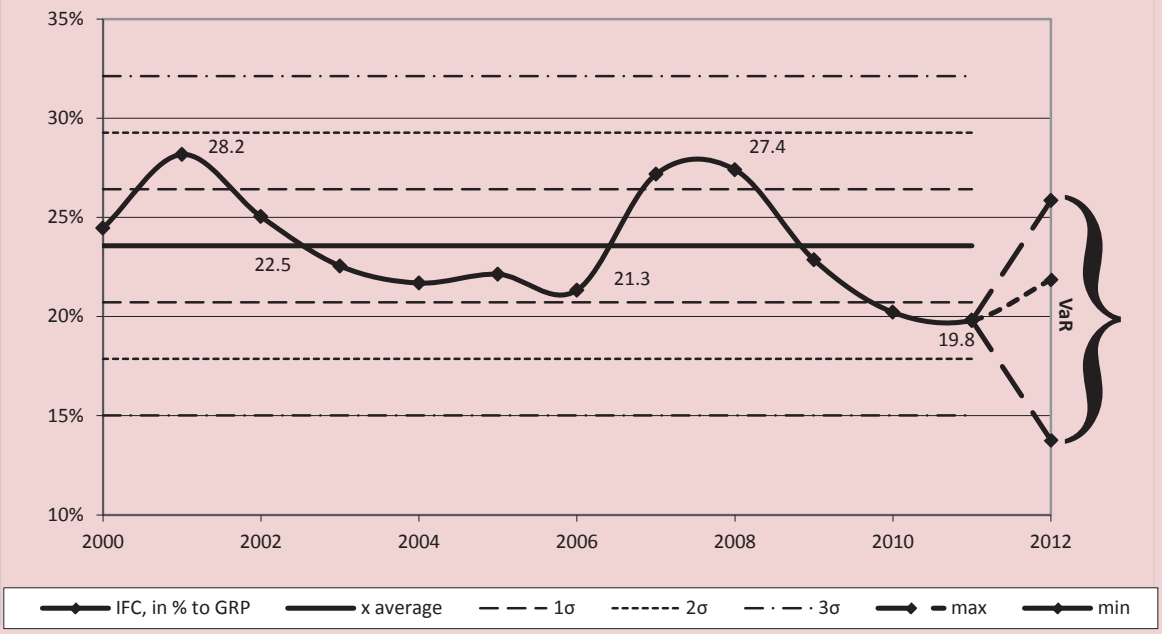
The value of k_α – the quintile of normal distribution, corresponding to the probability α, is taken from the Laplace table of function values. For α = 99% it is 2.326. Thus, the value of *VaR* for 2012 is 6.0%, which means that in 2012 with a probability of 99% the indicator of the value of investments in fixed capital in % to GRP will not deviate by more than 6% compared to the level of 2011 *(fig. 1)*.

Another method can be used to verify the correctness of the calculations. By using the statistical function NORMINV in *Excel* (probability; mean; standard deviation), which returns the normal distribution, the corresponding quantile is calculated. Entering data "=NORMINV(1%;-0.019;0.123)", we will get k_{99} = -0.305. Then the value of *VaR* is calculated by the formula (11):

$$VaR = x_i - (x_i \times (1 + k_\alpha)) \quad (11)$$
$$VaR = 0.1981 - (0.1981 \times (1 - 0.305)) = 0.06$$

The value of *VaR* is the same in both cases, which proves the correctness of the calculations performed.

Figure 1. Investments in fixed capital as a percentage of GRP of RB for 2000–2011*



* Calculated using the following sources: *Regiony Rossii. Sotsial'no-ekonomicheskie pokazateli. 2007: stat. sb*. [Regions of Russia. Socio-Economic Indicators. 2007: Statistics Collection]. Rosstat. Moscow, 2007. P. 351; *Regiony Rossii. Sotsial'no-ekonomicheskie pokazateli. 2013: stat. sb*. [Regions of Russia. Socio-Economic Indicators. 2013: Statistics Collection]. Rosstat. Moscow, 2013. P. 374.

Another way to assess the degree of risk is to use the three-sigma rule, according to which with the probability of 99.73% the random variable will lie in the interval $\pm 3\sigma$ from the mathematical expectation, which makes it possible to determine for each indicator the values for the most optimistic and pessimistic development scenarios.

For example, for the indicator of investment in fixed capital as a percentage of GRP (B_1) the measure of risk according to the most pessimistic scenario judging by table 4 will be:

$R_{B1} = x - 3 \times \sigma = 23.569 - 3 \times 2.851 = 15.0$;

according to the most optimistic scenario it will be:

$R_{B1} = x + 3 \times \sigma = 23.569 + 3 \times 2.851 = 32.1$.

In addition, the application of the three-sigma rule narrows the range of predicted values of *VaR* (for example, in *figure 1* the lower threshold value of *VaR* of 13.8% is below the 3σ value defined as being 15%, which makes it possible to raise the lower threshold of *VaR*).

According to the RB Ministry of Economic Development [5], in 2012 the share of investments in fixed capital in GRP in RB was 21.9%, which fits into the range forecasted by the *VaR* method (19.8±6.0).

The above calculations show that this technique makes it possible to assess the risks of financial instability in the region in terms of sectors, to determine which

indicators have the greatest contribution to the change of the total volatility, and, hence, instability of finance in the region, to forecast the maximum possible changes in the indicators with the normal distribution, depending on the level of the confidence interval.

Inter-budget transfers as a tool to reduce financial instability in the regions

The analysis of the indicators showing the status and development of regional finance in the Republic of Bashkortostan shows that the most volatile index is the ratio of the region's budget deficit to GRP (G_1). Inter-budget transfers are a tool to reduce financial instability in the form of budget risk at the state level; they aim to provide financial assistance to the regions and to ensure the alignment of their level of socio-economic development.

However, if there is a high proportion of financial assistance from upline budgets in the revenues of territorial budgets, the degree of financial autonomy of the regions reduces.

At the same time, the state of the region depends not only on additional cash receipts, but also on the structure and quality of these investments. The solution of the current financial challenges involves the change of approaches to the use of traditional tools, which are inter-level transfers.

Until now, the main purpose of their distribution was to overcome the spatial polarization of the regional economy, the elimination of vertical and horizontal fiscal imbalances.

However, recently, the emphasis in financial support has been increasingly shifting to the promotion of its catalytic f unction. In this regard, inter-budget transfers at the regional level should be used not as tools for implementation of the policy of "plugging holes" in the regional and local budgets but as effective tools to create conditions for the formation of points of growth in the regional economy.

The high centralization of revenues in the federal center and, at the same time, the excessive load of expenditure commitments that falls on the regional and municipal entities require updating the system for allocation of inter-budget transfers from the federal center, the transition to the principle of the systemic allocation of financial support based on the introduction of improved techniques of budget regulation.

The close relationship between the region's tax potential and inter-budget transfer regulation requires the improvement of inter-budget relations in order to create genuine self-sufficiency of the region's budgets.

The analysis *(tab. 5)* carried out on the materials of the Volga Federal District regions has revealed that five out of fourteen regions transfer more than half of the taxes, duties and mandatory payments (range from 49.1 to 66.1%) to the federal budget.

At the same time, the return of financial resources from the federal budget in six regions exceeds the amount of centralized funds (in 1999 – only three regions) and ranges from 162.1 to 447.9%, which indicates significant dependence of the regions on the receipts of funds from the federal center.

Table 5. Counter flows by the levels of the budgetary system in 2011, %*

Region	Receipt of taxes, levies and other mandatory payments, in % to the total volume of receipts		Share of transfers from the taxes allocated by the regions in the federal budget, %	Budget security, thousand rub.	For reference: the share of transfers in the consolidated budget of the constituent entity of the Russian Federation, %
	in the federal budget	in the consolidated budget of the subjects of			
Volga Federal District	**47.8**	**52.2**	39.9		
Republic of Bashkortostan	45.1	54.9	31.7	33.3	20.8
Republic of Mari El	18.7	81.3	447.9	31.2	45.9
Republic of Mordovia	28.3	71.7	340.3	41.0	53.6
Republic of Tatarstan	56.7	43.3	37.2	50.4	31.2
Udmurt Republic	64.6	35.4	25.9	34.9	29.6
Chuvash Republic	32.5	67.5	162.1	29.9	39.1
Perm Krai	49.1	50.9	15.5	41.2	12.8
Kirov Oblast	22.5	77.5	263.9	36.1	37.7
Nizhny Novgorod Oblast	29.0	71.0	59.9	37.9	19.6
Orenburg Oblast	66.1	33.9	15.1	38.4	20.1
Penza Oblast	24.1	75.9	289.0	34.6	39.6
Samara Oblast	49.1	50.9	15.5	40.9	13.8
Saratov Oblast	34.0	66.0	80.4	30.2	27.3
Ulyanovsk Oblast	25.3	74.7	166.4	31.1	31.8

* Compiled by: *Sotsial'no-ekonomicheskoe polozhenie federal'nykh okrugov. 2011: stat. Byulleten'* [Socio-Economic Situation in the Federal Districts. 2011: Statistics Bulletin]. Rosstat. Moscow, 2011. Available at: http://www.gks.ru/bgd/regl/b11_20/IssWWW.exe/Stg/4-kw/p/06-02.htm; *Finansy Rossii. 2012: stat. sb.* [The Finances of Russia. 2012: Statistics Collection]. Rosstat. Moscow, 2012. P. 54; *Regiony Rossii. Sotsial'no-ekonomicheskie pokazateli. 2012: stat. sb.* [Regions of Russia. Socio-Economic Indicators. 2012: Statistics Collection]. Rosstat. Moscow, 2012. P. 829.

Proposals to increase the efficiency of inter-level transfers

1. *Subventions* are allocated to the Russian Federation subjects for financing the expenditure commitments of the subjects in order to implement the delegated powers of the federal authorities, stipulated by normative legal acts according to the established procedure. Frequent changes in the funding requirements reduce the quality of execution of budget powers delegated to the regional and municipal level, as well as the interest of the regions and municipalities in the most efficient execution of somebody else's powers.

Therefore, it is advisable to review the current system of delineation of powers by transferring part of them to the regional level, with the simultaneous increase of the territories' own financial resources through the allocation of additional deductions from regulatory taxes to regional budgets; this will lead to greater financial autonomy of the regions.

In order to reduce the number of different subventions, it is advisable to shift to the provision of consolidated block subventions. All these measures will reduce the number of subventions in inter-budget transfers.

2. *Block transfer* is a consolidated subsidy (subvention) to finance a specific industry, used in several directions, but this subsidy can be also used for the modernization of the industry as a whole. Thus, the Ministry of Finance in 2014 proposed to reduce the number of subsidies from 90 to 42 and to equalize them with the number of state programs. A.G. Siluanov, the Minister of Finance of the Russian Federation, provided the following figures: "...At the end of 2012 there remained 242 billion rubles of subsidies and subventions, out of which 165 billion rubles – for investment purposes" [2]. At the same time, the Ministry of Finance proposed to increase the incentive transfers up to 11 billion rubles to the federal subjects for the development of fiscal capacity.

3. In order to strengthen the incentive function of transfers it has been proposed to change the practice of budget subsidizing for the system of *grant support*. The calculation of equalization grants in the allocation of the compensation sums in the revenue part of the regional budget use the formulas that take into account the specifics of economic and socio-demographic characteristics of the region (the calculations are based on the weight-average and specific per capita indicators). A formalized approach of the calculations eliminates the influence of interested parties and a long way of endorsement. An alternative is the introduction of incentive grants as an additional source of co-financing of the funds that the region is lacking.

4. *Program-target planning* can be used along with the grant funding; it focuses financial resources on the solution of priority socio-economic issues and increases the efficiency of budget expenditures. Thus, the budget expenditures should be covered with the funds concentrated in the framework of implementation of the state and long-term programs. Spending powers of the federal budget in 2014 were formed by 90% on a program basis. The plans for execution of major events for 2013 on the implementation of the "Strategic Map of the Treasury of Russia for 2013–2017" [13] in paragraph 3.4 provide for "...the implementation of a new mechanism for providing inter-budget subsidies, subventions and other inter-budget transfers that have target purpose from the federal budget to the budgets of the Russian Federation subjects (local budgets)". The programs are implemented by attracting the transfers, which are distributed mainly in the regions that occupy leading positions according to factors such as investment and innovation advantage and potential growth points.

5. The procedure for allocation of investment subsidies should be identical to the mechanism of allocating targeted transfers. Attraction of foreign investors in the co-financing of the investment project in the region will help to save local budget funds. The subsidizing of capital construction objects is also promising in the medium-term budget planning for a period of not less than three years with the mandatory coverage of operating costs of a new facility at the expense of own funds. The distribution of subsidies should be carried out taking into account the socio-economic condition of clusters and the quality of investment programs for development of infrastructure facilities belonging to regions that have potential growth points. The distribution of subsidies

within the cluster is carried out according to individual integrated assessment and the number of population. The list of documents required and conditions of the subsidies provision are specified in [7].

Thus, the transfers do not only support the budget balance or fulfill the federal powers of the center assigned to the region through the mechanism of subventions. They stimulate further development through the mechanism of subsidizing national and inter-regional innovation projects, which is especially important in the period of post-crisis growth, by acting as an effective mechanism of reducing financial instability and comprehensive modernization of the finance management system on the principles of balance, effectiveness, efficiency and transparency.

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Innovation infrastructure in the region: problems and directions of development

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Abstract. Current models of innovation process prove that it is important to create a comprehensive infrastructure, since it is a necessary condition for promoting innovation development in the area. The article considers the concept of innovation infrastructure, defines its major subsystems and their constituent elements, and considers their functional purpose. The author argues that the effective functioning of innovation infrastructure requires the balanced formation and development of all its constituent subsystems: logistics, finance, personnel, information and marketing. The article shows that Russia is working actively in this direction. At the same time, the efficiency of using the infrastructure remains low. First of all, it is limited by the stagnation of demand for innovation on the part of Russian companies. It has been revealed that the infrastructure is developing primarily in those RF subjects and municipalities, which have the significant concentration of innovation potential and the high level of innovation activity (Moscow, Saint Petersburg, Tomsk Oblast, Republic of Tatarstan, etc.). At the same time, the transition to the innovation model of development requires the creation and effective use of innovation infrastructure in all the regions of the Russian Federation, and, first of all, in the regions where innovation, for whatever reasons, is not being developed properly. Such regions include the Vologda Oblast, which has been subject to the detailed analysis of the infrastructure subsystems; and its problems and development reserves have been identified. In general, the calculations indicate insufficient and unbalanced growth of the region's innovation infrastructure and the necessity to change its individual subsystems. The author justifies the growing need for the development of regional production and financial infrastructure and proposes activities to develop innovation infrastructure: 1) to create the missing infrastructure elements that enterprises need; 2) to increase the performance efficiency of existing organizations; 3) to solve the problems that impede their functioning.

Key words: innovation, innovation process, innovation infrastructure, region.

The restrictive political and economic measures against Russia, introduced at the initiative of the United States since March 2014 and supported by the Group of 7, concerned the sphere of high technologies and high technology industries. So, Rheinmetall AG, one of the largest manufacturers of military equipment and weapons in Germany and Europe, stopped supplying equipment to Russia [3]; Transnational Corporation Siemens announced that it would strictly adhere to all sanctions against Russia; American Applied Materials Corporation refused to supply equipment for the plant producing MRAM chips in Moscow, etc. According to the experts, it is the limited export of high technology to Russia and access of Russian banks to cheap credit resources that will have the most negative consequences [21] for Russian economy.

This encourages its transition to the innovative economy that can reduce the dependence on import of strategic goods and technologies. Thus, the most critical issue is to create the innovative system for the production of high-tech equipment and machines in the country. The current level of Russian enterprises' innovation activity is extremely low – about 10%, while in the late 1980s it amounted to 60–70%. In 1991 190 thousand applications for inventions was lodged [12], in 2013 this figure dropped to 44 thousand [17].

The innovative development concept and, in particular, the creation of the national innovation system [9] is a subject of a large number of discussions in the scientific literature. The following issues are disputable: who is the innovative development subject, what is the state role in the sphere of innovation, what mechanisms will allow to create an integrated innovation system, etc.

According to the Strategy for Innovative Development of the Russian Federation, the balanced development of the innovation system will be determined by the increased efficiency of current institutions (special economic zones, science cities, technology parks), as well as the wider support for innovation clusters.

The innovation cycle continuity is supposed to be achieved through innovation infrastructure (INI) [22], capable to rapidly and flexibly implement necessary innovation based on high production technologies. Its development is considered as a condition to introduce competitive products, the innovation process results, to the market.

This thesis is confirmed by the modern models of the innovation process (Japanese interactive, strategic networks). They prove that all the stages, from fundamental and applied research to production and marketing of the product, should be provided by the support structure and specialized financial resources.

The study of the theoretical and methodological foundations of innovative development allows us to conclude that the innovation sphere, which is an integral part of the economic sphere with its own internal specifics, should also have its own infrastructure that has both common and specific features.

The term "infrastructure" was transferred to the economy in the late 1940s

Table 1. Innovation infrastructure notion

Author	Interpretation: "Innovation infrastructure is..."
D.I. Kokurin	Complex of organizational-economic institutions to ensure the conditions for the implementation of innovative processes by the economic entities (including specialized innovative organizations), according to the principles of economic efficiency of the national economy as a whole and its economic subjects under conditions of market fluctuations [8].
I.G. Dezhnina, B.G. Saltykov	Combination of all subsystems that provide access to various resources (assets) and / or render various services to the innovative activity participants [5].
V.A. Gnevko	Unified system of interrelated and complementary subsystems and consistent organizational elements that are necessary and sufficient for the effective implementation of the activity, which requires full support and maintenance of the innovation cycle [4].
K.I. Pletnev	Entire combination of the activity aimed at solving problems of socio-economic development and combining pilot studies, conducting applied research and practical application of the obtained results in the production and social sphere, including on the commercial basis [14].

from the military lexicon, where it defined a combination of permanent support facilities serving the armed forces. In the broad sense, infrastructure refers to the independent sphere of economy, which industries produce not material products but services. Its main function is creation of the favorable business environment for economic subjects and national economy as a whole.

Innovation infrastructure in the works of most domestic economists (A.A. Rumyantsev, V.A. Gnevko, A.B. Serebryakov, D.I. Kokurin, K.I. Pletnev, I.G. Dezhnina, B.G. Saltykov) is defined as a complex, a set of organizations providing the innovation process subjects with the economic conditions *(tab. 1)*. Similar semantic content of this notion interpretation is given in the legislative documents of the Russian Federation, regulating the sphere of innovative development[1].

[1] Federal Law "On innovation activity and state innovation policy" as of December 1, 1999. Main directions of the RF policy in the development of innovative systems for the period up to 2010

Innovation infrastructure should facilitate the free exchange of resources between innovation process participants and the implementation of the national economy functions of self-regulation and self-adjustment due to the fluctuations on the market.

The researchers [1, 4, 5, 14, 20, 23] argue that innovation infrastructure is a system consisting of separate subsystems with functional specificity and different constituent elements – innovation infrastructure organizations. In turn, INI organizations are technologically and economically tied and united at all stages of innovating activity, but they differ by activity sectors, types, presence or absence of foreign branches and enterprises [7]. There are the following main subsystems of innovation infrastructure *(tab. 2)*.

Thus, on the basis of various authors' opinions and the study of domestic and foreign experience we can identify material and technical, financial, personnel, information and marketing subsystem of innovation infrastructure, as well as their functions and elements *(tab. 3)*.

Table 2. Innovation infrastructure subsystem

Author	Innovation infrastructure subsystem
I.G. Dezhnina, B.G. Saltykov	Financial, industrial and technological (or material), information, personnel, expert consulting [5]
G.V. Shepelev	Industrial and technology, consulting, financial, information, personnel, marketing [23]
V. A. Gnevko	Industrial, financial, personnel training, information, coordination, promotion [4]
D.I. Kokurin, I.P. Nikolaeva, V.M. Shepelev, G.D. Kovalev	Transport and communication, information technology and telecommunications, financial sector, stock market, institute of intermediaries, companies and firms that provide services of special character [20]
V.A. Balukova, I.A. Sadchikov, V.E. Somov	Financial, informational, organizational [1]
K.I. Pletnev	Dataware, expertise of the scientific-technological and innovative programs, projects, proposals, financial support, production and technology support, certification of high-tech products, promotion, training and retraining of personnel, coordination and regulation of development [14]

Table 3. Main subsystems of innovation infrastructure: functions and elements

Subsystem	Functions	Elements
Material and technical	Production and technological assistance to the creation of new competitive science-intensive products and high technologies, their practical application	Technology parks, innovation and technology centers, business parks, innovation and industrial complexes, technological clusters, industrial parks, common use centers
Personnel	Training innovation managers to manage the implementation of innovative projects, promotion of researchers and developers' fulfilment, enhancement of the innovation culture of the population	Coaching centers, higher educational establishments, institutes, academies, etc.
Financial	Provision of the economic and financial support for innovative activity, accumulation of investment resources for the implementation of innovative projects and programs, organization of scientific-technological activities in terms of the program-target priority approach	Different types of funds (budget, venture capital, insurance, investment) and other financial institutions
Information and marketing	Creation of the opportunities for the transfer and dissemination of data on the trends in the innovative sphere development , the state of market environment, the presence of new objects of intellectual property; organization of marketing, advertising and exhibition activities, patent and licensing work and protection of intellectual property rights; certification of high-tech products	Libraries, information centers, technology transfer centers, cluster development centers, chambers of commerce, exchange of knowledge-intensive and information technologies, various telecommunication systems, mobile digital voice communications, etc.
Management	Provision of the opportunities to coordinate and regulate the development of scientific-technological and innovative activities by means of economic methods. Elaboration of the strategy for innovative development, support and monitoring of its implementation.	Departments of government and management, responsible for the development of innovative activities

Coordination and regulation of the innovation infrastructure subsystems are carried out by the state bodies, responsible for the development of innovative activities in the region. Their key task is to elaborate an innovation development strategy (it should include a section on the innovation infrastructure development), support and monitor its implementation [2].

The research in the theoretical and methodological bases of innovative infrastructure formation leads to the conclusion that the effective functioning of infrastructure requires balanced formation and development of all constituent subsystems. Russia is actively working in this direction. Thus, according to the Unified information and analytical portal of state support for business innovative development [6], there are more than 3.4 thousand innovation infrastructure organizations.

Only for 2005–2010 over 100 technology transfer centers have been created. In the framework of the program to support small and medium enterprises 34 innovative business incubator have been established, with the federal budget expenditures totaling 863 million rubles. At the end of 2010 there were 63 federal centers for collective usage of scientific equipment; they concentrated about 2100 pieces of equipment that cost 15 billion rubles. In addition, there are more than 140 technology and innovation centers and technology parks. The government backs the development of the Russian territories with high scientific and technological potential, including science cities [18].

Infrastructure development is envisaged in the Strategy for Innovative Development of the Russian Federation. The second phase of its implementation (2014–2020) includes the increase in the share of expenditure on innovation in the budget and the share of private funding in the total domestic costs on research. The special emphasis is laid on investment in the modernization of necessary elements of innovation infrastructure.

At the same time, the infrastructure performance remains low. First of all, it is limited by stagnated demand for innovation on the part of Russian companies due to insufficient support for cost recovery. As a result, infrastructure either ceases to function or is used for other activities [18].

Infrastructure is developing in the RF subjects and municipalities with the high concentration of innovative potential and the high level of innovation activity (there are 730 infrastructure organizations in Moscow, 197 – Saint Petersburg, 152 – in the Tomsk Oblast, 139 – in the Republic of Tatarstan). However, the transition to innovative model of development requires the creation and effective use of innovative infrastructure in all regions and, primarily, in those where innovation activity, for whatever reasons, does not develop [19]. According to the ISEDT RAS research, 61 of 80 analyzed regions had a low level of innovation development in 2012, with one of them being the Vologda Oblast, located in the Northwestern Federal district (NWFD).

In 2012 the Northwestern Federal district ranged the 3d by the rate of innovation activity lagging behind the Volga and Ural Federal districts where innovation infrastructure is better developed by its functional structure [15] *(tab. 4)*.

Table 4. Innovation activity of enterprises in the RF districts, %

Federal district	Year								Deviation 2013 to 2000, %
	2000	2005	2008	2009	2010	2011	2012	2013	
RF	**8.8**	**9.7**	**9.4**	**9.3**	**9.5**	**10.4**	**10.3**	**10.1**	**1.3**
Volga	10.1	10.8	12.5	12.8	12.3	12.7	11.9	11.7	1.6
Northwestern	**7.7**	**9.4**	**8.9**	**9.5**	**9.4**	**11.2**	**11.0**	**10.7**	**3**
Central	10.0	10.3	9.4	8.8	8.6	10.2	10.9	10.7	0.7
Ural	10.6	12.4	10.1	10.2	11.5	11.5	10.6	9.6	-1
Far Eastern	6.3	6.2	7.2	8.3	8.6	11.2	10.8	9.5	3.2
Siberian	6.1	7.7	7.7	7.3	8.2	8.8	8.5	9.1	3
Southern	8.1	8.6	8.0	7.2	7.5	6.5	7.4	7.2	-0.9
North Caucasian	6.2	8.2	5.2	5.8	6.2	5.2	6.4	5.9	-0.3
Source: www.gks.ru.									

According to the analysis of innovation infrastructure development in terms of the Northwestern Federal district subjects [13], business incubators dominate in its structure. Saint Petersburg takes the lead in the number of infrastructure institutions in the Northwestern Federal district; it is followed by the Murmansk Oblast and the Leningrad Oblast.

The identification of the most effective tools and mechanisms to form innovation infrastructure in the region requires distinguishing the regions where it is developed to further transfer the experience to those subjects where it is underdeveloped [24]. The results of the INI quantitative analysis performed by the ISEDT RAS Department for Innovation Economics helped group together the NWFD regions by the INI functional structure. There are four groups of regions: I – "regions with the full functional structure of innovation infrastructure"; II – "regions with the insufficient functional structure of innovation infrastructure"; III – "regions with the narrow functional structure of innovation infrastructure"; IV – "regions with the limited functional structure of innovation infrastructure".

The analysis of the presence and structure of innovation infrastructure reveals that the first group includes Saint Petersburg, the Murmansk Oblast and the Leningrad Oblast, which are also leaders in the total number of INI organizations. Business incubators and innovation-technological centers of innovation infrastructure predominate in the structure. The second group includes the Arkhangelsk Oblast, the Kaliningrad Oblast and the Novgorod Oblast (with the predominance of business incubators and technology transfer centers), the third group – the Republic of Karelia and the Vologda Oblast, the fourth – the Komi Republic, the Pskov Oblast.

The active regional policy on the creation and functioning of INI activities is carried out in the subjects with the full functional part of innovation infrastructure.

Nowadays Saint Petersburg, the Murmansk Oblast and the Leningrad Oblast are elaborating or already have special programs to support innovation infrastructure, working on creation of new innovation and technology centers, technology transfer centers and technology parks.

Financial funds are being created there on the basis of public-private partnership. These regions experience is advisable to use in the areas with the narrow, limited functional structures of innovation infrastructure, and in the Vologda Oblast, in particular. Let us consider the problems of infrastructure development on its example.

In the Vologda Oblast there is a number of the INI organizations to help regional enterprises create and develop innovative products by rendering them a wide range of services, such as marketing, legal services, registration of intellectual property rights, search and attraction of investments for a specific project.

However, the infrastructure organizations do not provide small business with high demand services, such as lending production facilities and laboratory equipment on concessionary terms.

In general, the ISEDT RAS calculations disclose the insufficient and unbalanced development of innovation infrastructure in the Vologda Oblast, the need to change some subsystems *(tab. 5)*.

This situation is caused by the low development level of material and technical (the subsystem development index is equal to 0.47), financial (0.68) and personnel (0.69) subsystems. The information and marketing subsystem has the highest development index (1.18), which indicates a high level of its development.

The problems that hinder the effective functioning of innovation infrastructure in the Vologda Oblast are the following:

a) a lack of INI organizations funding to provide financial support to small innovative enterprises (SIE);

b) a lack of qualified specialists in the field of innovative projects implementation and management;

c) a limited list of sources to provide small innovative enterprises with information;

g) low material and technical equipment of innovation infrastructure organizations, as well as unattractive for small innovative enterprises lease terms[2]...

What is more, according to the ISEDT RAS surveys of business leaders, the level of their interaction with the objects of innovation infrastructure is assessed as low *(tab. 6)*.

Thus, the insufficient development of private innovation infrastructure organizations is caused by low demand for their services due to the low level of enterprises' innovation activity in the region. As for public infrastructure, we can note stippling measures for its creation and a lack of the systematic approach.

The reason for it is fragmentation of the regional innovation policy, the absence of the policies and programs for innovative development in the region. The strategy should include formation and development

[2] According to the survey of heads of innovation infrastructure organizations, conducted by ISEDT RAS.

Table 5. Subsystems of innovative infrastructure in the Vologda Oblast

Subsystem development index*	Subsystem elements	Subsystem description
Material and technical subsystem		
0.47 (very low)	SI VO "Business Incubator", Innovation and Technology Center at the premises of LLL "Start-Park", etc.	The reasons for the low value of the subsystem development index are the following. First, the subsystem functional structure is incomplete. There are not important elements of industrial infrastructure, such as common use centers, which provide access to high-tech equipment, engineering centers, etc. Second, as the study shows [13], the area of INI organizations designed to accommodate small innovative enterprises has not been used in full – 25% on average. It is caused by insufficient attractiveness of the lease terms of these areas and low innovative activity of the regional enterprises
Financial subsystem		
0.68 (low)	Northwestern Venture Investment Center (Cherepovets Branch), NGO VO "SME Assistance Fund", etc.	Financial assistance to regional small and medium enterprises on the part of INI organizations is mainly provided by means of grants, support to find investors. The low value of the development subsystem index is caused by the limited share of investment for small innovative enterprises financing and the number of projects funded through the regional system of grant support. The reason for it is a lack of investors' interest to allocate funds for the enterprises' innovative development, as this activity is associated with high risks. At the same time, the budget financing of innovative projects in the form of grants does not cover the needs of small innovative enterprises in investment.
Personnel subsystem		
0.69 (low)	Universities in the region (the innovative managers training to get a degree in "Innovation" has been at the premises of only on the basis of HVE VGU since 2009).	The important indicator of INI development is university training of specialists for their further work at innovative enterprises and INI organizations. In general, innovation infrastructure of the region is characterized by a small share of employees who have special education for the implementation of innovative projects, low qualification of INI personnel and growing need for practical experience in the innovative projects implementation and management. The reasons for this situation are the following: violation of the reproduction process of scientific personnel; slow transfer and dissemination of management knowledge, lack of the institute to train innovation managers in the region.
Information and marketing subsystem		
1.18 (high)	TTC at the premises of ISERT RAS, SI VO "Business Incubator", Urban Development Agency in Cherepovets, VTP, Vologda Bureau of Intellectual Property, etc.	The high level is caused by the increased activity of the INI organizations to promote innovative enterprises development (increase in the share of enterprises that participate in regional and national seminars, contests and programs aimed at stimulating innovation activity, activation of publishing activities aimed at PR and advertising of small innovative companies and INI organizations services), the provision of services to register intellectual property rights. However, the INI organizations do not use all advertising and PR tools to encourage innovative projects in the region; do not actively stimulate inventive and rationalizing processes and cooperation with science and education. At the same time, it is necessary to strengthen and expand the work of INI organizations in order to transfer and commercialize the R&D results of the enterprises.
Index of regional innovation infrastructure development		**3.02 (insufficient)**

* The method, developed by ISEDT RAS in 2012, was used to calculate the innovation infrastructure development indices [13]. The integral index rating scale is the following: 1 – infrastructure is not fully developed; 1 – 1.99 – very low development; 2 – 2.99 – low development, infrastructure requires changes; 3 – 3.99 – underdeveloped, separate infrastructure subsystems require modifications; 4 – 4.99 – developed infrastructure, there are resources for further development; 5 – absolutely developed. The rating scale for subsystems is the following: less than 0.25 – the subsystem is not fully developed; 0.26 – 0.50 - very low development; 0.6 – 0.75 – low development; 0.76 to 1.00 the subsystem is underdeveloped; 1.01 – 1.24 – high development; 1.25 – the subsystem is fully developed.

Table 6. Assessment of communication relations in the science and innovation sphere of the region, %

Answer	Survey year					2013 to 2009, p.p.
	2009	2010	2011	2012	**2013**	
The Vologda Chamber of Commerce and Industry	44.3	42.9	40.5	30.8	**35.7**	-8.6
Technology Transfer Center at the premises of ISEDT RAS	23.9	24.7	23.8	13.8	**23.2**	-0.7
SI VO "Business Incubator"	9.1	14.3	9.5	13.8	**16.1**	7.0
Vologda Scientific-Technological Information Center	12.5	11.7	11.9	12.3	**12.5**	0.0
RTTN (Russian Technology Transfer Network)	6.8	8.9	2.4	1.5	**10.7**	3.9
NPO "Urban Development Agency"	6.8	6.5	7.1	3.1	**5.4**	-1.4

of innovation infrastructure as one of the priority directions. In our opinion, the activities to promote innovation infrastructure should be the following:

1) creating the lacking and essential elements of innovation infrastructure;

2) increasing the efficiency of existing organizations; solving the problems that hinder their functioning.

The first direction, according to the results of the study (see tab. 5) and the survey of enterprises' heads, requires the development of industrial infrastructure: industrial parks, centers for collective usage of high-tech equipment by the priority activity directions in the region, engineering centers and the development of infrastructure, ensuring the formation of enterprises with high concentration of scientific and technological potential – clusters – cluster development centers [10, 11].

First of all, the potential of young people should be used, that is why it is necessary to form infrastructure developing creative potential of the youth.

The Youth Innovation Creativity Centre[3] can be such a tool. The practice to establish such centers has been successfully tested in Moscow, Saint Petersburg, the Tomsk Oblast, the Kaluga Oblast, the Penza Oblast and other areas.

The construction of these infrastructure facilities can be funded by the RF subjects by means of federal budget subsidies on the state support of small and medium enterprises [16].

Second, it requires the development of the financial subsystem of innovation infrastructure. Today there are quite a lot of financial tools.

[3] The Youth Innovation Creativity Centre is a property complex, established for the implementation of activities in the sphere of high technologies that includes technologies of direct digital manufacturing; on the basis of modern technologies it ensures rapid prototyping, manufacture of individual and small-scale products, as well as necessary facilities and infrastructure (Resolution of the Cabinet of Ministers of the Chuvash Republic "On approval of the Procedure for granting subsidies to small and medium businesses to create and / or maintain the activities of the youth innovation creativity centers" as of September 26, 2013, no. 394. Available at: http://base.consultant.ru/regbase/cgi/online.cgi?req=doc;base=RLAW09;n=65482.).

However, the surveys of business leaders indicate that the main source of funding for the development of innovative industrial enterprises is their own funds. Bank loan remains too expensive for development of innovative activity.

The state budget resources are available primarily for large enterprises. But even for them, the scale of provision of budget funds is not more than 5–10% of the required amount [23].

For small innovative enterprises the financing problem is more acute. The initial funding program, implemented by the Fund for assistance to small enterprises in the scientific and technological sphere and the local programs to support small business, apply mainly to innovative enterprises in the capitals and major cities. In the Vologda Oblast, the Fund annually supports only 2–3 projects, which is clearly insufficient. The transition to innovative economy requires not less than 20–25 such projects annually.

In general, the financing of innovation in the region is the same as in the country as a whole.

In our opinion, to develop the financial subsystem of innovation infrastructure in the region is impossible without solving this problem at the federal level. We believe this goal requires:

- development of the venture financing system on the basis of public-private partnership;
- intensification of the banking sector by preferential taxation of commercial banks that provide loans for the innovative projects implementation, ensuring state guarantees of loans repayment, provision of commercial banks with loans on preferential terms to finance innovative enterprises.

At the regional level to address the problem of insufficient financial support for innovation infrastructure organizations it is reasonable to give grants, subsidies for infrastructure development of the region on a competitive basis.

Attracting investment in innovation infrastructure and its maintenance is possible through programs of the RF Ministry of Economic Development, contests of the Fund for assistance to small enterprises in the scientific and technological sphere, international competitions, grants, programs, etc.

The development of personnel resources of innovation infrastructure organizations should begin with monitoring of the requirements in the professional workforce. The staff assistance system should be based on training, retraining and advanced training of the specialists who have innovative thinking and can carry out the transfer and commercialization of technologies. It is necessary to raise the prestige of " an innovation manager".

The implementation of organizational and marketing mechanisms to support innovation infrastructure includes:

- raising the enterprises' awareness about the services, provided to the infrastructure organizations;
- information and news letters on the INI organizations' activities in the region;
- promotion of innovation activity;

- organization of the system that monitor the state of science, technology and innovation spheres (based on the data provided by scientific and educational organizations, the Territorial Body of Federal State Statistics Service in the Vologda Oblast and various departments in the course of their current activities);
- organization and maintenance of the database of inventions, technologies, innovative projects, developers and experts;
- carrying out of measures for the establishment and development of interregional and international technological and scientific cooperation (participation in the international competitions, grants, programs, etc.).

In our opinion, the implementation of the main directions of innovative infrastructure in the framework of the Strategy for Innovative Development of the Region will ensure balanced formation and functioning of its constituent subsystems. This will contribute to the formation of necessary infrastructure for introducing innovative products of the region on the market and, consequently, will accelerate its transition to the innovative model of development.

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Consumer in the innovation economy: sociocultural aspects of formation and functioning

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Abstract. The functioning of the innovation economy presents the society with a number of social and cultural issues. One of them concerns the formation of an innovative personality, which is regarded by the majority of researchers as a personality open to experiments, innovation and change, a personality that has creative skills and is able not only to create but also to commercialize new scientific and technological developments, that is, a personality capable of producing innovation in the first place. Meanwhile, of equal importance for the functioning of the innovation economy is a personality that is ready to use innovative goods and services; that is why many countries carry out the research into the innovativeness of producers and consumers. The research findings help identify a group of innovator consumers, which is a key group for producers. Analyzing the innovator consumers' behavior in the market provides an opportunity to define their inherent personal qualities and to formulate their standard of consumption, the main characteristics of which are the absolutization of the value of the new, positive attitude to risk, dominance of the emotional component in consumption to the detriment of the rational component. Modern manufacturers follow the path of modeling and further targeted promotion of consumption standards to ensure stable and predictable demand for their products; therefore, it is logical to assume that the innovators' consumption standard that meets the interests of innovative products' manufacturers will be actively promoted in society through the purposeful change of individual and collective psychology. The article forecasts the directions of such change and analyses its possible negative consequences both for society in general and for innovation economy in particular.

Key words: innovation economy, innovative personality, innovative consumption, consumer innovativeness, consumption standards.

Recently scientists have been actively discussing the formation of innovative personality. Psychologists have been trying to identify its main features, teachers – develop methods of its formation, sociologists – analyze the role of innovative personality in social processes and social causality of development of personal traits that promote effective innovation, politicians – emphasize the need to form of the above personality type. We can say that the formation of innovative personality becomes a social order of the modern society.

The issues of innovative personality formation are in focus due to the characteristics of modern economy development, aimed at producing innovative goods and services, as well as implementing and using innovative technological processes.

Large-scale innovation processes that characterize the modern stage of capitalist economy development are caused by the impossibility of extensive development of traditional industries and sectors and their functioning in terms of commodity overproduction and overconsumption. In these circumstances the creation of innovative products is not just the main competitive advantage of the manufacturer, but the condition of its survival on the market.

At the macroeconomic level the production of innovative products is considered as the main engine of economic growth and on the global market the issue of successful innovation is becoming one of the most important driving forces of the state competitiveness.

The need to constantly carry out innovation activities in the production imposes special requirements to the personal characteristics of the employment process participants. K. Marx wrote: "The nature of work in the capitalist production method determines the need for specialized educational training of the workforce. The main objective of such training is development of certain personal traits..." [12, p. 391].

Thus, on the one hand, the society is interested in the formation of innovative personality as a manufacturer of innovative products and, therefore, the research in innovative personality as the main subject of the innovation economy is usually focused on the issue of innovators, their personal qualities and motivation for innovation activity.

On the other hand, according K. Marx, capital can increase only through the growth of surplus value and "production of relative surplus value...requires production of new consumption... creation of new needs...<implies> the production of new needs" [9, p. 52].

Therefore, the effective functioning of the innovation economy demands creation of both new products and new needs, as produced innovative products should be consumed. It makes us consider qualitative characteristics of innovative personality in a different aspect, particularly: the innovative personality should require innovative products and act as a consumer of innovative products.

According to V.M. Nurkov, there is some asymmetry in the modern Russian innovation discourse – the problem of the

innovator and the genesis of motivation in innovative practices are viewed as more relevant and little attention is paid to the urgent problems of adaptation to innovation and "consumption" (use) of innovation [15, p. 69].

However, foreign studies show that the role of the consumer in the innovation economy is becoming more decisive and even more influential than the role of the manufacturer.

For instance, Z. Bauman states that competitiveness, efficiency and profitability of capital depend on consumers, and its routes are determined by the presence or absence of consumers or the ability to produce consumers, create and then expand the grounds for the proposed ideas [3, pp. 164-165].

According to K. Nordström and J Ridderstråle, "in the society of over-production the consumer is more than a king, the consumer is a mother of all dictators" [14, p. 98].

So, Carleton believes that "the scientific community has recently spoken not about "triple" but "quadruple" or "complex spiral": the consumer, a citizen of the country, plays an important role, providing feedback, interacting and influencing directions of new technologies development [8, p. 24].

In addition, today the consumer for the manufacturer is a source of ideas for improvement of already produced goods (i.e. modifying innovation) and development of new products.

Intensive research in consumer innovativeness is being conducted abroad due to the increased role of the consumer in the innovation economy functioning. In particular, there are such types as "natural innovativeness" or "innovative predisposition", manifested in the subject's generalized orientation on the perception and acceptance of new brands and products and "specific innovativeness" in relation to a single product or a category of goods, defined as the subject's orientation on the adoption of new products and services.

The studies of consumer innovativeness analyze not only individual, but also group characteristics. So, researches in family consumer innovativeness are devoted to each family member and the family system as a small group, especially to the pair "husband–wife".

There is a special notion: "husband-wife innovativeness" (innovativeness in the system "husband-wife") [19, p. 149]. As for other options of the innovation group analysis, they can be selected by the degree of readiness to consume innovative products of the following categories of consumers: innovators, early adopters, early majority, late majority, and "laggards" or conservatives.

Consumer-innovators are considered as a key consumer group for the manufacturers to focus their attention, as testing the advantages and disadvantages of innovative products, consumers-innovators become a source of information for other categories of consumers, and thus, influence their consumer preferences.

So, their perception of a new product influences its acceptance by other categories of consumers. The interest of producers in the customers-innovators' positive reaction on innovative products leads to the study of

the personal characteristics of innovators, their motivation and to the analysis of the consumption standard, which is understood as relatively stable preferences for goods and services, ways and methods to draw out practicability, reflecting the socio-cultural and economic characteristics of consumer-innovators as a particular social group. E. Rogers, in particular, identifies the following characteristics of consumer-innovators.

From the perspective of socio-demographic characteristics of consumers, innovators and close to them early adopters are relatively young people with a high social status and a favorable financial position [10, pp. 414-415].

From the point of view of psychological characteristics, they are distinguished by their predisposition to risks, great and not always reasonable expenses; they are characterized by easy communications, consumer confidence and high speed of decision making. Innovators rely mostly on an emotional, but not rational component, as they seek to get a new experience (no matter if it is positive or negative, risky or safe) and enjoy new things.

They take pleasure not only in new things, but also in all risks associated with the purchase and use of an unknown commodity; however, variability is a reverse side of their commitment to innovation, as it complicates the formation of loyalty to a particular brand or material incentives.

Summing up the above, we can reveal the following basic points in the consumer behavior of innovators: perception of a new product as certainly valuable that has absolute advantages over an old one, domination of the emotional component and pursuit of risks.

The consumers-innovators' behavior serves the interests of innovative products manufacturers, not only because consumers-innovators spread information and impressions about the new product to other categories of consumers.

Forced to act in the conditions of uncertainty about the prospects of markets development and consumers preferences, caused, in turn, by the economic situation instability, facing numerous risks associated with the adoption and implementation of new ideas, solutions and technologies, the enterprises are interested in reducing the uncertainty of the innovative activities results and, if possible, in minimizing the risks.

The behavior of consumers who are ready to buy a product just because it satisfies their need for new experiences, relying only on their emotions (the impact on which facilitates the process of promoting goods) and being driven by the word "innovation" or the definition of "innovative" added to the name of the product becomes the marker to stimulate consumption and provides quick and virtually guaranteed sales of new products without regard to real innovation of the product.

However, according to the already paradigmatic work of Everett Rogers called "Diffusion of innovations", innovators make up approximately 2.5% of the total number of consumers; the early adopters – 13.5%, early majority – 34%, late majority – 34%; "laggards" – 16% [11, p. 532].

Thus, innovators and early adopters together, first responding to new products or services, make up only 16% or 1/6 of the total number of consumers.

Even researchers, who are critical of such calculations for excessive clarity of proportions, recognize the scarcity of these categories.

The insignificance of innovators and early adopters in quantitative terms relative to the total number of consumers results in the fact that their total budget is negligible for most industries.

Moreover, the product's further promotion to other categories of consumers requires considerable effort, as these categories are guided by other considerations when purchasing goods and their motivation is fundamentally different from that of innovators and early adopters.

Meanwhile, according to the marketing analysts, the consumer behavior modeling, consisting in the formation of standard consumer behavior, is one of the ways to ensure effective commercialization of innovative technologies and innovative products [13].

According to O.U. Yuldasheva, entrepreneurship tends towards the purposeful creation and promotion of consumption standards in the society, because it guarantees long-term stability of demand; the obedient and friendly customer provides the company with a stable and growing consumer market in the long term [18].

In our opinion, the transformation of the innovation process into the critical element of success, associated with the constant production of innovative products and their reduced life cycle, encourages enterprises to promote and spread the consumers-innovators' consumption standards in the society.

However, the consumption standard is adopted according to its impact on human consciousness, its transformation in the right direction and the formation of a certain lifestyle.

In turn, the change of individual and collective psychology due to the targeted promotion of innovative products consumption standards and the wide formation of the consumer-innovator can result in rather ambiguous consequences not only for the society as a whole.

Let us consider them in more detail.

Formation of people's orientation on the absolute value of innovation was first observed in the culture of modernism that considers innovation as something original, new, independent from others [6, p. 227].

Having been widespread primarily in the arts, this value setting is now used in the economic relations and applied to innovative products. The modern society is just penetrated by the "race for innovation" and the Russian researchers works already contain statements such as "the population must perceive innovation not as a disaster but as an absolute value" [4].

On the one hand, the human desire for innovation and new experiences is evaluated by psychologists as one of the biological needs, caused by neuropsychological features. L.I. Božović notes that "the need for new impressions is generated by inclusion of the cerebral cortex into the life of a child, which requires irritants

that cause its activities and thereby ensure its morphological and functional development. Satisfaction of this and other biological needs is gradually followed by pronounced positive emotions; and the need for innovation is beginning to acquire some specific features, characteristic of the spiritual needs of a person" [17].

Indeed, in the countries with a high level of life where basic needs are already satisfied, the consumption of new goods is a tool to not meet biological needs, but to fight boredom by means of irritants, such as innovation, change, inconsistency, uncertainty, risk, etc. [11, p. 130].

In addition, the consumption of new goods becomes part of self-esteem and self-actualization [16, pp. 72, 188]. In our opinion, the consumers' desire to buy new products only contributes to the spread of the consumer standards of innovators in the public consciousness.

On the other hand, the widely encouraged pursuit of innovation and its consolidation in the public consciousness as an absolute value single out several problematic aspects.

First, according to the psychologists, the need for innovation is insatiable.

Second, according to M.S. Kagan, high abundance of innovations provides people and, especially, children with the sense of naturalness of continuous changes, renewal of environment, living conditions and assimilated knowledge, norms of behavior and speech.

Thus, traditional beliefs about the existence of some constants of thinking and behavior, caused by certain stability of human existence in the world, are disappearing from the public consciousness finally and completely; now everything seems to be unstable, relative, endangered and, therefore, deprived of any real value [6, p. 272].

There is another problematic issue. According to A.I. Sosland, commitment to innovation can be manifested in three ways: in the perception of new things, that is pursuit of passive new experiences; in the pursuit to change people's own life and in the pursuit to create new things, that is, produce new values and meanings [17]. Can people be satisfied with their self-development and production of new things by only striving for passive new experiences and constantly consuming new products? In this case, the society, having numerous consumers of innovative products, risks losing their creators.

Pursuit of risk is another feature of consumer-innovators' behavior. Though it is frequently used, the concept of risk is quite hard to define.

However, many definitions of risk presuppose the adverse outcome of an action, act or activity. So, in the "Dictionary of the Russian language" by S.I. Ozhegov risk is understood as a possible danger (threat) [5, p. 13]. In our opinion, the consumers-innovators' behavior is appropriately characterized by the definition of risk given in the "Psychological dictionary".

So, risk is an action directed at the attractive goal, which achievement is associated with the element of danger, threat of loss, failure [5, p. 13]. The modern society is characterized by risky behavior (on the one hand, considered as dangerous, including for life, and, on the other

hand, attractive for those who implement these form), the variety of risks and their intensity, increasing at a rapid pace.

Thus, the society can be identified as risky. The increase in the number of risky behavior is a response to objective changes in public life, such as aggravation of the crisis, growth of chaos, uncertainty, massive introduction of insufficiently tested and high-risky innovation.

At the same time, the society with innovative economy is interested in promoting risky behavior and securing these forms as socio-cultural norms.

So, the readiness to risk is considered in the psychology of entrepreneurship and management as an important personal property that determines the success of economic and management activity, while creating innovative products.

Consumption of innovative products is also associated with a high degree of risk, especially in the case of radical innovation, as the product is unique, not familiar to consumers, and, therefore, they risk losing money, with no guarantee of satisfying needs. The combination of objectively determined trends of the society's development and the demands of the innovation economy leads to the fact that risky behavior is formalized as a standard of conduct.

Thus, constant risk becomes an important component of the mass culture character; extreme behavior is cultivated in the public consciousness as a way of life. Risk becomes an object of social mythology, determines social goals and objectives of the individual. It is perceived (consumed) uncritically [1].

Risk institutionalizing, becomes a factor in self-realization and socialization.

In our opinion, the negative consequences are the following: the realization of the risky behavior, considered as a socio-cultural standard, apparently, can not be limited only by the production and consumption of innovative products. The psychologists believe that people who seek to risk in one situation will seek to take risks in other situations, thus increasing the number of risky behavior forms in the society.

There is a vivid example: more than 30 extreme sports have appeared for the last 20 years. These sports are highly risky as people can be easily injured. The emergence of new types of risks in the society makes it highly risky, unstable and prone to self-destruction.

What is more, the spread of such risky behavior in other spheres of life can result in the proliferation of adventurism, voluntarism and subjectivism, which, in turn, can lead to the slowdown of social progress and various socio-economic and moral costs.

However, the person likely to engage in risky behavior is characterized by the depreciation of basic existential values and the dominance of biological needs, particularly, needs for psychoactive substance stimulation. The increase in the number of persons with such characteristics can have a negative impact on the society as a whole.

As for the third aspect of the consumers-innovators' consumption standards, the promotion of the emotional component in consumption is also a characteristic feature of modern economic relations.

The fact that consumption is becoming less rational and more emotional is, on the one hand, objectively determined by the following factors.

First, the reduced rationality in consumer behavior is caused by the high degree of uncertainty due to active innovation activity.

The psychologists D. Kahneman and A. Tversky's studies of person's decision-making on the market reveal that in the conditions of uncertainty people use simplified strategies for solving complex problems, namely: they rely on the solution availability (the solution that comes to mind first), the precedent (their own or other people's experiences), the consolidation and adaptation (i.e. the use of a consistent approach to achieve the goal, even if the environment shows the change of recent trends) [18]. Therefore, in the conditions of uncertainty, people tend to behave irrationally, follow intuition and show inconsistency.

Second, in the conditions of innovative economy the consumer can not simply adhere to the rational approach when buying a fundamentally new product, as there is no similar item.

Therefore, it is impossible to compare the quality, price and competitive advantages. The appearance of new modifications of familiar consumer goods, constant complication of the product composition, its technical characteristics and creation of products with high consumer properties lead to the fact that the buyer can not compare the change in quality and price due to the lack of special knowledge.

Thus, the ordinary buyer can evaluate only a very limited range of simple products rationally; the main comparison indicator is external characteristics of the product.

In addition, it is difficult to rely on personal experience due to the constant updating of the models; that is why the possibility to make rational decisions also decreases.

In turn, the lack of information for conscious actions and the insufficient fund of conscious behavior lead to the use of emotions in the behavior. The emotional and impulsive actions are caused by the low level of conscious regulation.

Thus, the lack of rationality in the purchase of innovative products is compensated by the increased role of the emotional component. If the product belongs to the highest level in the hierarchy of the consumer's needs, the emotions gained from the purchase become increasingly important [16, p. 188].

Z. Bauman characterized this type of consumerism in the following way: "Today the consumer game is not only called as greed, interest and ownership, not only accumulation of wealth in its material, tangible sense, but passion to new, hitherto unexperienced sensations.

Consumers are, primarily, collectors of sensations; they collect things only secondarily, as a consequence..." [2, p. 120].

The manufacturer is interested in increasing the emotional component of the consumption process, as affecting the emotions the enterprises have the

opportunity to attract customers' attention and program them for the purchase, ensuring the potential demand. According to the innovative business researchers K. Nordström and J Ridderstråle, "the real competition should be based on the fact that is rarely discussed in the business world: emotions and imagination.

To cope with abundance, it is not necessary to produce the same thing in a greater number, it is necessary to introduce the elements of sensationalism and sentimentality into production. The age of abundance is gradually turning into the era of emotional attachment" [14, p. 16].

Meanwhile, emotions represent an evolutionarily earlier mechanism of behavior regulation than mind and, therefore, the emotional reaction leaves behind the process of man's realization of the situation.

The emotional level of reality reflection is characterized by more rapid, immediate and impulsive reactions on the outside world pressures.

What is more, under the influence of emotions people tend to choose more simple solutions to life situations and can be easily influenced by other people. Disraeli said, "If you need to convince the masses in something, this process can be started only with the impact on emotions – on the development of logical reasoning the masses will not spend any effort or time". U. Gavin had a similar opinion: "Mind requires the highest degree of discipline, concentration. Ordinary impression is much easier. Mind repels the viewer, the logic bothers him/her. Emotions stir, they are closer to the surface, are easier forged" [7, p. 204].

These features allow some researchers to consider the emotional impact as a prerequisite for the consciousness manipulation. It should be also noted that modern psychologists tend to equate emotions with imbalance, instability, high anxiety and, therefore, the formation of emotional consumers meets the interests of innovative products manufacturers fully.

Modern innovative economy is characterized by the reduced life cycle of an innovative product, and that is why its consumption by a maximum number of people in a relatively short time determines the highest profit.

According to Z. Bauman, "the necessary time reduction is best achieved if consumers can not focus on a concrete subject, they are impatient, impulsive and restless, and most importantly, become excited easily and lose interest the same way" [2, p. 118].

It can be assumed that the habit to follow the emotional impulse when making decisions (first of all, concerning the purchase of goods, and then in other spheres of life), which is a consequence of constant use of the emotional attitude to reality and which is consciously produced by the innovative product manufacturers, can cause the consumers' reluctance to use rational mechanisms, in principle. So, not only innovative products producers, but all interested parties can manipulate consciousness of such people.

Thus, the consumers' role in the innovation economy and the specifics of its functioning at the present stage encourage innovative products manufacturers to model consumers' behavior by disseminating certain consumer standards, in particular, consumers-innovators' standards. These processes are associated with the changes in individual and collective psychology in the direction of forming the orientation on the absolute value of the new, encouraging risky behaviors, reinforcing them as socio-cultural norms and preferring the emotional component in consumption to the rational. The consequences of such processes are ambiguous and can have negative consequences for the innovation economy and for society as a whole.

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Improvement of tool support of the spatial approach to regional planning: problems, specifics, trends

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Abstract. The emerging imperatives of innovation economic development in Russia determine the content of conceptual and institutional constraints to the development of regional economic systems (RES). They consider the regional planning system as a leading priority in its inseparable unity with modern public administration tasks. However, the practice of development of long-term plans in the RF subjects proves that the innovation challenges of economic policy are not reflected properly in them or they are significantly distorted. The following reasons reduce the effectiveness of modernization processes in the RF subjects and hamper the appropriate reaction of RES on their impact: the lack of coordination between socio-economic and spatial regional plans, the imbalance of interaction between state authorities engaged in long-term planning, the lack of real prerequisites for the implementation of innovation initiatives in the regions. Systematization and analysis of long-term plans make it possible to substantiate the consistency of the spatial approach to regional planning expressed in the dominance of the transformational function that synchronizes the configuration and parameters of RES, and to establish ways to integrate spatial components in the system of regional planning through optimization of its tool support. The change in the content of the instrumentation support is based on the synthesis of the predominant basic characteristics of the existing tools used in isolated subsystems of regional planning of socio-economic and territorial development. The study has established a system of tool support for regional planning that adapts to the changes in both internal and external factors in the development of RES.

Three main groups of tools: organizing, regulating, and coordinating are defined by their typing in accordance with the groups of management functions. The article proposes the modeling of combinations of tools that are subordinated to the choice of spatial and strategic initiatives in the development of a particular region.

Key words: public administration, regional system, transformational function, socio-economic development, regional planning, tool support, spatial approach.

The main provisions of the national policy in the sphere of innovation development are formulated and set out in concepts, legislative and normative-legal acts primarily at the federal level of government [5, 6, 7].

Public administration system at the regional level perceives the innovative orientation of public policy objectives with varying degrees of adequacy [8, 10, 14, 12].

The situation in federation subjects shows that their progressive implementation takes place in exceptional cases, while in general this process is not universal and it is uneven. In order to establish the factors that hinder its normal course, the author has conducted a study that reveals modern features of regional planning in the Russian Federation subjects.

When such causes of decreased efficiency modernization processes in the subjects of the Russian Federation are revealed, the attention is drawn, first of all, to the mismatch between the socio-economic and spatial components of regional planning, unbalanced participation of state authorities engaged in long-term planning, and to the bias of the estimates of the existing prerequisites that the regions possess for the implementation of innovation initiatives.

The author considers that the actual scientific problem and the purpose of this study lies in the justification of the ways to eliminate these contradictions in the functioning of regional economic systems (RES). The author's hypothesis is based on the fact that, provided that the contradictions in the existing methods of regional planning are eliminated, the quality of regional plans will increase due to their greater adaptability concerning the institutional requirements and limitations for innovation development of RES. Thus, the object of the study is a meandering system of long-term regional planning that is subject to the influence of external and internal factors that determine the nature of transformational changes in RES. The subject of research is tool support corresponding to the object, reflecting the intensity of transformational changes in RES occurring due to the use of the spatial approach to regional planning.

One of the least studied aspects of the problem, according to the author, is the identification of contradictions in RES that are caused by a mismatch between the socio-economic and spatial components of regional planning [19]. In order to justify directions for elimination of these problems and improvement of existing methods of planning it was necessary to take a look at the content of regional development plans in the RF subjects with the subsequent comparative analysis of the plans. Along with this type of analysis,

the methods of research also include the effect-cause analysis, comparative analysis, empirical method, and methods of spatial analysis.

The study shows that the main directions of the policy for innovation economic development in our country are expressed in a set of conceptual and institutional constraints [2] that are a starting point in the development of any management decisions, including long-term plans for regional development.

Their dissemination occurs in various forms that are mainly not regulated [14, 15]. This is what largely determines the specifics of regional plans.

For instance, regional economic systems that experience the impact of the requirements of innovation development react through the emergence of new socio-economic processes with further reflection of elements revealing their content. But in most cases there is no compliance with socio-economic provisions of the plans in the spatial aspect, or it is reflected to a small extent *(fig. 1)*.

At present, transformation processes in RES that express the action of innovation factors are characterized mainly by infrastructural socio-economic change connected with the hierarchical levels of the region's administrative-territorial division. This trend of detecting infrastructural relations in the structure of socio-economic processes is reflected in regional plans even less. The exception is found in long-term plans of certain RF subjects, in which infrastructure models are calculated both in terms of socio-economic development of regions and territorial plans *(fig. 2)*.

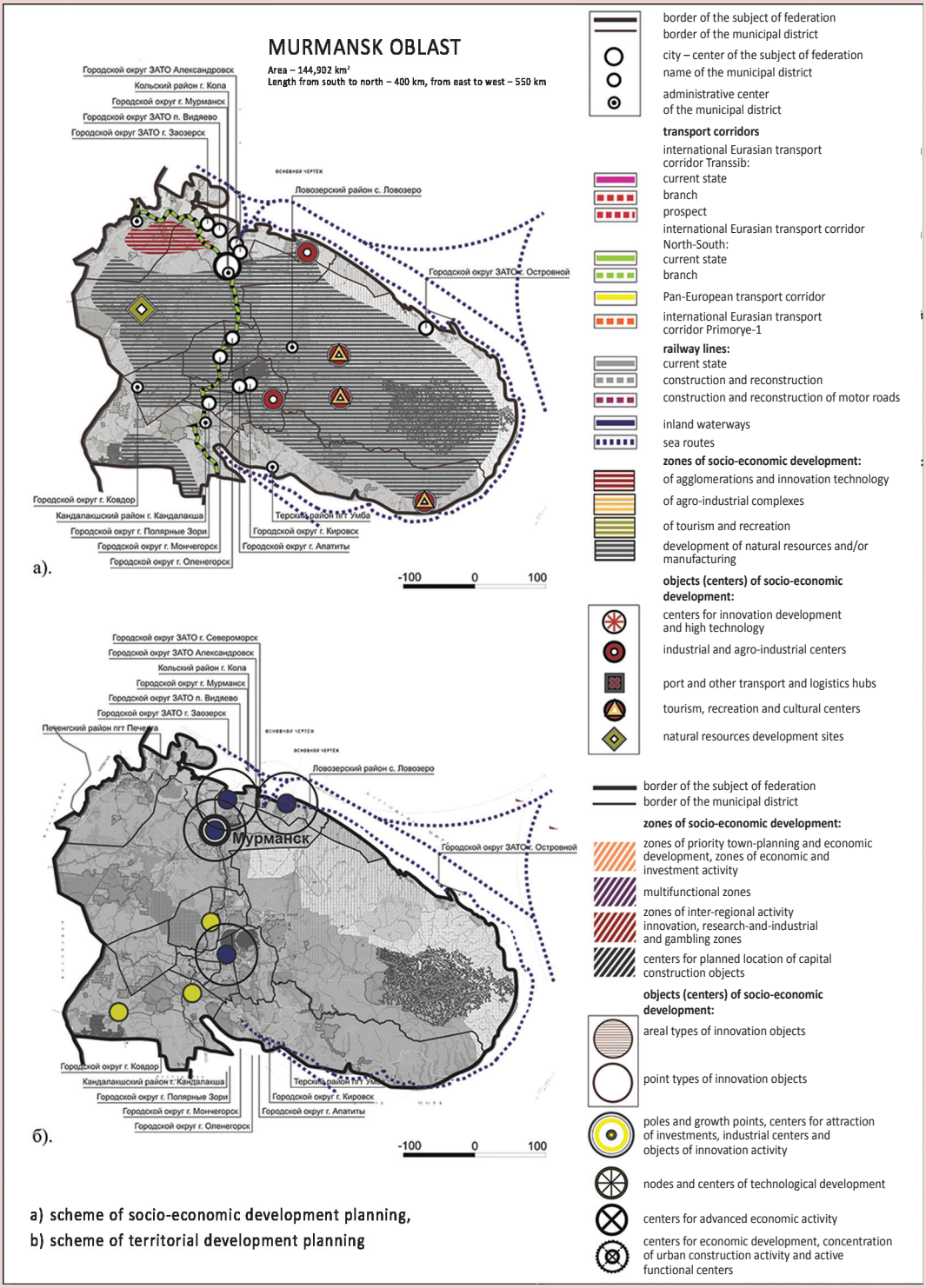
Improvement of the spatial approach, taking into account new conditions, allows us to represent the development of RES as a process of their controlled transformation synchronized with the modernization trends within which the development goals of RES adapt to actual opportunities of their implementation through the interaction of socio-economic and spatial forms.

The very fact that the essence of economic processes is conditioned by their territorial affiliation focuses the attention of public authorities and leading representatives of modern scientific community on the comprehensive assessment of factors in the development of RES by highlighting the spatial factors [4, 6, 10, 11, 15].

As a consequence, the regional planning system is changed through the identification of its *transformational function* that is implemented through the development of integrated spatial and strategic decisions, that align the configuration and parameters of RES development. The feasibility of this function that is revealed in the system of spatial and strategic planning, in turn, is inseparable from the modernized system of tool support reflecting the change in the target-setting in the development of RES [3, 13, 17].

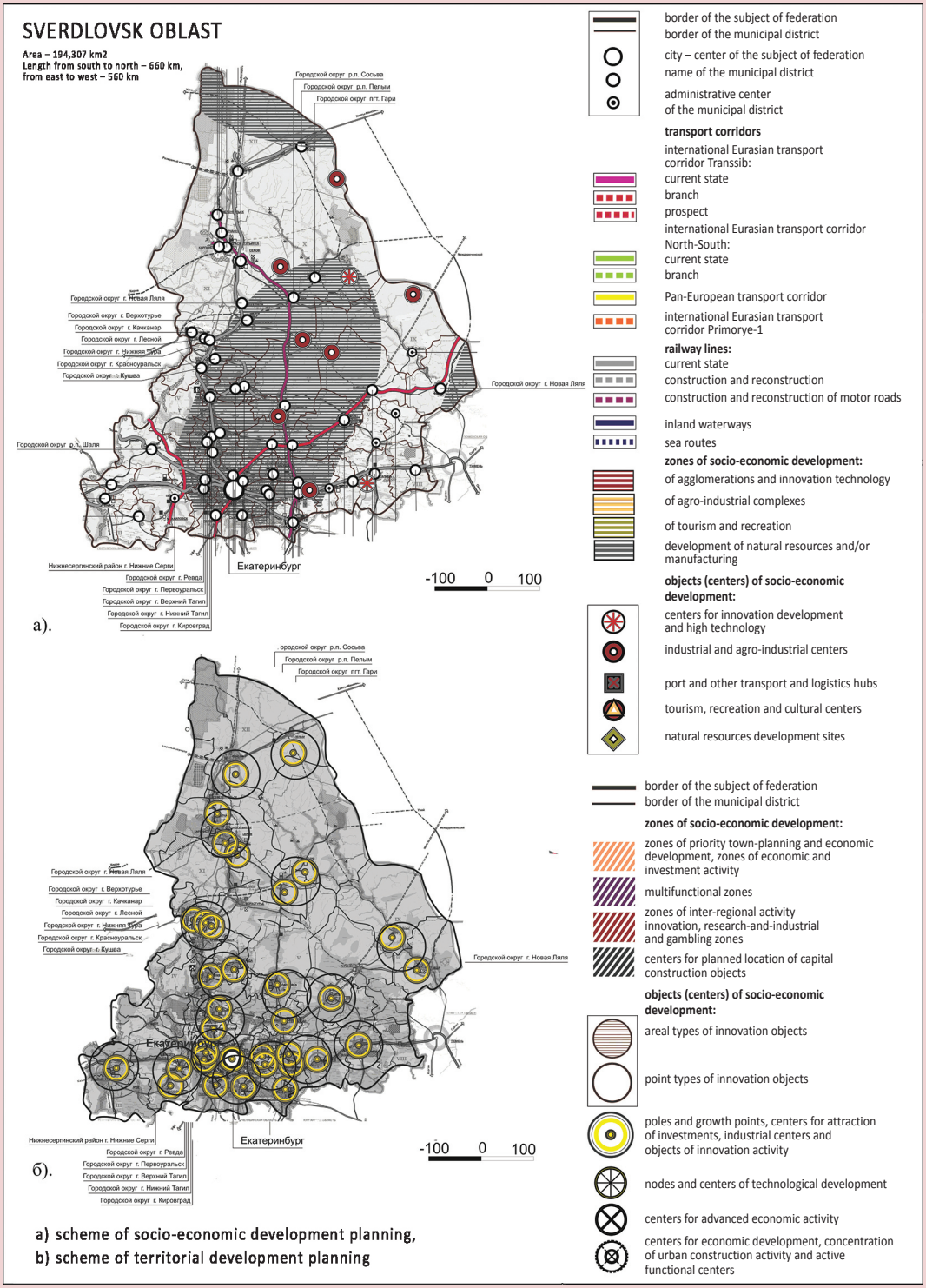
In the context of the spatial approach, the transformational function manifests itself with varying degrees of activity in such a way that leads to the improvement of planning: initially – through the cohesion of socio-economic spatial components and then – through their integration. The specifics of interaction between the components, already in the spatial

Figure 1. Identification of socio-economic processes in the development of regional economic systems on the basis of comparative analysis of long-term plans in the spatial aspect on the example of the RF subject characterized by a low threshold of perception of institutional constraints



a) scheme of socio-economic development planning,
b) scheme of territorial development planning

Figure 2. Identification of infrastructure specifics of socio-economic development of regional economic systems in the spatial aspect on the example of the RF subject characterized by a high threshold of perception of institutional constraints of RES



a) scheme of socio-economic development planning,
b) scheme of territorial development planning

and strategic planning system (SSPS), justify the phenomenological effects of multiplication that extend their impact on economic activity in the region. They are provided by the activity of the tool support of SSPS.

According to the research findings, the system of tool support of SSPS has three main groups of tools: organizing, regulating, and coordinating.

The group of organizing tools consists of two subgroups: the legal and resource support of SSPS.

Analysis of the current application of the tools of organizational and legal support of regional planning processes confirms the effectiveness of the use of public-private partnership (PPP).

Intensive development of PPP in the regions is often constrained by the incomparability of socio-economic and spatial estimates of the potential to fulfil the strategic objectives based on criteria such as: the need for resources, payback period, the ability to improve the socio-economic condition in the region in a given direction, the ability to replenish regional budgets and to create new jobs [4, 14].

Prospects of development of modern forms of PPP and concepts of their formation are associated with the definition and consideration of regional characteristics, as well as their consistency with the overall development strategy of the federal districts. In conditions of pronounced non-uniformity of transformational change in RES, the projects of their infrastructure development through PPP, in a general sense and in the terminology of this study, are a way to align these imbalances for achieving rapid economic growth, attracting investment and planned spatial transformations.

As a consequence, the level and status of activities under the PPP increase, as defined, on the one hand, by their socio-economic importance for the region, the increase in the intensity of interaction between actors of the regional economy in the process of their implementation, the submission of their content to the national policy priorities of innovation development, and on the other hand, the elaboration of spatial forms adequate to the changing needs of the population.

Regional specifics influence the structure of PPP through a step-wise and component-wise implementation of activities in their framework in such a way as to fit into the format of the developed strategies and long-term regional development plans, taking into account possible changes in the conditions of their implementation, for example, through the provisions set out in regional target programs.

Consolidation of PPP projects in the provisions of the region's long-term development plans helps to ensure continuity of government objectives of innovation economic development set out at the federal level and, at the same time, to require the mandatory unity of partnership forms of their implementation, adapted to the objectives from the level of plan to the level of project.

A new public-private partnership model built on the structural independence of consistently interacting socio-economic and spatial components of regional planning

and, at the same time, on their purposeful association, is intended to ensure the implementation of regional development plans in coordination with the overall strategic direction of public policies for regional development.

The substantiation of the tools for resource supply of SSPS is based on two schemes of assessing the factors in the region's development – social factors and market factors, which are reflected in the complex and in accordance with which two analytical blocks – social analysis and market analysis – are formed. Within these blocks specific research operations are carried out simultaneously (in parallel), gradually and consistently; they reveal different features of the regional system functioning. This analysis reveals the complex characteristics that diagnose the status of RES with regard to their potential changes in the most optimal forms.

Based on the systematization of data on the structure of public service, characteristics of the housing stock and classification of consumers, as well as a comprehensive assessment of this information identifies the prospects for changes in the condition of RES described by quantitative and qualitative indicators. To do this the following activities are carried out: the "problematic" elements of RES with defective and inefficient service are revealed; the consequences of placing the service sectors in space that lead to socio-economic imbalances are identified; market niches are identified (that are not occupied or that are poorly developed, but that have prospects of further development); the percentage ratios of elements of social and commercial services are established. Depending on the combination of the detected signs of change in the status of RES, the motivated degree of intervention of authorized management authorities in the socio-economic and spatial aspects is determined.

The group of regulatory tools can include the subgroups of instruments of regulatory zoning and investment regulation of SSPS [1, 18].

The content of regulatory zoning (RZ) is disclosed within the procedures of endowing the zones with the differentiated status of development and the establishment of appropriate boundaries. Its practical result is the development of regulatory activities that reflect planned changes in the development indicators with different amplitude and the frequency of repeatability of processes by their graphical fixation in special schemes of the region's zoning.

This ensures the regulated order of socio-economic and spatial intervention through both the increase and the intentional decrease of the attractiveness of the use of separate fragments of RES and identification of the objects of regional development planning necessary to implement public interests.

In order to do this, the work proposes to consider a set of requirements to the regulation of RES development through synchronization of its socio-economic and spatial components, which affects the process of identifying and securing the regulatory zones (so far, similar developments are implemented in practice on the initiative basis; this fact proves that

they are only the subject of discussion rather than the regulations enshrined in law).

Among the possible requirements it is necessary to identify the most anticipated ones, such as:

• continuity of ways to implement the state policy of spatial development from the level of strategic planning through their integration into regulatory zoning by specifying the directions of transformation of RES with the relevant fixing in the provisions of RZ;

• coordination of management decisions on the settlement of the state, social and private interests, which aims to eliminate and prevent conflict situations; the coordination is expressed in the differentiated schemes of management decisions that differ by the lists of regulating measures;

• forecast of the indicators of RES utilization with maximum consideration of the set of factors that determine its functioning, preventing the destruction of the spatial integrity of RES, contradiction between the chosen strategy of regional development and the principles of rational resource usage.

These requirements create prerequisites for the transition from direct administrative control to more efficient indirect forms of economic management of the processes of RES development. This transition is most expedient to be made by using regulatory characteristics of RZ, through which the non-segmented territorial mass of RES is differentiated. On the basis of enlarged differentiation the most promising zonal objects from the viewpoint of socio-economic and spatial development are distinguished, which forms the economic basis of zoning.

The establishment and consolidation of forecast economic indicators of RES development in RZ plays a leading role in the context of improving the regulatory principles of regional planning: the allocation of zones of a particular usage type means highlighting and supporting the socio-economic and spatial priorities that collectively determine the way to disclose the strategic vector of RES development.

The prospects of regulatory zoning are determined by the proposed methodological provisions formed on the basis of the combination of the following principles:

– consistency of the proposed typological methods with the spatial organization of RES elements, including the determination of the variability of their functional purpose, defined on the basis of the results of a comprehensive analysis of existing conditions and characteristics of the development of a particular region so that they were as close to the actual existing spatial structure of socio-economic processes with the appropriate types of zones;

– interconnection between the forms of spatial organization of RES elements and their socio-economic content, defined by the specifics of location of regulatory zones, the purpose of the types of their economic use, achieved through a gradual and consistent logic of the process of transformation of zones and objects that does not violate and preserves the existing structural order on the basis of a set of objective factors and prerequisites;

– ranking of the types of economic activity, carried out by taking into account the set of political, historical, cultural, social, demographic, natural landscape, and territorial factors, including the specifics of location, existing types of usage, historically developed combination of functional processes, the potential for possible spatial transformations within the established regulatory zones;

– structuring of RES elements within the regulatory zones in the socio-economic and spatial aspects simultaneously using hierarchical sequential transition from the elements of the upper levels to the lower levels on the basis of the existing organization of RES and future trends of polyfunctional or monofunctional development.

As a result of the combined action of the identified principles the regulatory zoning schemes are prepared, in which the zones are defined that are formed in accordance with the classifier of dominant and auxiliary types of economic use of RES with their quantitative and qualitative characteristics.

Formation of investment tools for regulating the relations of the subjects of the regional economy provides for active involvement of private investment in the processes of regional development, since they implement the potential of the few competitive, cost-effective urban spatial elements of RES [1].

The research into the modern experience of implementing project management solutions conducted by the author shows that the declarative and initiatory investment tools are the most prevalent among investment regulation tools. The logic of using regulatory investment tools is defined by the relationship between the forms of participation of state management authorities and the processes of RES development. Public authorities regulate the process of implementation of territorial projects mainly by direct participation in them, but it does not exclude the creation of special organizational and managerial structures [16].

Due to the targeted impact on the development of RES (stimulating or constraining) it is possible to implement state control in the regions. It is expressed both in the form of increasing the effectiveness of practical implementation of projects in general and also in the continuing emergence of the objects of regional development planning that become a catalyst for the transformation of regional systems.

The process of territorial projects implementation, with the reduction of the degree of participation of authorities, is characterized by the transition of initiatives to private investors, which also expands the investment opportunities of the subjects of regional economy.

The results of research into the world regional practice management prove that under certain conditions (such as economic crisis that causes the limitation of resources of all kinds) it becomes advisable for state authorities to use flexible (compromise) schemes for the implementation of regional development projects. Such schemes based on the principles of combined regulation of the use of public (municipal) and private investment help, depending on the

changes in the socio-economic situation, to use them (schemes) in different ways, adapting to changes and thereby achieving performance efficiency.

Since the very fact of fixing the compromise schemes of regulation of RES development processes in relevant planning decisions does not guarantee that they will be implemented, and also the fact that the scheme will not change, it is necessary to provide systematic and comprehensive monitoring of this process, also in the form of aligning of the interests of all the interested parties.

The group of coordinating tools is concentrated in the system of regional monitoring of SSP. Directions of improvement of regional monitoring in the framework of the spatial approach are determined primarily by the fact that the definition of its characteristic stages (operations) such as analysis, evaluation, control, and subsequent determination of their internal content takes into account the specifics of interaction between socio-economic and spatial components of regional planning.

Depending on how this interaction is carried out, the specifics of SSP tasks and the peculiarities of the technological chain of information circulation are determined. The main emphasis in this modernized monitoring system is placed on the integration of special tools used in the planning of the region's socio-economic development and in territorial planning. New opportunities are opened for integrated solution of RES management tasks due to the introduction of the system of information description of changes in the state of RES caused by the effects of the implementation of the infrastructure model of its development.

The analysis of theoretical works, as well as direct acquaintance of the author with practical solutions to this problem in some regions of Russia (Moscow, Saint Petersburg, the republics of Tatarstan and Chuvashia, the Samara, Saratov, Rostov and Leningrad oblasts) on examples of existing monitoring services in the regional management system help to find out the following. The existing developments that optimize the monitoring and reveal the specifics of dynamically changing tasks in the regional management system are focused mainly on the improvement of information support as a whole.

If applied to the object and subject of the research, this is connected, first, with defining the content of the basic concept of information [1, 9, 19]. Although this urgent question is rather well studied, experts have not yet reached a consensus yet. This is confirmed by the systematization and analysis of the works on the prospects of information support to regional management processes, taking into account the specifics of the federation subjects and characteristics of the spheres of information usage.

At the same time, many researchers, in particular those who study Volgograd region (A. Kalinin, 2005; D. Dontsov, 2006; Oleinik, 2007; Petrova G., 2008; Sokolov A., 2013), are unanimous in their assessments of current standards of formation of regional monitoring schemes and finding the opportunities for their improvement. They point out the need to supplement the

existing regional planning techniques with block schemes of information organization [1, 12, 18].

This means that when state and municipal authorities solve certain management tasks, there emerges the necessity to use special information along with some general information constantly involved in this process. If these informational interaction processes are not structured, and the ways in which state authorities address this information are not designed properly, there can be the cases of inefficient use of resources.

The proposals to improve the regional monitoring system aim to address an important economic problem of resource savings. The block scheme of the organization of information in this regard will help to create a rational system of accumulation, processing and analysis of information, to prevent crossing its flows and a possible imbalance from multiple references of users [12, 19].

The adoption of the block scheme of information arrangement entails the reconsideration of existing attitude toward spatial information – one of its constituent blocks. So far, it is believed that it is necessary to use the information from this block as a support in handling a variety of situational tasks in the regional management system.

This means that the block can be referred to for any kind of visualization of socio-economic processes in the region, as a service. Accordingly, the successful realization of the potential of information is out of the question. A similar spread of this somewhat negative attitude toward this block of information when solving problems of regional monitoring leads in most cases to the fact that its importance is downgraded and, therefore, it is not involved actively in addressing the issues of region's management.

At present, its functioning is also considered in a fairly narrow, purely special, framework, limited by solving the issues of development and utilization of individual elements of RES, its territories in the implementation of procedures related to the realization of investment intentions of the developers. There have been the ongoing discussions concerning the fact which option of functioning of spatial information block better reflects the fullness of its opportunities in the regional planning system and which is most preferable for its improvement. Given the fact that supplementing information resources of the monitoring with this block is a relatively new requirement to its structural organization, it can be assumed that this conceptual design will be developed further.

The set of modern requirements for information flows in information systems highlights the advantages of market-based relations of the subjects of the regional economy that actively use different kinds of information [9]. Taking into account this requirement, as well as the feasibility of construction of the block scheme of information, it is proposed to integrate the spatial component in socio-economic information. This approach will expand the possibilities of information classification: in addition to existing unification methods it will make it possible to apply the methods

of its ranking depending on the objectives of the monitoring: analysis, evaluation, control, acquisition, from the source of information request – the subject of regional economy that defines the volume, content, form and timing of information provision. The proposals relate primarily to the implementation of diversified types of information, which allow it to be used multifunctionally and repeatedly, depending on the areas of its designation, specific functional correspondence, and consumers.

In general, the proposals aimed to improve the regional monitoring system discussed in this work are reduced to the justification of the conceptual scheme of the information monitoring system (IMS). The main feature of designing the principal scheme of IMS functioning is to synchronize information flows – socio-economic and spatial information and their intersection in the "zones" of managerial decision-making requiring concentration and synthesis of the original data.

Accordingly, IMS has other features. In particular, the process of moving from the initial (incoming) to the final (outgoing) information is optimized in such a way that it is not only limited in time, but it is also not associated with a large and unnecessary amount of labor-intensive and unproductive auxiliary technological operations. Due to the modernization of the structure of IMS, with the allocation in the monitoring scheme of subsystems, corresponding to the stages of the analysis, assessment and control, the content of operations such as collection, documentation, updating, processing, systematization, recording and storage of information is defined strictly, depending on the characteristics of information processes.

The functioning of the IMS is carried out in two main directions corresponding to the stage of fulfillment of characteristic successive operations through their proposed grouping.

The first direction groups the operations of collection, processing, recording, storage, and updating of information; and the second direction deals with the provision of information.

The separation of information in the framework of the second direction is critical, since the category of information request can drastically change the form and content of the output material. It means that their targeting and affiliation with different consumers generates the schemes of information organization, which differ in the number of internal operations, their content, the order of sequence, ways of interaction, etc.

Among such schemes of organizing information it is necessary to distinguish those used for the preparation of legal documents, long-term plans and programs for regions' development. These cases are characterized by the fact that the information schemes should take into account the dual nature of requirements that proceed from socio-economic and spatial components dictating informational structure of developed materials. Thus, state and municipal authorities involved in this process of development of information schemes can not be completely isolated and independent from each other, as it is currently practiced.

The way of organizing IMS is subject to the requirement of its smooth functioning in terms of diversification of regional development processes, involving different groups of consumers, professional actors of the regional economy and management authorities.

The results of IMS functioning can be manifested in two ways: through the final documents, the use of which by different consumer groups (governments, professional participants of the regional market and average consumers) determines their content; and by providing authorized direct access to information resources to a limited list of users approved by the information system manager.

The fact that authorities comply with the duality of requirements theoretically leads to the fact that of all potentially existing (or possible) operations within the developed information schemes, depending on the specifics of the tasks at hand, one can and should reasonably define the elements of schemes that are really relevant, and, at the same time, exclude the elements that are irrelevant and that complicate their functioning.

The main result of the implementation of this approach to the organization of regional monitoring is expected, in particular, to be the elimination of duplicate functional processes in the regional management system and the emergence of the sets of information blocks adapted to specific model changes of RES.

The use of IMS in the future will help to create the tools for monitoring based on adaptive principles that will ensure the adequacy and efficiency of the planned regional development activities that correspond to the objectives of public administration, and implementation of the mutual interests of the state and population. Such problems can be solved through the development and adoption of the law of the Russian Federation or the law of the subject of the Russian Federation on the improvement of the procedure of formation and provision of information on the development planning of the region.

The combination of the proposed *organizing, regulating and coordinating tools* forms a system of tool support in the context of a spatial approach to regional planning that implements the strategic direction of the state policy for sustainable innovation development of the regions.

Simultaneously, the system approach to the development of tool support for the SSP is the essence of innovation in the integrated and complex formation of socio-economic and spatial solutions, that determine the content of long-term development plans of the regions, and regulations that ensure their elaboration.

Thus, *the system of tool support* of SSP depends on the results of assessment of the resources required for RES transformation: intention to implement certain types of transformations initiated by the state authorities, the substantiation of the set of socio-economic and spatial conditions, appropriate forms of disclosure and retention in regional development scenarios.

The practice of modern regional management based on updated planning methodology shows that individual elements of the system of tool support are used in the

development and implementation of long-term regional development plans in the RF subjects.

However, the absence of the generally accepted classification of existing diversity of tools, of the unity of the rules of their application, as well as significant differences in socio-economic development in the regions lead to the fact that when determining the set of tools universal schemes show low efficiency. And, as a result, in each case the planning procedures themselves are actually violated, since the subjects of regional economy, in fact, "design" the management tools required for the solution of urgent issues of regional development, and make their ultimate choice not on the basis of criterion assessments, but through random sampling of the most appropriate option as judged by the developers.

It seems impossible to change such practice until the accumulation of considerable experience in the usage of different options for making management decisions on the basis of various tool support planning. And not enough just to increase the amount of such examples, since of no less importance are the qualitative assessment of tools implementation in different federal districts, within which one expects the emergence of a certain trend in choosing their standardized list, which is explained by the comparability of the conditions and factors of RES development.

The research findings presented in this article refer mostly to 2008–2012, when the prospects described were only beginning to emerge and it was possible to speak only about "pioneer" forms of choosing such tools. Trying to solving the problems of combinatorics of the tools out of potential options of their combinations, the author proceeded from actual conditions limited by her practical participation in the development process of respective socio-economic and territorial development plans for the Volgograd Oblast that was going on in this very period. No less important was the fact that the elaboration of the content of development plans of the Russian Federation subject can not be reduced to the procedures carried out only at the regional level, since this process is directly linked to the planning of development of federal districts and municipal districts.

The author's involvement in the implementation of municipal contracts for the elaboration of plans for development of municipal districts of the Volgograd Oblast is further confirmation of the viability of the proposed model of tool support to regional planning.

Because the long-term development plans were worked out for the municipal districts comprising the single RF subject, it was decided that the content of the tools used would be relatively uniform, but allowing for variation. The plans that were prepared and approved are currently actively used in the practice of regional management in the Volgograd Oblast. And despite the fact that, in general, their provisions are relatively stable, they possess certain dynamics caused by the changing socio-economic conditions and requirements for regions' development. This leads to the fact that development plans are adjusted and supplemented.

The composition of management tools will change in accordance with amendments introduced in the plans. Today it can not be argued that the experimental variant of tool support proposed in this work is stable and finished in its original development.

On the contrary, the author connects the prospects for its use with intensification of the practice of design and combination of tools of various compositions, and then, through critical analysis, it will be possible to select standard forms.

The differentiation of elements of the tool support system, as well as their combination, is determined depending on the choice of the type of spatial-strategic initiatives (SSI) – a basic element of spatial strategic planning responsible for the degree of compliance of planned developments with institutional constraints. Tool support is formed in such a way that allows the regional planning system to adapt to the specifics of SSI. For these purposes the author proposes its typological classification in accordance with the groups of management functions: organization – for optimization of legal interaction between the subjects of the regional economy in the format of public-private partnership, supported by actual resource potential; regulation – for appropriate and rapid response of RES to the impact of internal and external factors through investment regulators and regulatory zoning in various forms; monitoring – for accurate and timely reproduction of information about the regional development processes, focusing its performance indicators more on forecasting of potential options than on the statement of accomplished facts, through active involvement of its users in this process, seeking feedback effect.

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The "May" Decrees of the President: objective, indicators, implementation dynamics

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Abstract. Two and a half years have passed since the RF President's adoption of a number of decrees aimed at improving social welfare of the citizens. The objectives of the given legal documents concern the issues of education and science, health, demography and social policy, economy and foreign policy, military service and development of the Armed Forces of Russia, inter-ethnic harmony, governance and quality of housing and utility services. V.V. Putin has set targets to be achieved in Russia by 2020.

However, the acute budget crisis of regional systems hinders the implementation of Presidential Decrees. This article provides the reader with the analysis of the achieved results and states the problems of "May" requirements funding. In addition, there are possible options for the implementation of the targets laid down in the presidential decrees in the prescribed period.

Key words: regional budget, "May" Decrees of the President, public debt, budget deficit, decentralization of budget authorities, interest expense.

According to Johann Wolfgang von Goethe, "who wants to attain a lot, should set high demands". Apparently, the President of the Russian Federation shared this opinion, signing a number of decrees aimed at improving social welfare of the citizens in May 2012.

Strategic transformation affect important spheres, such as education and science, health, demographic and social politics, economy and foreign policy, military service and development of the Armed Forces of Russia, housing and utilities services, etc.

The decrees determine the targets to be achieved in Russia by 2020. These include: increase in the life expectancy to 74 years; decrease in the cost of housing by 20% by commissioning economy-class housing; rise in the productivity by 1.5 times; growth in public sector wages; improvement of Russia's position in the World Bank's rating Doing Business from the 120th to 20th, etc. [11].

Two years have already passed since the President signed the "May" Decrees.

The results of the two year work

Let us refer to the official statistics disclosed by the RF Government. For two years out of 218 President's Decrees one hundred and twenty-one have been executed, resulting in the adoption of 69 federal laws, 200 legal acts of the Government, 150 programs, strategies and other measures. In 2014 twenty-five decrees are to be implemented, 13 in 2015 and 39 in 2016–2020. More than 22% of the total number of decrees pertains to the competence of the Ministry of Economic Development [1, 3, 8]. However, the regional authorities have experienced the main burden. It is they who have felt the financial burden of improving the lives of the Russians and enhancing the efficiency of the Russian economy.

So, the Vologda Oblast Government in 2013 allocated of 4.4 billion rubles for the implementation of the President's Decrees. These funds together with federal helped achieve the following [9]:

– the target level of wages of teachers, social workers and employees in the sphere of culture has been achieved;

– 2658 places for children in kindergartens have been created;

– 821 families have been relocated from dilapidated housing, which living space amounted to 31.1 thousand square meters;

– 7 multi-service centers have been opened and the share of citizens who have access to public and municipal services by the principle of "one window" has increased by 34%;

– monthly payment to low-income families for the third and subsequent children amounting to 6398 rubles and totaling of 57.5 million rubles has been paid.

These targets implementation is carried out in accordance with the terms specified by the President of Russia. However, not all targets have been achieved in time. Wages of health workers, kindergarten teachers and teachers of schools, colleges and vocational schools have increased to a lesser degree than required by the program of gradual improvement of the remuneration system.

The higher authorities have signed the decrees the local governments should implement.

The Vologda Oblast budget requires 35.9 billion rubles to execute the President' Decrees in 2014–2016 [5]. However, the sources are unclear, as the growth of own revenues in the region is to be 7.3 billion rubles. Thus, using only own resources the region can finance only 55% of the demand for the Presidential Decrees implementation *(tab. 1)*.

It will be difficult to increase this percentage – the budgetary situation in the region is complicated and characterized by the negative dynamics of key fiscal indicators.

Table 1. Volume and structure of budgetary allocations for the implementation of the Presidential Decrees in the Vologda Oblast in 2014–2016, million rubles

Decree		2013 Require-ment	2014		2015		2016	
			Provided	Require-ment	Provided	Require-ment	Provided	Require-ment
On the long-term state economic policy		4.9	4.1	4.1	4.2	4.2	4.4	4.4
On the measures to realize the state social policy		2587.6	4910.1	4171.8	6449.3	5473.7	8 760.3	7 347.1
On the improvement of the state policy in the sphere of health		18.9	17.1	17.1	23.7	23.7	25.3	25.3
On the measures to realize the state policy in the field of education and science		985.8	1423.2	0.0	1 333.2	46.5	1 429.3	44.3
On the measures to provide Russian citizens with affordable and comfortable housing and improve the quality of housing and public utility services		1030.7	1 923.4	967.2	3 498.1	403.0	1 605.4	100.0
On the main directions to improve the system of public administration		182.9	747.7	69.3	428.2	27.1	229.4	27.0
On the measures to implement the demographic policy of the Russian Federation		34.1	83.7	83.7	119.4	119.4	180.2	180.2
On the national strategy for action for children		1.6	517.3	5.4	673.4	7.7	861.9	10.6
On some measures to implement the 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
	Million rubles			-4373.3		-6458.4		-5361.9

Source: Annex to the Explanatory note to the draft Law "On the regional budget for 2014 and the planned period of 2015 and 2016".

First, own revenues continue to fall due to the shortfall of income tax.

In 2014–2016 the forecasted values of total and own revenues in current prices will exceed the pre-crisis level, although in 2014 own revenues will be below the 2008 level by 0.9 billion rubles. However, the reassessment of amounts of own revenues in real terms, i.e. adjusting in terms of the consumer price index, reveals that it is impossible to reach the pre-crisis level: 40.8 billion rubles in 2016 against 55.9 billion rubles in 2008 [10, p. 148] *(fig. 1)*.

This trend has become nationwide. For example, in the Vologda Oblast the situation is catastrophic: tax revenues decreased by 46% in 2013 compared with 2012 (by 13% in Russia).

The revenue of the largest regional enterprise PAO Severstal is to be zero in the next three years and the revenues of two large taxpayers – OJSC PhosAgro-Cherepovets and JSC Agro-Cherepovets – will have reduced to 0.2 billion rubles by 2016 *(fig. 2)*.

Figure 1. Tax and non-tax revenues of the regional budget in real terms, in 2016 prices, billion rubles [10]

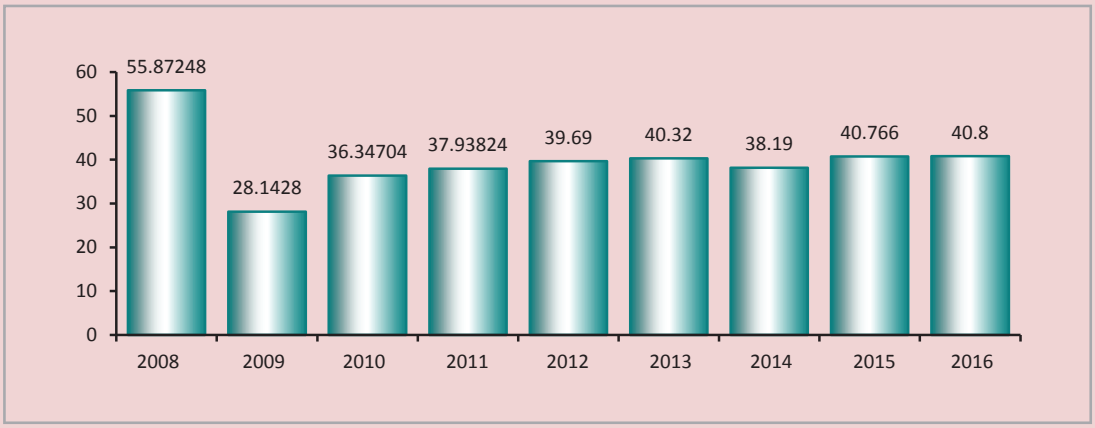
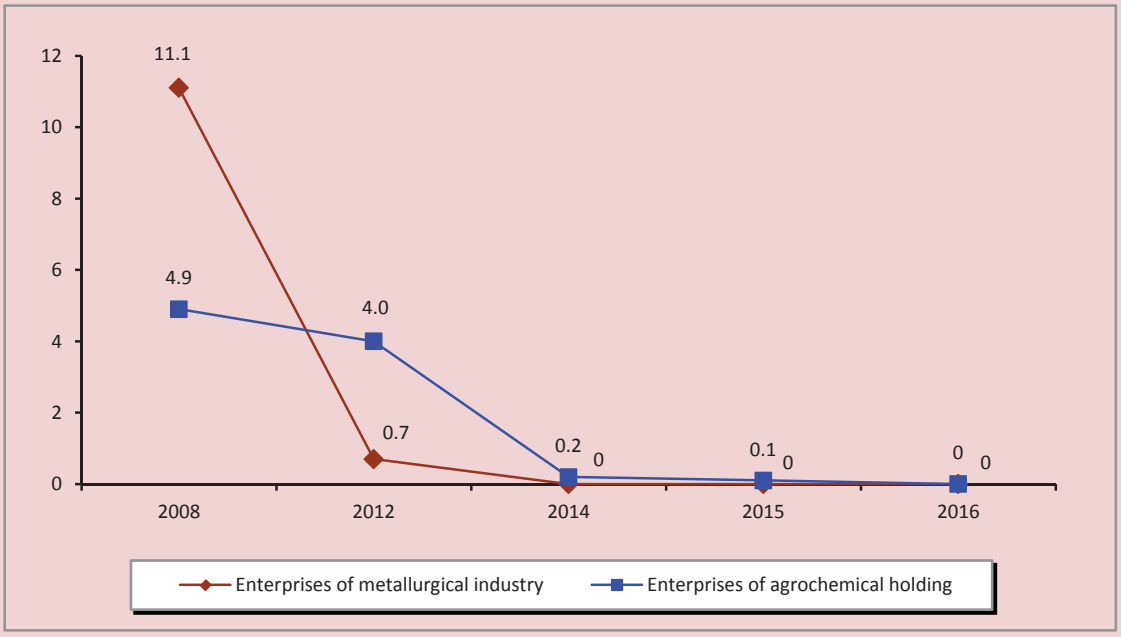


Figure 2. Receipts from profit tax in the consolidated budget of the Vologda Oblast, billion rubles



Source: compiled by [6].

At the same time, own revenues w/o profit tax, in contrast, have increased by 13%. No wonder, economists consider profit tax as "tax on the verge". It depends on market conditions, which weakness, rising costs on the market of budget revenue generating metallurgical industry and introduction of the system of consolidated groups of taxpayers have caused a fall in tax revenues in the region.

Second, the debt load of the Vologda Oblast budget in 2013 exceeded own revenues by 6.3%.

In the coming three years a third of the budget will be allocated to repay loans and deficit of the regional budget system *(tab. 2)*.

This trend is typical for the vast majority of Russian regions. The need to finance the presidential election programs, despite the reduction in revenues, has provoked an unprecedented increase in the deficit of regional budget systems. In 2013 it amounted to 670 billion rubles, or 11.6% of budgets' own revenues. Let us note that 77 out of 83 regions had a negative result of the budget execution. In turn, the debt load of the RF subjects increased by 4.5 times, debt load – by 3.4 times *(fig. 3)*.

The regions' public debt accounted to almost a third of own budget revenues. In some RF subjects debt exceeded 80 and even 100% of tax and non-tax revenues *(fig. 4)*.

In the RF subjects in 2013 the costs growth rates exceeded budget revenue growth rates (6% against 1%). At the same time, federal financial assistance has decreased by 7%. The RF Accounts Chamber[1] has singled out the risk to miss deadlines of some targets among other problems of budget execution in the opinion on the draft federal budget 2014–2016 [7]. Therefore, the severe financial situation in most subjects requires flexible execution of the President's "May" Decrees.

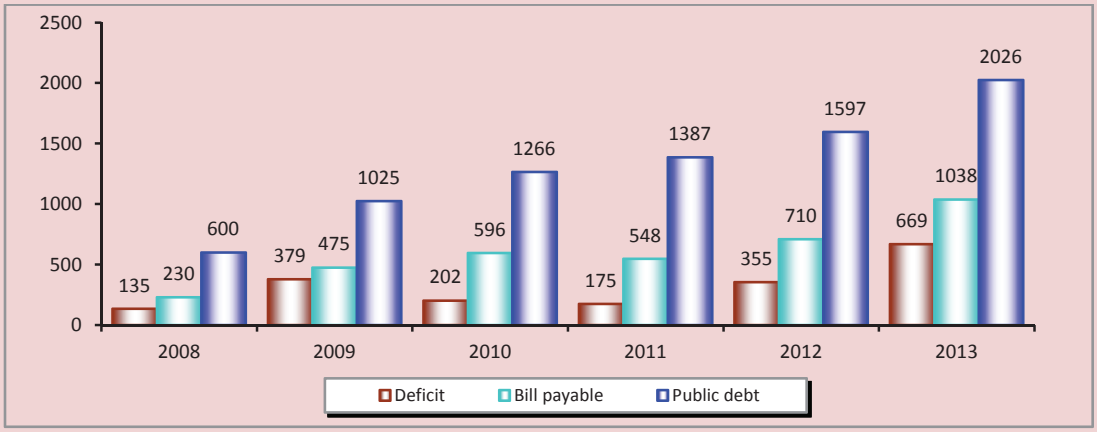
Table 2. Impact of public debt on the Vologda Oblast budget

Indicator	2009	2010	2011	2012	2013
Expenditure on repayment of loans, million rubles	***509.4***	***1336.7***	***4120.4***	***5735.8***	***7043.9***
Interest expense, million rubles	**161.1**	**488.8**	**789.1**	**1322.1**	**1769.0**
Total, million rubles	**670.5**	**1825.5**	**4909.5**	**7057.9**	**8812.9**
Share in the expenses of the regional budget, %	*1.8*	*4.2*	*10.6*	*15.6*	*19.9*
Actual deficit of the regional budget, million rubles	**6487.7**	**7048.9**	**7177**	**2814.8**	**3952.9**
In % to own revenues of the regional budget	**34.1**	**27.3**	**25.0**	**8.9**	**13.1**
Real deficit of the regional budget, million rubles*	*6997.1*	*8385.6*	*11297.4*	*8550.6*	*10996.8*
In % to own revenues of the regional budget	*36.8*	*32.4*	*39.3*	*27.1*	*36.3*

* Taking into account the expenditure on repayment of loans, which in accordance with the Budget Code are not included in the cost structure of the RF subject budget.
Sources: calculated by the author by the accounting records of the Treasury of Russia; the Ministry of Finance of the Russian Federation.

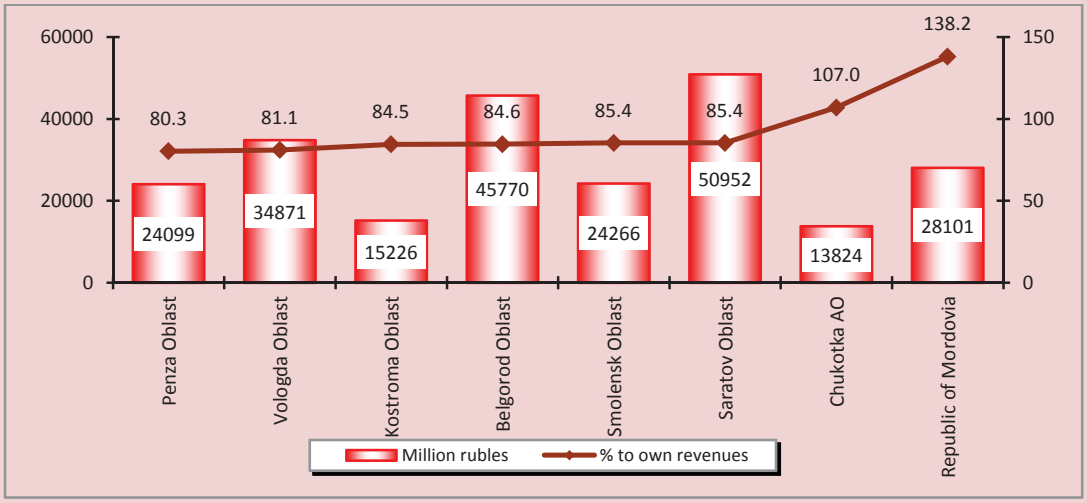
[1] The Accounts Chamber of the Russian Federation is known to coordinate and control the "May" Decrees of the RF President. Since 2014 site inspections are planned in addition to monitoring.

Figure 3. Fiscal deficits, public debt and loans of consolidated budgets of the RF subjects, billion rubles



Source: calculated according to the statements of the Treasury of Russia, RF Ministry of Finance.

Figure 4. Rating of the RF subjects with the maximum debt load in 2013



Corridor of opportunities…

Various levels of government offer possible options to execute the Presidential Decrees in the prescribed period.

1. "Not always what you want you really need" (D. Lama).

In the Ministry of Finance there are talks about possible "adjustment of a range of public sector employees who need the increase in wages in the framework of the "May" Decrees. For example, it is possible to clarify the requirements for the category "doctor" or exclude the representatives of law enforcement agencies from the list [4].

2. "The most unpleasant piece of news: a government inspector is coming to visit us" (N.V. Gogol).

The member of the Expert Council at the Institute of Socio-Economic and Political Studies Aleksei Zudin believes that

"the problem to execute the "May" Decrees in the regions is caused by the inability to properly prioritize" [12]. "Most officials simulate work on orders execution and only pretend executing", adds Dmitry Abzalov, Vice President of the Center for Strategic Communication [12]. By the way, the State Duma of the Russian Federation is developing a bill to increase penalties for failure to fulfill the decrees and orders of the President.

The draft law introduces amendments to the Code of Administrative Offences and the Criminal Code, which involve amenability for non-execution, improper performance and failure to meet time constraints of Presidential decrees. According to one of the authors of the bill – a member of the Committee for Security and Anti-Corruption of the State Duma D. Gorovtsov, amenability can include penalty of 100–150 minimum wages, deprivation of class rank, prohibition to engage in public office, deprivation of state awards, military and special ranks. Effective management should be considered as reserve of funds [4].

3. "Debt is the beginning of slavery" (V. Hugo).

According to Anton Ishchenko, the member of the RF State Duma, it is necessary to "partially write off subjects' debt to the federal center or relend regions at the expense of the Reserve Fund and the National Wealth Fund" [13]. According to Deputy Finance Minister Leonid Gordin, at the same time, "the write-off of loans is applied in exceptional cases". However, the Finance Ministry has not ruled out the possibility of refinancing commercial loans by budget ones.

4. "You should limit the power if you want it to become stronger" (L. Bern).

According to Natalia Zubarevich, Director of the Regional Program of the Independent Institute for Social Policy, "power overconcentration at the federal level has reached the inefficiency limit; it is time to move in the opposite direction". The policy of fiscal powers decentralization was announced by the then Russian President Dmitry Medvedev at the meeting of the State Council December 26, 2011. The reason of the Government's protracted work is the following: the centralization advocates argue that the provision of macro-stability and macro-management of the vast territory is possible only through the "top-down" distribution of inter-budgetary relations. However, the federal structure of the Russian Federation is a complex multi-level system, which components (regions and municipalities) are more susceptible to negative influences of the external environment and instability in terms of the centralization. So, the question arises: why are the expenditure commitments on increasing the wages of public sector employees (which is within regions' competence) sent out without proper and complete financial security?

All these proposals are primarily aimed not at saving current investment opportunities of the Russian territories, but further developing social, transport and utilities infrastructure. The problems of the growing budget deficit, debt and loan charge do not contribute to the release of additional funds; therefore, the regions require federal assistance.

The RF Ministry of Finance considers the country's budget structure as clumsy due to the irrationality of budgetary expenditures, which should already have been optimized and public spending on the

Table 3. Calculation of a possible increase in the budget revenues of the region due to improved tools of fiscal adjustment (on the materials of the Vologda Oblast)*

Measure	Actual value	Suggested option	Additional revenues, million rubles per year
Funding of delegated powers (it requires implementation of the superior authorities' legal acts by the subventions)	95–99%	100%	5–69
Yield of budgetary funds balance (it requires expansion of legal acts allowing municipalities to receive non-tax revenues from the use of budgetary funds balances for deposit)	0	% by deposit	12–55
Raising withholding tax rate	9%	15%	191–194
Using targeted transfers (it requires timely provision of subsidies transfer)	2–5% of the transfer amount	0	212–457
Amount of unfunded federal benefits (it requires optimization of tax incentives policy)	55–69% of the calculated amount in the budget	0	3650–6507
Accounts receivable in the budget (it requires reduction of the current payments arrears)	13.5–18%	0	5400–6300
Total			9471–13582
* The calculations are carried out by the author in 2010–2012			

population should have been restricted[2]. At the same time, the Ministry of Economic Development considers the policy to raise budget expenditures as preferential, which in the short, medium and long term will lead to the economy development and expand the earning power of territories[3]. According to the ISEDT RAS calculations, indeed, there are potential reserves for the territorial budgets growth. Thus, the implementation of some measures to improve budgetary control in the region will attract 13 billion rubles in the budget system of the Vologda Oblast, thus increasing the revenues of the region's consolidated budget by 26% *(tab. 3)*.

The above-mentioned measures to improve budgetary regulation will help to neutralize the existing fragmentation of management actions, enhance the authorities' transparency and accountability in the fiscal sphere, reject minimization of the revenue base of territorial budgets, attract additional revenue, increase efficiency of the use of budgetary funds that will maximize the region's security with own budgetary resources.

To sum it up, right now it is necessary to find the ways of the implementation of socio-economic programs and achievement of the priority indicators of life quality improvement, determined in the presidential decrees, while the regions have not reached the limit of the execution of "unfunded mandates" on credit. Otherwise, the situation is the following: the goal is set, but the intent and the means to achieve it are insufficient.

[2] *Minfin RF po-prezhnemu schitaet neobkhodimym sokrashchat' raskhody v pensionnoi i oboronnoi sferakh: vystuplenie A. Siluanova na Peterburgskom Mezhdunarodnom ekonomicheskom forume, 22.05.2014* [The Finance Ministry Still Considers it Necessary to Reduce Costs in Pension and Defense Spheres: Report of A. Siluanov at Saint Petersburg International Economic Forum, May 22, 2014]. Available at: http://minfin.ru/ru/press/speech/index.php?id_4=21760&id4=12297

[3] *Iz vystupleniya zamestitelya ministra ekonomicheskogo razvitiya A. Klepacha na zasedanii prezidiuma RAN* [From the Speech of Deputy Minister of Economic Development A. Klepach at the Meeting of the Presidium of the Russian Academy of Sciences]. Available at: http://www.ras.ru/news/shownews.aspx?id=5171ad1d-28fd-4297-a4f4-7ca941a0c48b

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Extra-role performance behavior of teachers: the role of identification with the team, of experience and of the school as an educational organization

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Abstract. The article discusses extra-role performance behavior of teachers and their identification with the teaching staff under the conditions of modernization of the education system and optimization of the network of educational institutions in Russia. The author provides a review of the literature on the subject and specifies the concept of extra-role performance behavior of teachers, what factors cause or promote such behavior, and what it means to be a "good teacher". Understanding the importance of extra-role performance behavior as an essential component of labor efficiency will help educational organizations' heads to use it in the recruitment, selection and certification of teachers, and in the development of personnel reserve.

The author selects three factors predicting extra-role performance behavior: work experience, the school as an organization, and identification with the school staff. Regression models based on data on school teachers of Vologda (N = 78.6 schools), explained extra-role performance behavior associated with a change in the functioning of the organization (Model 2. Enhancement of performance, R^2=0.21) and with behavior toward colleagues (Model 4. Helping the colleagues,R^2=0.19). The predictive capacity (partial R^2) of predictors turned out different: for work experience – 0.10, for affiliation with a particular school – 0.06, for identification with the school staff – 0.02 .

Extra-role performance behavior of teachers in Vologda is more pronounced in comparison with the standardization sample. Newcomers are much less likely to display such behavior since they do not have opportunities to influence the school organization and help colleagues. The low degree of satisfaction with group membership as a component of identification with the school team can be caused by significant work-load.

We assume that when work-load increases, it is extra-role performance behavior that suffers in the first place, and this leads to decrease in work performance and provokes various unproductive compensatory strategies: burnout; slowdown of professional development. Because newcomers and experienced teachers manifest this behavior to a different extent, the effect for beginners will be delayed. It is necessary to consider the influence of the environment, because extra-role performance behavior depends on where and with whom an individual works.

Key words: extra-role performance behavior, identification with the organization, work experience, "good teacher", labor efficiency, educational organization, modernization of education.

For more than two decades organizational identity, along with the construct of organizational identification have become two of the most significant concepts of the research in organizations and their management [15], but they are rarely used in the study of school education. The purpose of the study is to understand how much teachers feel identified with their work and the team, to predict, if possible, the effectiveness of their activities (extra-role behavior) in terms of the challenges faced by the modern school.

The first task is to describe the current situation at higher education institutions and possible consequences of education modernization for teachers' identification with their school staff. The studies show that organizational identification generates a wide range of positive consequences for an individual employee and for the organization as a whole: low level of dismissals, civic behavior in the organization, job satisfaction and subjective well-being, productivity growth [8; 32].

Therefore, maintaining a high level of identification with the profession, the working group and the organization as a whole becomes an important task of modern management.

We would study whether this is true in the case of teachers' identification with school staff.

The second task is to reveal the importance of studying extra-role behavior as a measure of teachers' labor efficiency and one of the consequences of identification. The number of researches in extra-role behavior at school is not great not only in Russia. It is also typical for the United States, where on the background of sharply increasing popularity of research in extra-role and civic behavior in the organization "before 2006 only one study in the sphere of education was conducted" (cit. [25]).

Researchers consider extra-role behavior as critical for the survival of organizations in the crisis periods, caused by the changes [38], that is why its study becomes more relevant in times of changes.

Extra-role behavior in the organization

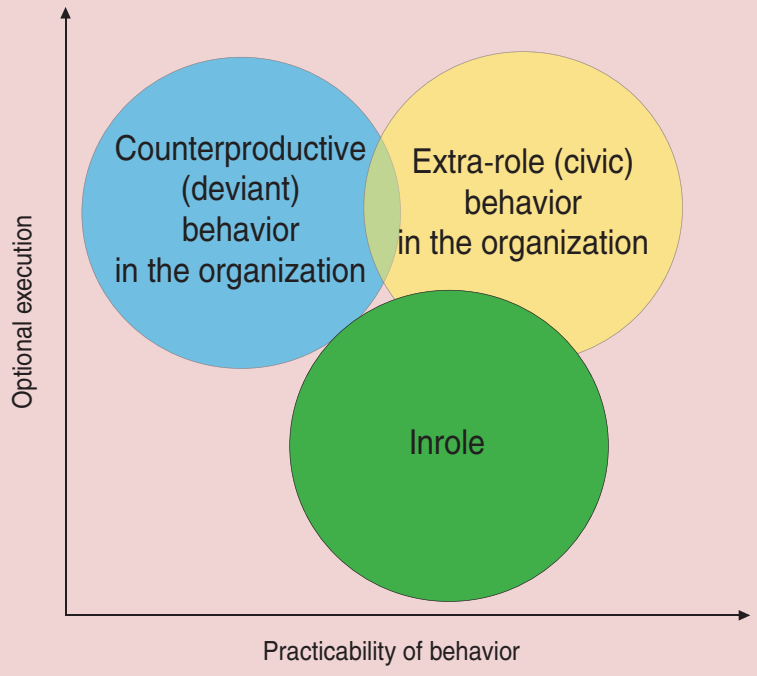
Organizational psychologists, drawing attention to the fact that labor productivity is a multicomponent phenomenon, have focused on individual aspects of organizational behavior that goes beyond the traditional patterns of quantity or quality of task performance [29]. The extended definition of the employee's

effectiveness includes consideration of the fact that in addition to his/her duties he/she is free to act for the good of the organization. The research is conducted in three directions [3]: 1) to study what behavior can be considered as extra-role in certain circumstances; 2) to study factors, which cause or aggravate it; and (3) to study its consequences for an employee and the organization.

Extra-role behavior or civic behavior in the organization is one of the types of prosocial behavior, corresponding to three criteria: 1) it is arbitrarily regulated by employees and depends on their desires; 2) it is not taken into account by the formal reward system in the organization; 3) it makes benefit to the organization [28]. Since the control and regulation have natural limitations, people largely choose how to behave in accordance with their personal characteristics, expectations of colleagues and the wider environment. Helping and supporting colleagues, participating in public events as extra-role actions are desirable and beneficial for organizations, unlike counterproductive behavior (*fig. 1*): spreading rumors, damaging the property deliberately, simulating sickness, etc.

"Role expectations" serve as an indicator that differentiates between extra-role and in-role behavior [6]. They can be defined by group norms [6; 36], and individual motivation [37]. According to the latter, people behave in some way, if [37]: they feel that they will achieve the goal due to their efforts; the goal will be rewarded; the reward is important for an individual.

Figure 1. Comparison of different types of labor behavior



Despite the fact that compensation is not provided for extra-role behavior, many employees show it, as apart from the benefit to the organization this behavior is advantageous for an employee.

The researchers note that extra-role behavior:

• Affects an employee's assessment by managers (when they try to assess a person, they rely on objective performance indicator by 9.5% and on extra-role behavior by 42.9% [29, pp. 536, 537]); and by colleagues who treat better those who show extra-role behavior.

• Associated with the probability of employment, with the decision-making on the distribution of material resources of the enterprise and the salary increase. Those who show extra-role behavior, often receive bonuses (r_c=0.77), get a higher salary than their colleagues (r_c=0.26) [28].

The role of extra-role behavior increases when [25]:

➢ The objective evaluation of the activity is difficult. Teaching is a very complex and multi aspect activity where connection "input-process-outcome" is not precisely defined. None of the methods to evaluate teachers' work (observation of teaching a class, teachers' self-esteem, interviews, students' assessment of teachers, students' academic achievement) is accurate taken apart [4] or together [17; 23], as it interferes with a lot of side variables, which are difficult to consider.

The role expectations prevail in such conditions. They largely depend on the teachers' image at school and their experience. As there is no penalty for failure to carry out extra action, teachers act "on their own" or when they "are required".

➢ The learning and teaching activities are associated with moral values. Inclination and persistent commitment to teaching are mainly of emotional nature. Therefore, such employees have always been very altruistic, and therefore, they will worry about their colleagues more than others, help them and try to ensure the survival of their school as an organization.

The survey that has included 50 interviews of Israeli teachers and 20 school administrators (headmasters and head teachers) discloses a portrait of a "good teacher" showing extra-role behavior (*tab. 1*).

Even in cases where the scale is developed specifically for the study of school teachers [34], the factor structure remains the same as a whole: behavior aimed at colleagues and the organization as a whole. The specific component is added – behavior aimed at students at school and at customers at enterprises.

Context of the education reform

The early attempts (until 1997) to intervene in school education were ineffective around the world. After analyzing 15 examples of education reforms [13], American researcher of educational innovations M. Fullan concludes that in the USA most major reforms of school education have failed and school performance has not improved [12]. "In 1980–2005 public expenditure per student in the United States increased by 73%, with inflation being taken into account", but the target indicators did not enhance [21, p. 8].

Table 1. Examples of teachers' extra-role activities

Objects	Examples of activities
Single pupil	Work with pupils in additional time Help a pupil deal with stress Provide care, making it proactive
Work with class	Initiate and implement changes in the program Carefully check homework Participate in extracurricular activities of the class
Colleagues	Share teaching materials with colleagues Exchange professional experience Help colleagues solve administrative tasks Be responsive and sympathetic
School organization	Participate in school activities and events Participate in the work of school committees Take unpaid school responsibilities

Provided by: Oplatka I. Going Beyond Role Expectations: Toward an Understanding of the Determinants and Components of Teacher Organizational Citizenship Behavior. *Educational Administration Quarterly*, 2006, no. 3, vol. 42, pp. 385-423

Speaking about the presence of significant progress in 2003–2009, M. Fullan suggests that the following changes occurred in the global educational space (cit. [12]):

1. Wages (especially for beginners, during the first 10 years) will grow, along with demands on teachers.

2. Unification of achievement tests will be developed; general strategies for different regions will be elaborated.

3. Demand for teachers' leadership skills will grow, because to a greater extent the funding will be allocated to those who can meet the highest standards and can "promote" them, seeking more.

The education reform in Russia corresponds to all these modern trends; due to it our education system has come a long way and nowadays it ranks 5th among the OECD member states by the pace of development [24]. Financial incentives for teachers are a fundamental factor to attract skilled young people to school [21; 24].

In accordance with the purposes of the developed "roadmap" the load of high school teachers[1] is expected to increase by 18% [1, p. 49] and school teachers – by 9.4% [1, p. 18]. The main cause of a number of negative consequences that teachers experience – psychological burnout, stress and reduced commitment to work – is great work load, which amounts to about 50 hours a week. Even if we consider time required to teach a class, check homework and tests and plan lessons, teachers spend 44% of their time for the rest of the tasks [27].

The increased load can lead to a variety of compensation strategies [27]: teachers begin to spend less time on self-development, their career ambitions reduce.

However, those teachers who have time for additional education, reading professional literature, school projects are emotionally healthy.

[1] Calculated on the basis of the expected number of pupils per teacher in 2013–2018.

Organizational identification

According to John Turner's theory of social identity, the mechanism of social identification with the group is self-categorization as a member, which emphasizes the perceived or possible similarities between members within the group and makes a clear distinction between their own and other groups [20, p. 317], promotes a positive "self-concept". This is a basic definition, accepted by all researchers of social identification. For the first time B. Ashforth and F. Mael suggested using the explanatory potential of "identification with the group" with regard to the study of social identity in the enterprise.

Considering organizational identification as a specific form of social identification [in translation 7; 9], these scientists define it as "perception of similarity or belonging to an organization when an individual defines himself/herself in terms of the organization he/she is a member" (cit. [5, p. 137]).

There are several points of view on the structure and types of organizational identification.

According to the first one, as organizational culture of each organization is specific, organizational identification is fundamentally unique. Not only between organizations but also within the organization there can be several subcultures (working groups, etc.). The study of Pratt and Foreman, supporting this approach, indicates that "the organization always has multiple organizational identities, depending on what is central, peripheral and specific in the organization" [15; 30, p. 20].

The second one indicates that the structure of organizational identification is practically the same in organizations of different types (from a school to a call center) [35].

We agree with the second point of view: structure identification does not change fundamentally in different activities. If so, organizational identification, being a reliable predictor of various forms of extra-role behavior in business organizations [29; 31], will predict it among school teachers. This means that the higher the level of teacher's identification with school staff is, the more likely he/she will show extra-role behavior. The role of experience still remains unclear [26; 29; 38], it is possible that this relation is valid only for beginners or only for teachers working long at school.

Experience

Experience is considered as a cause or as a consequence of organizational identification in different studies. It is seldom considered as a mediator between a response variable and organizational identification [32].

The working period in the organization and organizational identification correlate moderately (r_c=0.13-0.16) [32], but in some studies they correlate negatively [10, p. 450].

In particular, according to J. Meyer, employees who have already gained professional skills can be in a better position (in terms of remuneration, quality of work) than their younger, less experienced colleagues who can stay in the organization because they are afraid of dismissal. This connection becomes even more complicated if we consider the age [22].

In this case, the reason for young employees to work in the enterprise is not organizational identification but the fear not to find work elsewhere. Newcomers with low emotional attachment do not tend to visit the loyalty enhancement programs [16].

The study of Israeli teachers has revealed that at their level of civic behavior there is no difference between those who have worked at the same school less than 9 years or more; those who were younger or older than 44; those who have worked in education up to 15 years and more; and even among those who were on temporary and permanent contract [38].

There is another point of view: teachers spend their time, according to their experience and image at school [27].

It seems to us that newcomers have less time and opportunity to influence school organization and help colleagues.

Therefore, the level of extra-role behavior should correlate with experience, but this relation can be nonlinear.

Research methodology

The sample[2] of our study was 78 people (4 men, 74 women) from 6 schools in the city of Vologda, aged 20–64, the average age was 37 (SD=12.2). Sixty-two respondents get higher education. The average professional work experience amounts to 10 years.

After the respondents were informed that their data would be taken as a whole (anonymously), they completed a number of questionnaires in the presence of the experimenter:

1. Extra-role behavior was measured by the method of B.G. Rebzuev [6]. It contains 12 statements, grouped into three scales by four points: a) performance enhancement (for example, "Improve the work process, so that it could be done better or faster"); b) overtime work (for example, "Come to work on weekends or work at home"); c) helping the colleagues (for example, "Help a colleague who has a lot of work"). In accordance with the instructions, the respondents assessed how often they performed the above activities from 1 ("never") to 7 ("always"). For each scale and the total indicator the scores for the answer to each question were added and divided by the number of questions.

2. Organizational identification with school staff was measured using the method of "a five-factor model of identity" [2]. It consists of 14 statements, forming 5 scales: (a) self-stereotypization (for example, "I look like an average school employee"); (b) ingroup homogeneity (for example, "All employees of the school are very similar to each other"); solidarity (for example, "I feel involved with school staff"); d) satisfaction (for example, "I think that school employees have reasons to feel proud"); d) centrality (for example, "Belonging to the school staff is an important part of my self-image"). The respondent was to agree with each statement according to a 7-point scale from 1 ("absolutely disagree") to 7 ("absolutely agree").

[2] Calculation of the minimum required sample size was carried out using the method "Power Analysis". It is recommended [11; 19] to consider power being equal to 80% (β=0.2) and α=0.05, which gives the ratio of β:α=4:1 for the errors of the second and first kind, respectively. The third required parameter is the Cohen's d effect size =0.72 calculated on the basis of the correlation coefficient r_c=0.34 between extra-role behavior and identification from the meta-analysis by Riketta [31, p. 501]. The calculated required sample size to test hypotheses about the connection – N equals to 65.

For each scale and the total indicator the scores for the answer to each question were added and divided by the number of questions.

3. The perceived school integrity was measured by the GEM graphical method (the Group Entitativity Measure) [14].

Results

Extra-role behavior of teachers. In the group of school teachers extra-role behavior (x=4.25, sd=0.85, N=78) is more vivid than that of employees at Saint Petersburg enterprises (x=3.88, sd=1, N=201) [6, p. 35]. The average effect rate (t=3.11, df=164.05, p=0.002, d Cohen=0.39) is found out; this means that 65% of the teachers in our sample have an indicator higher than the average of the standardization sample.

Only the scale "Overtime work" has significant differences, therefore, it can be assumed that teachers cover for their colleagues and stay at work more often than representatives of business organizations.

Teachers' identification with school staff. The method of the "five-factor model of identity" has not been specifically validated by the sample of teachers, so we tested its psychometric indicators. The confirmatory factor analysis (CFA) method measuring identification showed that the sample of teachers has satisfactory results.

The model, which best described the data obtained, had satisfactory quality indicators (df=71, $RMSEA$=0.13, CFI=0.87, x^2=168.02, AIC=2919.94, BIC=3033.06). It corresponds to other studies, indicating that "Model 5" [2] or "Model A" [18] is the best model on the basis of religious, ethnic and other social identities. It unites, as in our case, the scales "satisfaction", "solidarity" and "centrality" in the latent factor "personal contribution" and the scales "self-stereotypization" and "ingroup homogeneity" in the factor "personal identity". This suggests that the factor structure of teachers' identification with the staff is, in general, the same as in other social groups, and this method can be used to diagnose identification in the group of teachers.

The method adapted for the Russian language was published in 2013, so there are not many researches using it nowadays. Though there are many foreign studies of organizational identification, including in the sphere of higher education (identification of students with their universities, professors with departments, etc.), we have not found out special domestic or foreign studies of school teachers that use the same method to diagnose identification. Therefore, for comparison, it is possible to use data from other spheres, such as employees' identification with their organization. L. Smith used the factor "personal contribution" from the "five-factor model" within 6 months in the study of large companies [33]. In comparison with her data (N=471), teachers (hereinafter, N=78) are significantly less satisfied with their membership in the school group (t=-5.7, df=104.6, p<0.001, d Cohen=-0.69); at the same time, solidarity (t=-0.45, df=112.61, p=0.651, d Cohen=-0.05) and centrality do not differ (t=-0.11, df=108.47, p=0.91, d Cohen=-0.01). So, though they are dissatisfied with their membership in this group, they communicate with their colleagues and consider school staff as

Table 2. Descriptive statistics and a correlation matrix, teachers of Vologda schools (N=78)

	Mean	SD	Cronbach's	1	2	3	4	5	6	7	8	9
1. Sex	0.05	0.22	—	—								
2. Age	37.37	12.20	—	-0.17	—							
3. Experience at a concrete school	9.80	9.81	—	-0.06	0.69***	—	—					
4. Perceived integrity	4.38	1.13	—	0.04	-0.23*	-0.37***	—					
5. Organizational identification	5.09	0.83	0.91	-0.15	0.04	-0.08	0.25*	—				
6. Extra-role behavior:	3.64	0.73	0.82	0.13	0.16	0.33**	-0.18	0.09	—			
7. Performance improvement	3.65	1.20	0.82	0.15	0.14	0.33**	-0.28*	-0.12	0.77***	—		
8. Overtime work	4.50	1.06	0.53	0.05	0.20	0.21	-0.01	0.22*	0.74***	0.30**	—	
9. Helping colleagues	4.60	0.96	0.67	0.13	0.02	0.22	-0.13	0.09	0.83***	0.49***	0.53***	—

Note. Mean is an average score, SD is standard deviation. Age was pointed out in years; gender was coded as follows: 0 for women and 1 for men. To calculate the correlation coefficients we used Spearman' *p*: *p ≤ 0.05; **p ≤ 0.01; ***p ≤ 0.001.

an important social group (it plays the same important role in the social identity structure). In other words, the structure of teachers' identification does not have other features, except for low satisfaction with group membership.

Connection between extra-role behavior and identification with school staff. *Table 2* presents descriptive statistics and correlations between the study variables. The only variable indicating extra-role behavior is experience in this school *p*-Spearman=0.33; *p*=0.003). Identification with school staff and perceived integrity predict extra-role behavior much worse.

Linear modeling. To test hypotheses about connection between extra-role behavior and identification we have developed linear models that take into account the multilevel nature of our collected data. It should be noted that some variations of extra-role behavior (and other variables) can be determined not by the predictors, but by the school where a teacher works.

The features of the school community, organizational culture and other parameters are given below.

Multilevel linear modeling requires fulfilling a number of conditions, which in our case are met partially. Due to these limitations the school level is included in the model in the categorical form (the schools characteristics were not considered).

The groups of built models presented in *table 3* were obtained using the least-squares estimate. In the heading of table 2 the output variable (the independent variable) is specified for each model. It ranges from 1 – "absolutely never to 7 – "always". The lines reflect the values of non-standardized beta coefficients of the predictors: the positive value is growth of extra-role behavior components, the negative value – their decrease. Experience and age were coded in years.

Table 3. Communication components of extra-role behavior and identification, teachers of Vologda schools (N=78)

Predictor	Model 1. Extra-role behavior	Model 2. Enhancement of performance	Model 3. Overtime work	Model 4. Helping the colleagues
Free member	3.40 (0.79)***	3.26 (1.09)***	2.88 (1.01)***	4.07 (0.88)***
Experience at a concrete school	0.03 (0.02)*	0.05 (0.02)*	0.02 (0.02)	0.03 (0.02)*
Age	0.00 (0.01)	-0.01 (0.02)	0.01 (0.02)	-0.01 (0.01)
Solidarity	0.11 (0.15)	0.26 (0.21)	0.03 (0.20)	0.04 (0.17)
Satisfaction	0.04 (0.15)	0.18 (0.21)	-0.07 (0.19)	0.01 (0.17)
Centrality	-0.13 (0.13)	-0.42 (0.18)**	0.10 (0.17)	-0.06 (0.15)
Self-stereotypization	-0.03 (0.13)	-0.22 (0.19)	0.13 (0.17)	-0.01 (0.15)
Ingroup homogeneity	0.10 (0.12)	0.22 (0.17)	-0.01 (0.16)	0.08 (0.14)
R^2	0.17	0.21	0.12	0.19
Adj. R^2	0.03	0.07	-0.03	0.06
*p < 0.1; **p < 0.05; ***p < 0.01.				

Table 4. Connection between extra-role behavior, identification and experience for teachers of Vologda schools (N=78)

Predictor	Model 5. Extra-role behavior
Experience at a concrete school	0.55 (0.21)**
Age	-0.21 (0.18)
Identification	0.08 (0.11)
Age: Experience	-0.18 (0.10)*
Identification: Experience	0.26 (0.13)**
R^2	0.16
Adj. R^2	0.10

The percentage of variation explained of extra-role behavior components varies from 0.12 to 0.21. In Model 4 experience accounts for 9.6%, identification compo-nents – 1.6%, group level or variation by schools – 5.8%.

However, the greater the experience is, the greater the frequency of extra-role behavior, the age impact is almost not noticeable.

The connection of various components of identification with the school staff with various kinds of extra-role behavior is ambiguous; sometimes it intensifies them and sometimes weakens.

The sample size does not allow us to draw conclusions, leaving the possibility for further research.

The final model development requires the assessment of not only the role of identification components, experience and age as predictors, but their interaction with each other. For it we included the overall indicator of extra-role behavior as a dependent variable, three variables (overall identity, experience, age) as predictors and interaction between them.

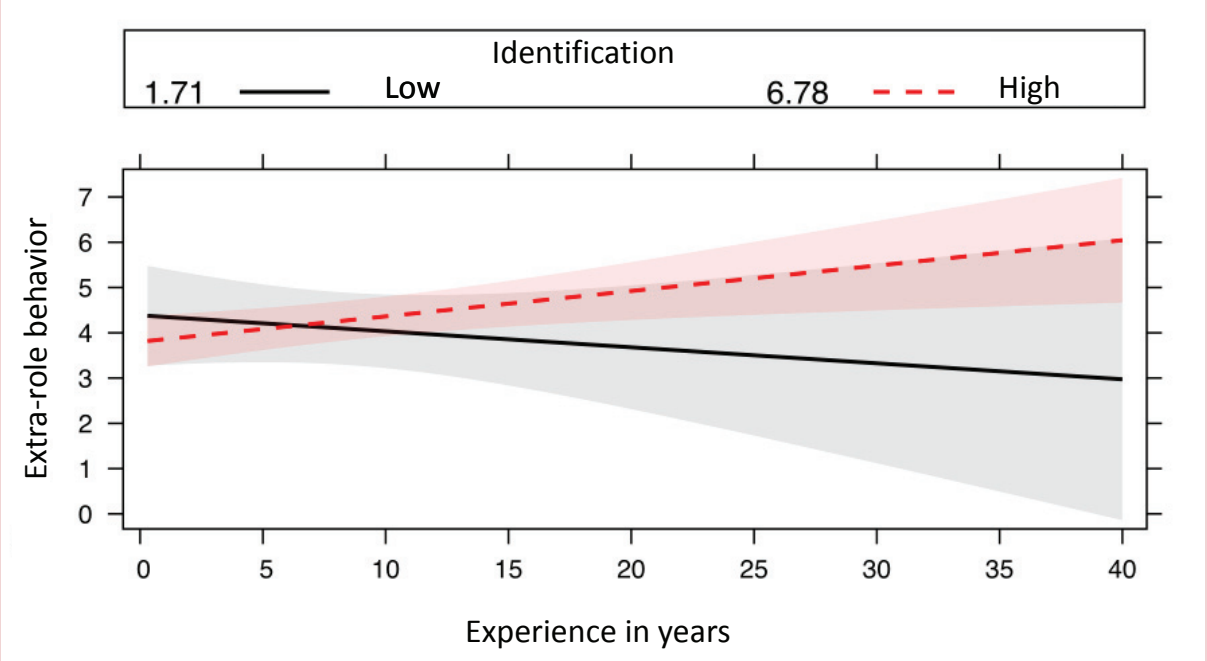
Then, excluding variables and/or interactions between them from the model one by one, we selected the best model based on the Akaike information criterion (AIC).

Table 4 discloses Model 5; it has an improved adjusted R^2, compared to Model 1. The standardized beta coefficients allow us to compare the contribution of variables in different dimensions on the basis of their standard deviation (see column SD in tab. 2).

Let us consider a few examples of interaction in contrasting groups:

- If you compare two teachers (aged 25 and 46), who has worked at the school for 3 years, the young teacher will more often show extra-role behavior (this effect is negligible (9.3%) and is compensated by experience).
- Out of two teachers of the same age (aged 37) with a middle level of identification the teacher who has worked at school for 3 years will show extra-role behavior less frequently (about 20%) than the teacher who has worked for 16 years.
- The probability of extra-role behavior increases by 2.6% if the teacher aged 37 having worked for 10 years at school has a high level of identification; in the future this effect becomes even more vivid *(see fig. 2)*.

Figure 2. Extra-role behavior of school teachers, connection between experience and identification with school staff



Conclusions

The teachers' identification with school staff is characterized by low satisfaction with group membership. The elimination of boundaries between working and non-working time leads to low job satisfaction and psychological burnout. The structure of identification with school staff is similar to identification with other social groups.

The teachers' working day is not regular. He/she spends much time not only on teaching a class, preparing for lessons and checking homework, but on extra-role activities. The Vologda teachers show this behavior more actively than employees at enterprises. Increased loads presuppose decrease in these indicators. Extra-role behavior is an important component of labor productivity; therefore, the administration of educational organizations should pay attention to it during recruitment and assessment, for example, during employee rating, personnel reserves formation.

Best of all extra-role behavior is predicted by experience; the second most important factor is the school where the teacher works; the identification components have the weakest predictive ability. Many programs (formation of a personnel reserve, promotion of loyalty) are aimed at keeping the highest quality employees by means of financial incentives and adherence to the team. This leads to the increased demands for beginners. But it should be noted that young employees find it difficult to show their extra-role activity; therefore, work productivity of newcomers (expressed in growth of extra-role activity) can not increase immediately. Such programs often have a delayed effect.

In accordance with the obtained data about extra-role behavior of Vologda school teachers, we can give the following recommendations to consider in the human resource policy:

1. Experience largely determines whether teachers will act for the good of the school community on their own. Preference is given to those who have worked in the school system for a long time.

2. The role of identification develops in about 10 years: if by this time stable positive commitment to the school team has not been formed, one can expect a significant reduction in extra-role activities.

3. Recommendation of younger employees to the personnel reserve only according to their age makes no sense. The long-term prospects should be taken into account: if a teacher plans to work at school long (the effect of experience will be pronounced) and the personnel reserve program can strengthen his/her identification, the visible differences in extra-role behavior will appear not earlier than in a few years.

The education reform, leading to the increase in teachers' load, can lower their extra-role behavior (see tab. 1), influence the willingness to be a "good teacher" and result in the launch of unproductive compensation strategies. The effects can be delayed (during 10 years) that requires careful planning changes. The beginners' low level of identification with school staff

(especially in terms of satisfaction) can cause a decrease in their extra-role behavior in the future. So, today it is necessary to take appropriate measures to maintain a high index of extra-role behavior of those who have worked at school for a long time.

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SCIENTIFIC LIFE

About the results of the All-Russian Research-to-Practice Conference "Society and Sociology in Modern Russia"

Over the last 25 years the Russians have met the hardest challenges: collapse of the USSR, change of the social system together with deeply unfair privatization, prevalence of oligarchic capital, derangement of the state management system. Since 2000 the country has been emerging from the deep systemic crisis. Major steps have been taken towards a new state ideology, based on the revival and strengthening of moral foundations of national identity and state sovereignty.

The complication of the international political situation in 2014, affecting the lives of Russian citizens, worries and frightens them, but as ever, the events of recent months actualize the task of society consolidation, require active involvement of the scientific community, authorities and public associations in the country's economic and social development and in provision of its national security.

The dynamics of the Russian society development over the past 25 years, as well as social mood, caused by the rapid development of political events in 2014, were the leading idea of the discussion at the All-Russian Research-to-Practice Conference "Society and Sociology in Modern Russia", held November 13–15, 2014 in Vologda.

The conference was hosted by:

- The Institute of Socio-Economic Development of Territories of the Russian Academy of Sciences,
- The Institute of Sociology of the Russian Academy of Sciences,
- The Institute of Socio-Political Research of the Russian Academy of Sciences,
- The Government of the Vologda Oblast.

The conference was aimed at the joint discussion of relevant methodological and

conceptual problems of public opinion sociology by the sociologists-practitioners and researchers in the field of sociology from national research and academic institutions, mass media, public and commercial organizations.

The event dedicated to the 20th anniversary celebration of the Sociologist Day in the Russian Federation gathered the most famous scientists in the field of sociology and the study of social development problems: **G.V. Osipov, M.K. Gorshkov, J.T. Toshchenko, V.V. Fedorov, V.V. Lokosov, V.A. Ilyin, I.I. Eliseev**a, researchers from Russia and the near abroad: Moscow, Saint Petersburg, Irkutsk, Kursk, Tyumen, Voronezh, Bashkortostan, Yamalo-Nenets Autonomous Okrug, the Republic of Belarus.

The opening ceremony took place on November 13. The opening speech was made by ISEDT RAS Director V.A. Ilyin, First Deputy Governor of the Vologda Oblast A.I. Sherlygin and Academician of the Russian Academy of Sciences, Member of the Presidium of the Russian Academy of Sciences, Director of the Institute Socio-Political Research of the Russian Academy of Sciences, Chairman of the Board of the Society of Social Sciences G.V. Osipov.

G.V. Osipov underlined: "The inclusion of social sciences and sociology specifically in the system of state management of the society acquires the contours of reality... We can be reasonably confident that in the 21st century social sciences, including sociology, are becoming a sign of the time. Without studying these problems, we can ultimately reach a social reality, which nobody wanted and nobody strived for".

According to A.I. Sherlygin, "the modern world is impossible without sociology, without this essential tool of not only scientific, but also political and social activities. It is impossible to build any plans for socio-economic development. In general, any prospects for development of our country, the Vologda Oblast are always compared with sociological research... Sociology should answer the main questions, the main challenges of any management process. Why is there such a situation? What underlies it? What is the public opinion? Without a feedback in modern conditions it is impossible to run not only the country or region, but, perhaps, even a large enterprise. So, for us the role of sociology and processes associated with it is very important".

The conference was attended by over 600 people. More than 70 speeches touched upon key problems of the modern Russian society, sociological support for regional management, the role of sociology in forming trends of social development, issues of the sociological science methodology improvement.

There were 6 sections, including the section for young scientists and the panel discussion devoted to the single voting day in September 2014.

Young PhDs, graduate students, applicants, students and even high school students participated in **the youth section** (supervisors: Doctor of Sociology, Professor *Yu.A. Zubok*, Ph.D. in Sociology *S.V. Mareeva*, Ph.D. in Psychology *L.O. Kocheshkova*). The participants discussed problems of migration, methods of life quality study, specifics of society

marginalization processes as well as modern labor market and labor motivation of adolescents, ways to realize the youth's social subjectivity in the management system and features of its self-organization. According to Yu.A. Zubok, "the section served as a methodological platform, which gave participants the opportunity to test their scientific results, get advice and was a springboard for learning.

Section 1 "Russian society in the 1990–2010 as viewed by the social scientists: problems, trends, common factors" (supervisors: Doctor of Sociology *G.I. Osadchaya*, Doctor of Philosophy, Professor *A.L. Marshak*, Doctor of Economics *A.A. Shabunova*) was devoted to a wide range of issues related to culture and cultural identity, social stratification of the modern Russian society, a concept of human development, social aspects of lifestyle, sociology of medicine. It addressed the problems of the North Caucasus, information support of the population, touched upon urban and youth issues, etc.

Summarizing the work of the sections the Co-Chairman **A.L. Marshak** thanked the conference hosts "for the opportunity that was given to the scientists of different views, different schools to express their opinions and evaluate those events and phenomena that occur today in our lives".

Section 2 "Development of territorial communities and sociological support of regional management" (supervisors: Doctor of Sociology, Professor *V.V. Markin*, Ph.D. in Sociology *S.G. Karepova*, Ph.D. in Economics *M.V. Morev*) considered both fundamental and applied issues of sociology of regions, including socio-territorial identification in terms of consolidation of the social space in Russia, interaction between the authorities, business structures and institutions of civic society, development of the strategy of social technologies that ensure regional management. Attention was focused on economic sociology, labor sociology.

The Co-Chairman of the section **V.V. Markin**, expressing the opinion of its participants, characterized the conference "Society and Sociology in Modern Russia" as "an event historically significant for Russian sociology". He spoke about "the growing potential of the Vologda economic-sociological school and prospects of its development in collaboration with other leading sociological centers of the country" and expressed his hope for another forum in Vologda in 5 years.

Section 3 "Development of theory, methodology and methodological tools of sociological research" (supervisors: Doctor of Sociology, Professor *G.G. Tatarova*, Doctor of Economics *S.V. Ryazantsev*, Doctor of Economics *T.V. Uskova*) discussed methodological issues associated with the study of social capital, migration processes, social risks gender fault. A lively discussion was sparked application in sociological research official data of state statistics.

Section 4 "Problems of education sociology, tasks and prospects of sociological education development" (supervisors: Doctor of Sociology, Professor *G.A. Klyucharev*, Doctor of Sociology, Professor *V.V. Lokosov*, Doctor of

Economics, Professor *N.B. Pochinok*, Ph.D. in Economics *G.V. Leonidova*) discussed intellectual potential of the Russian society, education excessiveness, sociological ensuring of education quality management, etc.

The Co-Chairman of Sections 3 and 4 **G.A. Klyucharev**, stressing the efficiency of the work carried out, noted specificity of the obtained results, identification and presentation of "new trends, which we have not had earlier".

In addition to the work of sections there was a panel discussion "2014 regional elections. Forecasts. Models. Results". The results of one of the key political events of the last year were considered by:

First Deputy Governor of the Vologda Oblast **A.I. Sherlygin** (speech subject – "2014 Election in the Vologda Oblast: expectations and results");

Director General of Russian Public Opinion Research Center, Ph.D. in Politics **V.V. Fedorov** ("Sociological picture of the electoral campaign of September 2014");

Political Expert, Member of the Board of the Russian Association of Political Experts **V.A. Bianki**, Director of the Center for Contemporary Caucasian Policy (CCCP "Caucasus") and Head of the Expert Group "PiterR" **A.I. Seravin** (speech subject – "Applied electoral research in Russia: problems and solutions").

At **the plenary session** First Deputy Governor of the Vologda Oblast **A.I. Sherlygin** and Academician of the Russian Academy of Sciences, Member of the Presidium of the Russian Academy of Sciences, Director of the Institute Socio-Political Research of the Russian Academy of Sciences, Chairman of the Board of the Society of Social Sciences **G.V. Osipov** made an opening speech.

The leading scientists in the field of sociology considered the key issues of society and social science development.

Academician of RAS, Director of the Institute of Sociology of the Russian Academy of Sciences **M.K. Gorshkov** in his speech "Post-soviet stage of sociology development in Russia: state and problems" raised the issue of sociological education in Russia, the relevance of sociological knowledge in the modern Russian society, the role of social science in expert evaluation of the scientific activities of state institutions and public authorities. He drew attention to the fact that "extensive growth in the field of higher sociological education does not erase the problem of professional prestige and practical relevance of sociologists in Russia, does not make the problem to form sociological culture of the society less urgent".

Director of the Institute of Socio-Economic Development of Territories of the Russian Academy of Sciences, Doctor of Economics **V.A. Ilyin** spoke about the history of ISEDT RAS establishment and development, paying considerable attention to the interaction with the Vologda Oblast Government, the 20-year collaboration of the sociological scientific community and public authorities at the regional level. V.A. Ilyin stressed: "sociology, in our opinion, can perform its function in full when the system basis of sociological research will be fixed at the legislative

level, there will be unified mechanisms to estimate public opinion regarding the assessment of the state performance in the entire vertical of power".

Director General of Russian Public Opinion Research Center, Ph.D. in Politics **V.V. Fedorov** presented the results of the recent VTSIOM polls revealing public opinion on the RF President's activities, spoke about the Center establishment and its role as a mechanism to transfer public opinion to government authorities, drew attention to the urgency of improving the mechanisms of state-society interaction.

The speech subject of Corresponding Member of the Russian Academy of Sciences, Chief Editor of the Journal "Sociological Studies" **J.T. Toshchenko** was the following: "Social consciousness of the Russians: 25 years on". He presented the results of sociological research in the comparative analysis of the Russians' values and attitudes in the last years of the Soviet Union and modern Russia. J.T. Toshchenko also touched upon issues, such as social atomism, spread of negative social phenomena (speculation, fraud, bribery, etc.). He said: "Unfortunately, the life social status of a person nowadays is determined mainly by the possession of capital, money and power, personal achievement and personal dignity occupy the last place in social values and in the social status of a person".

In the report "Demographic situation in modern Russia" RAS Corresponding Member, Head of the Center for Social Demography and Economic Sociology of the Institute of Social and Political Studies, Doctor of Economics **S.V. Ryazantsev** analyzed the RF demographic policy in 1990–2000, considered the evolution of the federal and regional authorities' views on the key demographic problems faced by post-Soviet Russia. S.V. Ryazantsev drew the audience's attention to the main problem: "The basis of the demographic situation has not been changed. The basic idea should be that the demographic problem is national in the full sense of the word. We often get used to blaming only the government and the power that they do not solve our problems. In fact, many of the challenges can be met by the civic society, business and media. The state role should be significant, but can be different in various areas of the demographic policy".

RAS Corresponding Member, Chief Research Associate Honorary Doctor of the Institute of Sociology of the Russian Academy of Sciences **A.V. Dmitriev** in his speech "Conflictogenity of migration" focused on the fact that the migrants represent a new social group, formed after the USSR collapse. Today this group contributes to the economy and culture of the Russian society. Thus, it is necessary to study the processes occurring in the migrants' environment. A.V. Dmitriev summed it up: "The interests of migrants and the Russian population can be linked, but in very thoughtful and thought-out policy".

"The Russian population quality in the context of the intellectual division of the world" is a report subject of Director of the Institute of Social and Economic Studies of Population of the Russian Academy of

Sciences, Doctor of Sociology, Professor **V.V. Lokosov**. He stressed that "the quality of the population is a key strategic resource and a basic indicator of society's development efficiency... In order to strengthen it, it is necessary not only to fight crime and other problems, but also support numerous healthy forces in our country and simultaneously place stake on a responsible, active and self-sufficient person".

The plenary session briefly summarized the sections work: Doctor of Sociology, Professor **Yu.A. Zubok**, Doctor of Philosophy, Professor **A.L. Marshak**, Doctor of Sociology, Professor **V.V. Markin**, Doctor of Sociology, Professor **G.A. Klyucharev** made their speeches.

Moreover, the ceremony to award Pitirim Sorokin silver medals "For contribution to science" took place. This award was established in 2008 due to the 50th anniversary of sociology revival in Russia and the 40th anniversary of the creation of the country's first sociological institute.

The Medals were awarded by G.V. Osipov and M.K. Gorshkov to ISEDT RAS Deputy Director Doctor of Economics **A.A. Shabunova**, Dean of the RSSU Faculty of Sociology and Social Management Doctor of Sociology, Professor **O.A. Urzha**, RAS Corresponding Member, Head of the Center for Social Demography and Economic Sociology of the Institute of Social and Political Studies, Doctor of Economics **S.V. Ryazantsev**, Chief Editor of the newspaper "Tribuna" **N.A. Vasiliev**, political columnist of the newspaper ''Truth" Doctor of Philosophy **V.V. Trushkov**.

In general, the conference "Society and Sociology in Modern Russia" showed that domestic sociology keeps pace with social development. Having accumulated rich experience of their own basic research, theoretical knowledge and practical groundwork, combining the heritage of classical sociology with the best practices of modern schools, the Russian sociological science demonstrates its readiness to meet the key challenges of social development associated with the main trends of the 21st century, such as:

- development of human potential;
- improvement of the state performance;
- enhancement of the living standard;
- pursuit of social justice and development of civic foundations of the society;
- reinforcement of national identity.

To sum it up, the interaction between the state, social science and the society has been recently clearly positive: ordinary citizens have become interested in sociological issues; sociological knowledge has been increasingly used in the authorities' activities at all levels of government.

Russian sociology is demonstrating growth by many indicators: new scientific schools are being established; faculties and departments are being formed; a great number of theses in sociology are being defended annually; public activity on sociological issues is increasing; the number of sociological studies at the regional level is rising; fundamental sociological science is rapidly developing.

At the same time, some problems still remain relevant: the prestige of a sociologist

is still not high enough; there is a significant gap between fundamental theoretical knowledge and its practical application; the mechanism of social expertise of adopted laws is developed insufficiently. The maximization of the social science potential requires joint efforts of the scientific community, government and citizens.

The participants highly appreciated the scientific and organizational level of the event. The results of the questionnaire survey[1] conducted among the conference participants showed that the average score of satisfaction with the organization and outcomes of the forum was 9.2 (by a ten-point scale). The scientists' comments were the following: "The conference was well-prepared in terms of organization" ("Such issues are raised! Such a topic!", "The discussion is at a high scientific level and very democratic").

The conference hosts got suggestions, such as "to continue active scientific cooperation", "not to stop", "to carry out such activities as often as possible".

The participants agreed to meet at ISEDT RAS, Vologda, in 5 years in November 2019 to celebrate the 25th anniversary of the Sociologist Day.

M.V. Morev
Ph.D. in Economics,
ISEDT RAS Laboratory Head

[1] The survey included 175 people who participated in the conference.

Index of articles published in 2014

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.

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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.

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